PRODUCT CATALOGUE PRESSURE TRANSMITTER





PRESSURE AT THE HIGHEST LEVEL



"Successful medium-sized companies are not successful because they are active in many areas, but rather because they concentrate on one area and do it better than anyone else"

This is our philosophy. That's why BDSENSORS has concentrated on electronic pressure measurement technology from the beginning.

With our unremitting product and and quality strategy we have been successful in becoming a major player on the world market for electronic pressure sensing devices within a few years.

This document contains product specifications; properties are not guaranteed. Detailed information about options are defined in the datasheet. Subject to change without notice.



With 260 employees at 4 locations in Germany, the Czech Republic, Russia and China BDJSENSORS has solutions from 0.1 mbar to 6000 bar:

- pressure sensors, pressure transducers pressure transmitters
- electronic pressure switches
- pressure measuring devices with display and switching outputs
- hydrostatic level probes

Two pressure transmitters and a submersible probe, based on a stainless steel silicon sensor were the beginning. Today the range extends to more than 70 standard products, from economical OEM devices to high-end products with HART^{*} communication or field bus interface.

In addition we have developed hundreds of customer-specific applications, underlining the competence and flexibility of BDJSENSORS. The excellent price/performance ratio of our products is proof of the fact that we are able to meet the toughest demand: Being a problem-solver for our customers.

For large production batches as well as for small production numbers, no matter for what medium or external factors, with almost any mechanical or electrical connection - we solve your problem

flexibly, quickly and cost-efficiently.

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product	sensor			nominal pressure (bar)	ac	curacy	media temperature		ou	tput sig	nal	
	stainless steel sensor	ceramic sensor	DMS		standard	option		2-wire: 4 20	3-wire: 0 10 V	Modbus RTU RS 485	i²C	IO-Link
XMP i				0 0,4 up to 0 600	0,1		-40 125 °C					
XMP ci				0 0,16 up to 0 20	0,1		-25 125 °C					
HU 300			•	0 5.000 psi up to 0 15.0000 psi	0,5		-40 125 °C	•	•			
x act i	•			0 0,4 up to 0 40	0,1		-40 125 °C	•				
x act ci		•		0 0,16 up to 0 20	0,1		-25 125 °C	•				
DMP 331Pi	•			0 0,4 up to 0 40	0,1		-40 125 °C	•	•			
DMK 331P		•		0 60 up to 0 400	0,5		-40 125 °C	•	•			
DMK 351P		•		0 0,04 up to 0 20	0,35	0,25	-40 125 °C	•	•			
DMP 331P	•			0 0,1 up to 0 40	0,35	0,25	-40 125 °C	•	•			
DMP 331i DMP 333i	•			0 0,4 up to 0 600	0,1		-25 125 °C	•	•			
DCT 531				0 0,1 up to 0 400	0,35	0,25	-25 125 °C			•		
DCT 532	•			0 0,1 up to 0 400	0,35	0,25	-25 125 °C				•	
DCT 533	·			0 0,1 up to 0 400	0,35	0,25	-25 125 °C					•
DCT 561		•		0 0,6 up to 0 600	0,5		-25 125 °C			•		
DCT 563		·		0 0,6 up to 0 600	0,5		-25 125 °C					•
DMP 343	•			0 0,01 up to 0 1	0,35		-40 125 °C	•	•			
DMP 331	•			0 0,01 up to 0 60	0,35	0,25 / 0,1	-40 125 °C	•	•			
DMP 333	•			0 100 up to 0 600	0,35	0,25 / 0,1	-40 125 °C	•	•			
DMP 339	·			0 60 up to 0 600	0,35		-40 125 °C	·	•			
DMP 335	·			0 6 up to 0 600	0,5		-40 125 °C	•	•			
DMP 334			•	0 600 up to 0 2.200	0,35		-40 140 °C	•	•			

options / special characteristics		press	ure por	t / proce	ss conne	ection		certificates	page
	inch and NPT thread	inch thread flush	dairy pipe	Clamp (3A-certification)	Varivent® (3A-certification)	flange	DRD flange		
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flameproof enclosure	·	•				•	•	Ex, HART®	14-18
Hammer Union, mechanical connection WECO® 2"								Ex	19-23
hygienic version			•	•	•	•	•	Ex, HART [®] , 3A, EHEDG	24-28
hygienic version		•	•	•	•	•	•	Ex, HART®	29-33
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universal applications								Ex, UL, IEC, IECEx, SIL	93-97
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welded version								EX, UL, IEC, IECEx	107-110

product	sensor			nominal pressure (bar)	ac	curacy	media temperature		ou	tput sig	nal	
	stainless steel sensor	ceramic sensor	DMS		standard	option		2-wire: 4 20	3-wire: 0 10 V	Modbus RTU RS 485	i ² C	IO-Link
DMP 304			•	0 2.000 up to 0 6.000	0,5	0,25	-40 85 °C	•	•			
DMK 351		•		0 0,04 up to 0 20	0,35	0,25	-40 125 °C	•	•			
DMK 331		•		0 0,4 up to 0 600	0,5		-40 125 °C	•	•			
DMP 457	•			0 0,1 up to 0 600	0,35	0,25	-40 125 °C	•				
DMK 458		•		0 0,04 up to 0 20	0,25	0,1	-40 125 °C	•				
DMK 456		•		0 0,04 up to 0 20	0,25	0,1	-25 125 °C	•				
DMK 457		•		0 0,4 up to 0 600	0,5		-40 125 °C	•				
18.600 G	•			0 0,1 up to 0 6	0,5		-25 125 °C	•	•			
18.601 G				0 0,1 bis 0 6 up to	0,5		-25 125 °C	•	•			
26.600 G		•		0 1 up to 0 400	0,5		-25 125 °C	•	•			
30.600 G		•		0 1,6 up to 0 250	1		-25 125 °C	•	•			
17.609 G	•			0 6 up to 0 60 -1 6 up to -1 60	0,5		-40 125 °C	•	•			
17.600 G	•			0 6 up to 0 600	0,5		-40 125 °C	•	•			
17.620 G	•			0 16 up to 0 1.000	0,5		-40 125 °C	•				

options / characteristics		press	ure por	t / proce	ss conne	ection		certificates	page
	inch and NPT thread	inch thread flush	dairy pipe	Clamp (3A-certification)	Varivent [®] (3A-certification)	flange	DRD flange		
adjustability of span and offset	•							Ex	111-114
diaphragm 99.9% Al2O3, pressure port PVDF	•							EX, UL	115-118
pressure port PVDF for agressive media		•						Ex, UL, IEC, IECEx, SIL	119-123
welded version	•							EX, IEC, IECEx, DNV-GL, CCS, LR, ABS	124-128
diaphragm 99.9% Al2O3, seawater resistant pressure port	•					•		EX, DNV-GL, CCS, LR, ABS	129-133
diaphragm 99.9% Al2O3, seawater resistant pressure port	•					•		EX, DNV-GL, CCS, LR, ABS	134-137
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welded version	•								161-163



XMP i

Precision Pressure Transmitter for the Process Industry with HART[®]-Communication and SIL2 (optionally)

Stainless Steel Sensor

accuracy according to IEC 60770: 0.1 % FSO

Nominal pressure

from 0 ... 400 mbar up to 0 ... 600 bar

Output signals

2-wire: 4 ... 20 mA others on request

Special characteristics

- turn-down 1:10
- two chamber aluminium die cast case or stainless field housing
- internal or flush welded diaphragm
- HART[®]-communication
- explosion protection intrinsic safety (ia)

Optional versions

- explosion protection flameproof equipment (d)
- SIL2 version according to IEC 61508 / IEC 61511
- integrated display and operating module
- special materials as Hastelloy[®] and Tantalum
- cooling element for media temperatures up to 300 °C

The process pressure transmitter XMP i has been especially designed for the process industry as well as food and pharmaceutical industry (version stainless steel field housing) and measures vacuum, gauge and absolute pressure ranges of gases, steam, fluids up to 600 bar.

Different process connections such as threads and flanges with an internal or flush welded diaphragm are available and can be combined with a cooling element for media temperatures up to 300 °C. The transmitter is as a standard equipped with HART[®]-communication; the customer can choose between a aluminium die cast case or a stainless field housing.

Preferred areas of use are



Oil and gas industry / chemical and petrochemical industry

Food / pharmaceutical industry

Material and test certificates

- material mill test report 3.1 according to EN 10204
- test report 2.2 according to EN 10204



Pressure ranges ¹													
Nominal pressure													
gauge / abs. ²	[bar]	0.4	1	2	4	10	20	40	100	200	400	600	
Overpressure	[bar]	2	5	10	20	40	80	105	210	600	1000	1000	
Burst pressure ≥	[bar]	3	7.5	15	20	50	120	210	420	1000	1250	1250	
¹ on customer request we adj					-				-	1000	1200	1230	
² absolute pressure possible i				own possi	onity by 301		crequireu	pressure n	anges				
Vacuum ranges													
Nominal pressure gauge	[bar]	-0.4	0.4		-1 1		-1 2		-1	4	-1	10	
Overpressure	[bar]		2		5		10		20		40)	
Burst pressure ≥	[bar]		3		7.5		15		25		50)	
Output signal / Supply													
2-wire: 4 20 mA		standard	intrinsi	c safety (ia) with H	ART [®] -cor	nmunicat	tion		V	′s = 12	28 V _{DC}	
with explosion protection		options:			, pment (d)				n	V	s = 13	28 V _{DC}	
			SIL2 /	intrinsic s	afety (ia)	with HAR	T [®] -comm	nunication	I	V	′ _s = 12	28 V _{DC}	
<u></u>				flamepro	of equipm	ent (d) wi	IN HARI	°-commur	nication	V	_s = 13	28 V _{DC}	
Current consumption		max. 25 i	nA										
Performance													
Accuracy ³		≤ ± 0.1 %	FSO										
performance after turn-do			,										
- TD	-	no chang			a fa‼-			-ا- مىرى		20			
- TD	> 1:5	the accur							- 5) % F	50			
		e.g. turn-							- ® -		D 05-		
Permissible load		$R_{max} = [(N_{max} = N_{max} = N_$			JΩ					inication:	$H_{min} = 250$	0	
Influence effects		supply: 0					permissi	ble load:	0.05 % F	SO/kΩ			
Long term stability		≤ ± 0.1 %											
Response time			100 msec – without consideration of electronic damping measuring rate 10/sec										
Adjustability		electronic) 90 %	FSO	turn-d	lown of sp	an up to '	1:10	
³ accuracy according to IEC 6				on-linearit	y, hysteresi	s, repeatal	bility)						
Thermal errors / Permise	sible ter												
Tolerance band ^{4, 5}		≤ 0.2 % F	SO x tur	n-down (i	n compen	sated ran							
Permissible temperatures	6	modium						without di	splay: e	nvironme	nt: -40	80 °C	
		medium:	-40 125 °C for filling fluid silicone oil										
					d food coi		nil lie	with displa		nvironme			
						· .			S	torage:	-30	80 °C	
Permissible temperature medium filling fluid silicone oil overpressure: -40 300 °C low pressure								re: -40	150 °C				
for cooling element 300°C	;	filling fluid	d food co	mpatible	oil c	verpress	ure: -10 .	250 °C	lc	w pressu	re: -10	150 °C	
 ⁴ an optional cooling element ⁵ for flange- and DRD-version ⁶ max. temperature of the me temperature of 50 °C (without) 	n: tolerand dium for r	e band offs nominal pres	et ≤ ± 1.6 9	% FSO / to	lerance bai	nd span ≤ :	± 0.6 % FS	SÓ		onditions			
Electrical protection													
Short-circuit protection		permane	nt										
Reverse polarity protectio	n	no damage, but also no function											
Electromagnetic compatib		emission and immunity according to EN 61326											
Mechanical stability	Jinty												
Vibration		5 g RMS	(25 20	00 년~)	accord	ing to DIN		68-2-6					
Shock		100 g / 1		00 HZ)		ing to DIN							
		100 g / 1	msec		accord			00-2-21					
Filling fluids		oiliocno -	;1										
Standard		silicone o				-0470 0-	70						
Options for process connections			IC Cibus	32; Cate	gory Code			ation No.:	: 141500)	1			
		Halocarb	on and of	hers on r	equest								
Materials		1											
Pressure port		stainless			•								
Housing		aluminiur	n die cas	t, powder	-coated o	r stainless	s steel 1.4	4404 (316	6L)				
Cable gland		brass, nic	kel plate	d									
Viewing glass		laminated											
Seals (media wetted)		thread:	standard options:	FKM FFKM (i pressure welded	e ranges F	P _N ≤ 100 b r pressure	oar); othe e ports El	ers on requ N 837 with	uest	sible for no veen 1 and			
		Clamp, V	arivent®:				·	35 (316 L)					
Diaphragm		0101.000.00											
Diaphragm Media wetted parts		options fo	or proces		ions: Ha	astelloy® (C-276 (2.) on requ	est			

Explosion protection		
Approvals	intrinsic safety IBExU 05 ATEX 11	06 X (with SIL2: IBExU 05 ATEX1105 X)
AX12-XMP i	stainless steel field housing:	aluminium die cast case:
AX2-XMP i (with SIL2)	zone 0: II 1G Ex ia IIC T4 Ga	zone 0/1: II 1/2G Ex ia IIB T4 Ga/Gb
	zone 20: II 1D Ex ia IIIC T85 °C Da	zone 20: II 1D Ex ia IIIC T85 °C Da
	safety technical maximum values:	
	$U_i = 28 V, I_i = 98 mA, P_i = 680 mW, C_i = 0 nF, L_i = 0 mF$	
Approvals	flameproof enclosure with aluminium die cast ca	
	IBExU 12 ATEX 1045 X (with SIL2: IBExU 12 ATE	X1073 X)
AX7-XMP i (with SIL2)	zone 1: II 2G Ex d IIC T5 Gb	
Permissible temperatures for environment	in zone 0: -20 60 °C with p _{atm} 0.8 bar u	
Connecting cables	zone 1 or higher: intrinsic safety: -40 70 °C / capacitance: signal line/shield also signal lin	
by factory)	inductance: signal line/shield also signal lin	
Options		
SIL2-version	according to IEC 61508 / IEC 61511	
	LC-display, visible range 32.5 x 22.5 mm;	
Display	5-digit 7-segment main display, digit height 8 mm,	range of indication +9999:
	8-digit 14-segment additional display, digit height 5	
	52-segement bargraph; accuracy $0.1\% \pm 1$ digit	,,
Miscellaneous		
ngress protection	IP 67	
nstallation position	any (standard calibration in a vertical position with	the pressure port connection down:
	differing installation position have to be specified in	
Weight	min. 400 g (depending on housing and mechanica	
Operational life	100 million load cycles	
CE-conformity		Equipment Directive: 2014/68/EU (module A) 7
ATEX Directive	2014/34/EU	
	with maximum permissible overpressure > 200 bar	
Wiring diagram	· · · ·	
P A		
	→ + Vs → - Interface HART → RS232 ← PC	
P (A)		
	Vs 	stainless staal field housing:
P supply - Pin configuration	Vs 	stainless steel field housing:
P (A)	Vs 	terminal clamps
P supply - Pin configuration Electrical connections	Vs 	terminal clamps (clamp section: 1.5 mm ²)
P supply - Pin configuration Electrical connections Supply -	Vs 	terminal clamps
P supply - Pin configuration Electrical connections	Vs Interface HART RS232 PC aluminium die cast case: terminal clamps (clamp section: 2.5 mm ²) IN+ IN-	terminal clamps (clamp section: 1.5 mm ²) IN+
P supply - Pin configuration Electrical connections Supply - Supply -	Vs 	terminal clamps (clamp section: 1.5 mm ²) IN+ IN-
P supply - Pin configuration Electrical connections Supply - Supply - Tes	Vs 	terminal clamps (clamp section: 1.5 mm ²) IN+
P I Supply - Pin configuration Electrical connections Supply - Supply - Tes Shiele Housing designs ⁸ (dimensions in	Vs 	terminal clamps (clamp section: 1.5 mm²) IN+ IN- - -
P supply - Pin configuration Electrical connections Supply - Supply - Tes Shield	Vs 	terminal clamps (clamp section: 1.5 mm ²) IN+ IN-

3

display (optional)

* without display and operating module marked dimensions decrease by 22 mm (with aluminium case)
 ⇒ for nominal pressure P_N > 400 bar increases the length of devices by 39 mm

0.00

⁸aluminium case is horizontally rotatable as standard



	Ordering code XMP i	
XMP i		
Pressure gauge absolute ¹ Input [bar]	5 1 1 1 5 1 2	_
0 0.4 1 0 1 0 2	4 0 0 0 1 0 0 1 2 0 0 1	
0 4 0 10 0 20	4 0 0 1 1 0 0 2 2 0 0 2	
0 40 0 100 0 200	4 0 0 2 1 0 0 3 2 0 0 3 4 0 0 3	
0 400 0 600 -0.4 0.4 -1 1	6 0 0 3 S 4 0 0 S 1 0 2	
-1 2 -1 4 -1 10	V 2 0 2 V 4 0 2 V 1 0 3 9 9 9 9	
Customer Design Aluminium die cast case		consult
with display without display Stainless steel field housing		
with display without display customer Output	F N F F F F F F F F F F F F F F F F F F	consult
intrinsic safety (ia) 4 20 mA / 2-wire with HART [®] -communication		
flameproof equipment (d) 4 20 mA / 2-wire with HART [®] -communication ²	G	
SIL2: intrinsic safety (ia) 4 20 mA / 2-wire with HART®-communication SIL2: flameproof equipment (d)	IS	
4 20 mA / 2-wire with HART [®] -communication ² customer	GS 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	consult
Accuracy 0.1 % FSO Electrical connection		
terminal clamp alu housing terminal clamp field housing customer	A K 0 8 8 0 9 9 9 9 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	consult
Mechanical connection Standard pressure connections G1/2" DIN 3852 G1/2" with flush 3		_
welded diaphragm (DIN 3852) G1/2" EN 837 1/2" NPT	Z 0 0 2 0 0 N 0 0	
Process connections (up to 40 bar) G1" with flush welded diaphragm (DIN 3852)	z 3 1	
flange DN 25 / PN 40 (DIN 2501) flange DN 50 / PN 40 (DIN 2501) flange DN 80 / PN 16 (DIN 2501) flange DN 2" / 150 lbs (ANSI B16.5) ⁴	F 2 0 F 2 3 F 1 4	
flange DN 3" / 150 lbs (ANSI B16.5) ⁴ DRD Ø 65 mm ⁵ Clamp DN 25 / 1" (DIN 32676) / 3A	F 3 3 D R D C 6 1	
Clamp DN 32 / 1 1/2" (DIN 32676) / 3A Clamp DN 50 / 2" (DIN 32676) / 3A Clamp 3/4" (DIN 32676) / 3A	F 2 0 0 0 0 0 F 2 3 0 0 0 0 0 F 1 4 0 0 0 0 0 0 F 3 3 0 </td <td></td>	
Varivent [®] DN 40/50 / 3A Diaphragm stainless steel 1.4435 (316L) Hastelloy [®] ⁶ Tantalum ^{6, 7}		
Tastelloy - Tantalum ^{6, 7} Seals Inch thread:		consult
FKM ⁸ FFKM ⁸ EN 837: without (welded version) ⁹	1 7 2 0	
DRD, flange: without Filling Fluids silicone oil ford compatible oil 6	1	-
food compatible oil ⁶ Halocarbon ⁶ customer		consult consult

Ordering code XMP i

XMP i

Special version

standard
with cooling element up to 300 °C 6
special compensation -40 +60 °C ¹⁰

▲ if setting range shall be different from nominal range please specify in your order ¹ absolute pressure possible from 1 bar ² only possible in combination with aluminium die cast case

- ⁵ only possible for $P_N \ge 1$ bar up to 40 bar ⁴ 2"/150 lbs and 3"/150 lbs possible for nominal pressure ranges $P_N \le 10$ bar
- ⁵ mounting flange is included in the delivery (already pre-assembled)
- ⁶ only possible with process connections
- ⁶ Tantal diaphragm possible with nominal pressure ranges from 1 bar ⁸ min. permissible temperature from -15 °C, possible for nominal pressure ranges $P_N \le 100$ bar
- ⁹ possible with pressure ranges between 1 bar and 40 bar

¹⁰ option for version without display

HART® is a registered trade mark of HART Communication Foundation; Hastelloy® is a brand name of Haynes International Inc.

0 0 0 2 0 0 0 2 2



XMP ci

Process Pressure Transmitter with HART[®]-communication

Ceramic Sensor

accuracy according to IEC 60770: <u>0.1 % FSO</u>

Nominal pressure

from 0 ... 160 mbar up to 0... 20 bar

Output signals

2-wire: 4 ... 20 mA others on request

Special characteristics

- turn-down 1:5
- two chamber aluminium die cast case or stainless field housing
- internal or flush mounted capacitive ► ceramic sensor
- HART[®]-communication ►
- explosion protection ► intrinsic safety (ia)
- diaphragm Al₂O₃ 99.9 % ►

Optional versions

- explosion protection flameproof equipment (d)
- with integrated display and operating module
- several process connections (thread, flange, DRD etc.)

The process pressure transmitter XMP ci measures the pressure of gases, steam and fluids. The special-developed capacitive ceramic sensor for this transmitter has a high overpressure capability and excellent media stability.

Several process connections e.g. thread or flange are available. The transmitter is as a standard equipped with HART[®]-communication, the customer can choose between a two chamber aluminium die cast case or a stainless field housing.

Preferred areas of use are



Oil and gas industry



Chemical and petrochemical industry

Preferred using in



Fuel and oil

Aggressive media



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Pressure ranges ¹ Nominal pressure gauge	[bar]	0.16	0.4	1	2	5	10	20				
Overpressure	[bar]	4	6	8	15	25	35	45				
Permissible vacuum	[bar]	-0.3		-0.5			1					
On customer request we adjust	st the dev	vices by software	to the required	pressure ranges.	Within the turn-	down-possibility (starting at 0.02 b	ar).				
Output signal / Supply												
2-wire: 4 20 mA				(ia) with HART®			V _s =	12 28 V _{DC}				
with explosion protection		option: f	ameproof equ	ipment (d) with	HART [®] -comm	nunication	V _s =	13 28 V _{DC}				
Current consumption		max. 25 mA										
Performance												
Accuracy ²			sure < 1 bar:									
			sure ≥ 1 bar:									
			•	es from 0.16 bai	•	•	(TD-1) x 0.02)					
				es from 1 bar up		· ·	(TD-1) x 0.01)	% FSO				
Demociacible laged		1		pressure range				050.0				
Permissible load			$V_{S min}$ / 0.02			ng HART [®] -com		$_{\rm nin}$ = 250 Ω				
Influence effects			% FSO / 10 V			ole load: 0.05 %	ο FSO / ΚΩ					
Long term stability Response time				ference condition leration of electron			mooouri	na rata Elaa				
Adjustability			mping: 0 1		onic damping		measuri	ng rate 5/se				
Adjustability		offset 0 80		00 sec								
				5 (span min. 0.0	02 bar)							
² accuracy according to IEC 60	770 – lim											
Thermal errors / Permissi												
Thermal error		≤ ± (0.02 x tu	ırn-down) % F	SO / 10 K in co	mpensated ra	nge -20 80 °	С					
Permissible temperatures ³				-25 125 °C		ent: -40 70 °		-40 80° 0				
'		with display:		-25 125 °C	environm	ent: -20 70 °		-30 80° 0				
³ for pressure port of PVDF the	minimum	n permissible terr	perature is -30°	°C								
Electrical protection												
Short-circuit protection		permanent										
Reverse polarity protection		no damage,	no damage, but also no function									
Electromagnetic compatibili	ity	emission and	d immunity ac	cording to EN 6	1326							
Mechanical stability												
Vibration		5 g RMS (20	2000 Hz)		according	to DIN EN 600	068-2-6					
Shock		100 g / 11 msec according to DIN EN 60068-2-27										
Materials												
Pressure port		standard:		stainless stee	el 1.4404 (316	L)						
			G1 1/2" flush									
Housing			<i>/ 1</i>	r-coated or stai	nless steel 1.4	404 (316L)						
Cable gland		brass, nickel	1									
Viewing glass		laminated sa										
Seals (media wetted)				rature: -25 12			- 41					
Dianhragm				rature: -40 12	(5 °C)		otners o	n request				
Diaphragm		ceramics Al ₂	-									
Media wetted parts		pressure por	t, seal, diaphr	agm								
Explosion protection												
Approval AX12-XMP ci				5 ATEX 1106 X								
			el field housin	•		aluminium die cast case: zone 0/1 ⁵ : II 1/2G Ex ia IIB T4 Ga/Gb						
			l 1G Ex ia IIC I 1/2G Ex ia II		zone		≟x ia IIB 14 Ga ia IIB T4 Gb	/Gb				
			I 2G Ex ia IIC					De				
			I 1D Ex ia IIIC		zone	20. II ID EX	ia IIIC T85 °C	Da				
			maximum va									
				$680 \text{ mW}, C_i = 0$	$nF, L_i = 0 \mu H,$	C _{GND} = 27 nF						
Approval				h aluminium die			1045 X					
AX17-XMP ci			I 2G Ex d IIC									
Permissible temperatures for	or	in zone 0: -2	0 60 °C with	n p _{atm} 0.8 bar up	to 1.1 bar							
environment		in zone 1 or	•									
		intrinsic sa		-40 70° C								
		1 tiamonroo	f enclosure:									
		· · · ·										
⁴ The designation depends on t Nominal pressure ranges > 16		al pressure rang	e. Nominal pres	sure ranges ≤160			with 10"					

Miscellaneous					
Display (optionally) LC-display, visible range 32.5 x 22.5 mm; 5-digit 7-segment main display, digit height 8 mm, range of indication ±9999; 8-digit 14-segment additional display, digit height 5 mm;					
	52-segement bargraph; accuracy 0.1 $\% \pm 1$ digit				
Ingress protection	IP 67				
Installation position	any				
Weight	min. 400 g (depending on housing and mechanical connection)				
Operational life	100 million load cycles				
CE-conformity	EMC Directive: 2014/30/EU				
ATEX Directive	2014/34/EU				
Wiring diagram					



Pin configuration

Electrical connections	aluminium die cast case: terminal clamps (clamp section: 2.5 mm²)	stainless steel field housing: terminal clamps (clamp section: 1.5 mm²)
Supply +	IN+	IN+
Supply –	IN-	IN-
Test	Test	-
Shield	۲	۲

Housing designs ⁶ (dimensions in mm)





stainless steel field housing with display



aluminium die cast case without display



stainless steel field housing without display







	Ordering code XMP ci	
XMP ci		
Pressure		
Input [bar]	5 1 E	
0.16	1 6 0 0	
0.40	4 0 0 0 1 0 0 1	
2	2 0 0 1	
5 10	5 0 0 1 1 0 0 2	
20		
Design	9 9 9 9	consult
Aluminium die cast case		
with display		
without display Stainless steel field housing	AN	
with display	F V F N	
without display customer	F N 9 9	consult
Output		
intrinsic safety (ia) 4 20 mA / 2-wire		
with HART [®] -communication		
flameproof equipment (d) 4 20 mA / 2-wire	G	
with HART [®] -communication ¹		
Accuracy	9	consult
P _N < 1 bar: 0.2 % FSO	В	
P _N ≥ 1 bar: 0.1 % FSO customer	9	consult
Electrical connection		
terminal clamp alu housing terminal clamp field housing	A K 0 8 8 0	
customer	8 8 0 9 9 9	consult
Mechanical connection standard pressure connections:		
G1/2" DIN 3852	1 0 0	
G1/2" EN 837 1/2" NPT	2 0 0 N 0 0	
process connections:		
G 1 1/2" DIN flush (DIN 3852) flange DN 25 / PN 40 (DIN 2501)	M 0 0 F 2 0	
flange DN 50 / PN 40 (DIN 2501)	F 2 3	
flange DN 80 / PN 16 (DIN 2501) flange DN 2" / 150 lbs (ANSI B16.5) ²	F 1 4 F 3 2	
flange DN 3" / 150 lbs (ANSI B16.5) ²	F 3 3	
DRD Ø 65 mm ³	D R D 9 9 9	00001/#
Diaphragm	9 9 9 	consult
ceramics Al ₂ O ₃ 99,9% customer	C 9	conquit
Seals	9	consult
FKM ⁴ EPDM ⁴	1 3	
customer	9	consult
Pressure port standard:		
standard: stainless steel 1.4404 (316L)	1	
option for G 1 1/2" flush:		
PVDF ⁴ customer	B 9	consult
Special version		
standard customer		0 0 0 9 9 9 consult

${\rm I}{ m A}$ if setting range shall be different from nominal range please specify in your order

 1 only possible in combination with aluminium die cast case 2 2"/150 lbs and 3"/150 lbs only possible for nominal pressure ranges PN $\,\le$ 10 bar

³ mounting flange is included in the delivery (already pre-assembled)

⁴ permissible temperature FKM -25 ... 125 °C, EPDM -40 ... 125 °C, PVDF -30 ... 125 °C

HART® is a registered trade mark of HART Communication Foundation; Varivent® is a brand name of GEA Tuchenhagen GmbH



HU 300

Hammer Union Pressure Transmitter

special application petrochemical industry / offshore

accuracy according to IEC 60770: 0.5 % FSO

Nominal pressure

from 0 ... 5 000 psi up to 0 ... 15 000 psi

Output signals

2-wire: 4 ... 20 mA 3-wire: 0 ... 5 V 4-wire: 3 mV/V others on request

Product characteristics

- extreme robust and stable
- vibration / shock

Optional versions

- IS-version zone 0 / 1 (only for 4 ... 20 mA / 2-wire)
- different output signals

Versions on request

- pressure port in Inconel[®]
- electrical connection Glenair (4-pin)
- mechanical connection
 WECO[®]2" (1502, 2002/2202)

The pressure transmitter HU 300 has been especially developed for extreme operating conditions in the petrochemical industry (on- and offshore sites). A high degree of reliability and accuracy is the precondition for a perfect function during cementing and tightening processes (annulus) on wellbores.

A one-piece pressure port, a high quality pressure sensor and precise machining and assembly techniques ensure a small drifting and a high long-term stability. A very high resistance against vibration, shock and pressure peaks without any influence on the measurement characteristics is guaranteed.

Due to the extreme environmental conditions on-site, it is important to offer solutions to different requirements, as an intrinsic-safe version (zone 0/1), an electrical connection with IP 68 or special steel materials.

Preferred areas of use are



Cementing wellbores Hydraulic fracturing Intensifying wellbores



Pressure ranges					
Nominal pressure	[psi]	5 000	6 000	10 000	15 000
Permissible overpressure	[psi]	7 500	9 000	15 000	22 500
Burst pressure ≥	[psi]	10 000	12 000	20 000	30 000
Supply					
Standard		2-wire: 4 20 mA / Vs	= 10 30 V _{DC} ¹		
Ex-protection		2-wire: 4 20 mA / Vs	= 14 28 V _{DC}		
In preparation		3-wire: 0 5 V / Vs	= 1/ 30 V		
(only possible with		4-wire: 3 mV/V / Vs			
MIL- / Bendix-connector)					
¹ valid for temperature from -40.	85 °C	; for higher temperatures the	supply has to be limited		
Performance			20		
Accuracy		IEC 60770: ≤ ± 0.5 % FS			
Permissible load		current 2-wire: $R_{max} = [$			
		voltage 3-wire: $R_{min} \ge 1$			
lufluence offecte		voltage 4-wire: $R_{min} \ge 1$			
Influence effects		11.5	FSO / 10 V FSO / kΩ		
Long term stability		≤ ± 0.5 % FSO per 6 mo			
Long term stability Response time		$\leq \pm 0.5 \%$ FSO per 6 mo $\leq \pm 1.5$ msec	511115		
Thermal effects (Offset and	d Sna				
	u spai	•	In	atad range E 00.ºC	
Thermal errors		≤ ± 2 % FSO / 100 K	in compens	sated range -5 60 °C	
Permissible temperatures					
Permissible temperatures		medium / environment:	-40 125		
A III - 4		storage:	-55 125	-0	
Calibration					
Calibration signal accuracy		≤ ± 0.2 % FSO			
Calibration signal		80 % FSO (16.8 mA)			
Electrical protection					
Short-circuit protection		permanent			
Reverse polarity protection		no damage, but also no			
Electromagnetic compatibilit	y	emission and immunity a	according to EN 61326		
Mechanical stability					
Vibration		20 g, 25 Hz 2 kHz		to DIN EN 60068-2-6	
Oh a sh		7.5 g _{RMS} , 5 Hz – 1 kHz		to DIN EN 60068-2-64	
Shock		500 g / 1 msec		to DIN EN 60068-2-27	
Free Fall		1 m (free fall base: steel) according t	to DIN EN 60068-2-32	
Materials					
Pressure port / diaphragm			steel 1.4548 (316L)		
		on request: Inconel X7 Inconel X7			
Housing		stainless steel 1.4404 (3			
Media wetted parts		· ·			
	. f	pressure port			
Explosion protection (only	for 4	•			
Approval DX18 HU300		IBExU08ATEX1127 X zone 0/1: II 1/2 G Ex ia	IIC TA Ca/Ch		
Safety technical maximum v	al-	$U_i = 28 \text{ V}, I_i = 100 \text{ mA}, P$		= 5 uH	
	u-			f max. 27 nF opposite the	housina
Permissible temperatures					
for medium		-40 70 °C			
Permissible temperatures		in zone 0: -20 60 °C	with p _{atm} 0.8 bar up to 1.7	1 bar	
for environment		in zone 1: -25 70 °C			
Connecting cables (by factor	ry)			l line/signal line: 150 pF/m	
		cable inductance: sig	nal line/shield also signa	l line/signal line: 1 μH/m	

Miscellaneous			
Current consumption	2-wire signal output current: 3-wire signal output voltage: 4-wire signal output voltage:	max. 50 mA approx. 15 mA 29 mA @ 10 V	
Installation position	any		
Weight	2.1 kg		
CE-conformity	EMC Directive: 2014/30/EU	Pressure Equipment Direc	tive: 2014/68/EU (module A)
ATEX Directive	2014/34/EU		
Wiring diagrams			
2-wire	3-wire	4-wire	
P D E CAL+ S+ CAL- S- E CAL- A S- E	$ \begin{array}{c} & & \\ & & $		$ \begin{array}{c cccc} & & & & & & & & & & & & & & & & & & &$
Pin configuration			
Electrical connection	MIL-/ Bendix (6-pin)	Glenair (4-pin)	cable colours (IEC 60757)
Supply + Supply – Calibration + Calibration –	pin A pin B pin E pin F	pin C pin B pin D pin A	wh (white) bn (brown) pk (pink) gy (grey)
for 3-wire / 4-wire: Signal + Signal –	pin C pin D	-	
Shield	cable shield / for 2-wire: pin D	plug housing	gnye (green-yellow)
Electrical connections (dimensio	ns in mm)		
standard	on request		n
C C C C C C C C C C C C C C C C C C C			
MIL-/ Bendix (6-pin) PT02_E10-6P-023 (IP 67)	Glenair GC379-2 (IP é	-14S-2P	cable outlet (IP 68)

HU 300 Technical Data

Mechanical connection (dimensions in mm) standard Ø56œ 0 0 0 0 101 0 Ø82,5-0 44 ▲24,5→ \bigcirc -WECO 2" 1502-WECO[®] 2" (1502) on request Ø56 Ø7,4 0 "76.0) 101,7-24,6 -58-44 (1.74") Ø85,1--41,5-13,6 4 f Ø94 (3.69") WECO 2" 2002/2202-WECO® 2" (2002/2202) cable outlet

 $\label{eq:local_local_state} $$ Incone $$ is a registered trade mark of Special Metals Corporation. $$ WECO^{\otimes}$ is a registered trade mark of FMC Technologies. $$$

	Ordering code HU 300	
HU 300		
Standard version		
	H U 0	
Input [psi]		
5 000	P 5 K 0 P 6 K 0 P 1 0 K	
6 000 10 000		
15 000	P 1 5 K	
customer	P 1 5 K 9 9 9 9	consult
Output		
4 20 mA / 2-wire	1	
intrinsic safety 4 20 mA / 2-wire	E	in one continu
0 5 V / 3-wire 3 mV/V / 4-wire	4 V3 V3 V3 V V V V V V V V V V V V V V V	in preparation in preparation
customer	9	consult
Accuracy		
0.5 % FSO	5	
customer	9	consult
Electrical connection ¹ MIL-/ Bendix (6-pin)		
type PT02 E10-6P-023	B 2 0	
Glenair (4-pin)		
GC379-2-14S-2P	BZO	
cable outlet IP 68	T R 2	
with FEP cable		
customer	9 9 9	consult
Mechanical connection WECO 2" 1502	нио	
WECO 2" 2002/2202		consult
customer	H U 1 9 9 9	consult
Material pressure port		
stainless steel 1.4548 (17-4PH)	7 8 9 9	
customer	9 9	consult
Material diaphragm stainless steel 1.4548 (17-4PH)	7 8	
customer	Z 8 9 9	consult
Special version		
standard	0 0	0
customer	9 9	9 consult

¹ only male plugs

WECO[®] is a registered trade mark of FMC Technologies



Nominal pressure

from 0 ... 400 mbar up to 0 ... 40 bar

Output signals

2-wire: 4 ... 20 mA others on request

Special characteristics

- turn-down 1:10
- hygienic version ►
- flush welded diaphragm
- several process connections (G1" cone, Clamp, dairy pipe, etc.)
- integrated display and operating module

Optional versions

BD SENSORS www.bdsensors.de

- explosion protection intrinsic safety (ia)
- SIL2 -version according to IEC 61508 / IEC 61511
- HART[®]-communication
- cooling element for media temperatures up to 300 °C

x act i

Precision **Pressure Transmitter** for Food Industry, Pharmacy and Biotechnology with SIL2 (optionally)

Stainless Steel Sensor

accuracy according to IEC 60770: 0.1 % FSO

The precise pressure transmitter x act i has been especially designed for the food industry, pharmacy and biotechnology and measures vacuum, gauge and absolute pressure of gases, steam and fluids up to 40 bar.

Several process connections e.g. thread or hygienic versions like Varivent®, dairy pipe and Clamp with a flush welded diaphragm are available, which can be combined with a cooling element for media temperatures up to 300 °C. The robust stainless steel globe housing has a high ingress protection IP 67 and all characteristics for a residue-free and antibacterial cleaning.

Preferred areas of use are



Food industry

Pharmacy

Material and test certificates

- material mill test report according to DIN EN 10204-3.1.
- specific test report according to DIN EN 10204-2.2.



Neminal arc									
Nominal pressure gauge / abs. ²	[bar]	0.4	1	2	4	10	20)	40
Overpressure	[bar]	2	5	10	20	40	80)	105
Burst pressure ≥	[bar]	3	7.5	15	25	50	120		210
¹ higher pressure ranges on requ ² absolute pressure possible from	est; on de	-	-		-			· .	
Vacuum ranges									
Nominal pressure gauge	[bar]	-0.4 0.4		l 1	-1 2		-1 4	-	1 10
Overpressure	[bar]	2		5	10		20		40
Burst pressure	[bar]	3		7.5	15		25		50
Output signal / Supply									
2-wire: 4 20 mA		standard: options:	SIL2 SIL2 / intrin	ety (ia) ety (ia) with sic safety (ia	HART [®] -commu a) a) with HART [®]		Vs Vs Vs Vs	= 12 = 12 = 12 = 12	30 V _{DC} 28 V _{DC} 28 V _{DC} 30 V _{DC} 28 V _{DC} 28 V _{DC}
Current consumption		max. 25 mA		Sie Salety (it		Sommaniou	1011 15	12	20 000
Performance									
Accuracy ³		≤ ± 0.1 % FSO							
performance after turn-down	(TD)	≥±0.1%F30							
- TD ≤ 1	• •	no change of a	Iccuracy						
- TD > 1	:5	the accuracy is		as follows: ≤	0.1 + 0.015 x	(turn-down	- 5) % FSO		
		e.g. turn-down	9: ≤ 0.1 + 0	.015 x (9 - 5) % FSO = 0.16	% FSO			
Permissible load		$R_{max} = [(V_S - V_S)]$	/ _{S min}) / 0.02 A	.]Ω lo	ad during HAR	T [®] commu	nication: R _{min} :	= 250 Ω	2
Influence effects		supply: 0.05 %	FSO / 10 V	р	ermissible load	: 0.05 % FS	SO / kΩ		
Long term stability		≤ ± (0.1 x turn-	down) % FS	O / year at r	eference condi	tions			
Response time		100 msec – wi			ectronic dampir	g	measuring ra		
Adjustability		electronic dam			ffset: 0 90 %	FSO	turn-down of	span: r	max. 1:10
³ accuracy according to IEC 6077	70 – limit p	ooint adjustment (r	non-linearity, h	ysteresis, rep	eatability)				
Thermal effects (Offset and	d Span) /	Permissible te	emperatures	;					
Tolerance band ^{4, 5}		≤ ± 0.2 % FSC	x turn-down						
in compensated range		-20 85 °C							
Permissible temperatures ⁶		medium: environment:		°C for filling	fluid silicone oil fluid food comp				
	dium	storage: filling fluid silic	-30 80 ° one oil	°C overp	oressure: -40 oressure: -10		vacuum pres		
for cooling element 300°C ⁴ an optional cooling element can ⁵ for flange-, Varivent-, DRD-vers	n influence sion: tolera	storage: filling fluid silice filling fluid food thermal effects for ance band offset ≤	-30 80 ° one oil I compatible or offset and sp c ± 1.6 % FSO	C overp oil overp oan depending / tolerance ba	oressure: -10 on installation p	250 °C osition and fi	vacuum pres		
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element).	n influence sion: tolera e pressure	storage: filling fluid silice filling fluid food thermal effects fo ance band offset ≤ the max. medium	-30 80 ° one oil I compatible or offset and sp f ± 1.6 % FSO in temperature	°C overp oil overp oan depending / tolerance ba is 70 °C;	pressure: $-10 \dots$ on installation p nd span $\leq \pm 0.6$ %	250 °C osition and fi % FSO	vacuum pres	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection	n influence sion: tolera e pressure	storage: filling fluid silic filling fluid food thermal effects fo nce band offset ≤ the max. medium nal pressure gaug	-30 80 ° one oil I compatible or offset and sp f ± 1.6 % FSO in temperature	°C overp oil overp oan depending / tolerance ba is 70 °C;	pressure: $-10 \dots$ on installation p nd span $\leq \pm 0.6$ %	250 °C osition and fi % FSO	vacuum pres	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection	n influence sion: tolera e pressure	storage: filling fluid silic filling fluid food thermal effects for the max. medium that pressure gaug	-30 80 ° one oil I compatible or offset and sp r± 1.6 % FSO temperature pe > 0 bar: 150	C overp oil overp oan depending / tolerance ba is 70 °C; 0 °C for 60 min	pressure: $-10 \dots$ on installation p nd span $\leq \pm 0.6$ %	250 °C osition and fi % FSO	vacuum pres	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Reverse polarity protection	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects fo nce band offset ≤ the max. medium nal pressure gaug permanent no damage, bu	-30 80 ° one oil I compatible or offset and sp r ± 1.6 % FSO the temperature ge > 0 bar: 150 ut also no fur	C overp oil overp oan depending / tolerance ba is 70 °C; °C for 60 min	oressure: -10 g on installation p nd span ≤ ± 0.6 % utes with a max.	250 °C osition and fi % FSO	vacuum pres	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Reverse polarity protection	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects for the max. medium that pressure gaug	-30 80 ° one oil I compatible or offset and sp r ± 1.6 % FSO the temperature ge > 0 bar: 150 ut also no fur	C overp oil overp oan depending / tolerance ba is 70 °C; °C for 60 min	oressure: -10 g on installation p nd span ≤ ± 0.6 % utes with a max.	250 °C osition and fi % FSO	vacuum pres	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects fo nce band offset ≤ the max. medium nal pressure gaug permanent no damage, bu	-30 80 ° one oil I compatible or offset and sp r ± 1.6 % FSO the temperature ge > 0 bar: 150 ut also no fur	C overp oil overp oan depending / tolerance ba is 70 °C; °C for 60 min	oressure: -10 g on installation p nd span ≤ ± 0.6 % utes with a max.	250 °C osition and fi % FSO	vacuum pres	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects fo nce band offset ≤ the max. medium nal pressure gaug permanent no damage, bu	-30 80 ° one oil I compatible or offset and sp f ± 1.6 % FSO in temperature pe > 0 bar: 150 ut also no fur mmunity acc	C overp oil overp oan depending / tolerance ba is 70 °C; °C for 60 min oction ording to EN	oressure: -10 g on installation p nd span ≤ ± 0.6 % utes with a max.	250 °C osition and fi 6 FSO environment	vacuum pres Iling conditions	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects for ance band offset ≤ the max. medium nal pressure gaug permanent no damage, bu emission and i	-30 80 ° one oil I compatible or offset and sp r ± 1.6 % FSO n temperature of re > 0 bar: 150 ut also no fur mmunity acc . 2000 Hz)	°C overp oil overp oan depending / tolerance ba is 70 °C; °C for 60 min oction ording to EN acco	ressure: -10 g on installation p nd span ≤ ± 0.6 % utes with a max. 1 61326	250 °C osition and fi 6 FSO environment 1 60068-2-6	vacuum pres Iling conditions	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration Shock	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects for ance band offset ≤ the max. medium nal pressure gaug permanent no damage, bu emission and i 5 g RMS (25	-30 80 ° one oil I compatible or offset and sp r ± 1.6 % FSO n temperature of re > 0 bar: 150 ut also no fur mmunity acc . 2000 Hz)	°C overp oil overp oan depending / tolerance ba is 70 °C; °C for 60 min oction ording to EN acco	ressure: -10 g on installation p nd span ≤ ± 0.6 % utes with a max. 1 61326 rding to DIN EN	250 °C osition and fi 6 FSO environment 1 60068-2-6	vacuum pres Iling conditions	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration Shock Filling fluids	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects for ance band offset ≤ the max. medium nal pressure gaug permanent no damage, bu emission and i 5 g RMS (25	-30 80 ° one oil I compatible or offset and sp r ± 1.6 % FSO n temperature of re > 0 bar: 150 ut also no fur mmunity acc . 2000 Hz)	°C overp oil overp oan depending / tolerance ba is 70 °C; °C for 60 min oction ording to EN acco	ressure: -10 g on installation p nd span ≤ ± 0.6 % utes with a max. 1 61326 rding to DIN EN	250 °C osition and fi 6 FSO environment 1 60068-2-6	vacuum pres Iling conditions	sure: -1	0 150 °C
	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects for ance band offset ≤ the max. medium nal pressure gaug permanent no damage, bu emission and i 5 g RMS (25 100 g / 11 mse	-30 80 ° one oil I compatible or offset and sp f ± 1.6 % FSO in temperature pe > 0 bar: 150 ut also no fur mmunity acc . 2000 Hz) ec e oil accordin bus 32; Cate	C overp oil overp oan depending / tolerance ba is 70 °C; °C for 60 min ording to EN acco acco acco	ressure: -10 n on installation p nd span ≤ ± 0.6 % utes with a max. I 61326 rding to DIN EN rding to DIN EN rding to DIN EN	250 °C osition and fi 6 FSO environment 1 60068-2-6 1 60068-2-2	vacuum pres Illing conditions tal temperature of 5	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Electromagnetic compatibility Mechanical stability Vibration Shock Filling fluids Standard Options	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects for ance band offset ≤ the max. medium nal pressure gaug permanent no damage, bu emission and i 5 g RMS (25 100 g / 11 mse silicone oil food compatibl (Mobil SHC Cil	-30 80 ° one oil I compatible or offset and sp f ± 1.6 % FSO in temperature pe > 0 bar: 150 ut also no fur mmunity acc . 2000 Hz) ec e oil accordin bus 32; Cate	C overp oil overp oan depending / tolerance ba is 70 °C; °C for 60 min ording to EN acco acco acco	ressure: -10 n on installation p nd span ≤ ± 0.6 % utes with a max. I 61326 rding to DIN EN rding to DIN EN rding to DIN EN	250 °C osition and fi 6 FSO environment 1 60068-2-6 1 60068-2-2	vacuum pres Illing conditions tal temperature of 5	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Electromagnetic compatibility Mechanical stability Vibration Shock Filling fluids Standard Options Materials	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects for ance band offset ≤ the max. medium nal pressure gaug permanent no damage, bu emission and i 5 g RMS (25 100 g / 11 mse silicone oil food compatibl (Mobil SHC Cil	-30 80 ° one oil I compatible or offset and sp f ± 1.6 % FSO in temperature i ge > 0 bar: 150 ut also no fur mmunity acc . 2000 Hz) ec e oil accordii bus 32; Cate d others on r	PC overp oil overp oan depending / tolerance ba is 70 °C; 0 °C for 60 min ording to EN accol acc	ressure: -10 n on installation p nd span ≤ ± 0.6 % utes with a max. I 61326 rding to DIN EN rding to DIN EN rding to DIN EN	250 °C osition and fi 6 FSO environment 1 60068-2-6 1 60068-2-2	vacuum pres Illing conditions tal temperature of 5	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Electromagnetic compatibility Mechanical stability Vibration Shock Filling fluids Standard Options Materials Pressure port	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid food thermal effects for ance band offset ≤ the max. medium nal pressure gaug permanent no damage, bu emission and i 5 g RMS (25 100 g / 11 mse silicone oil food compatibl (Mobil SHC Cil Halocarbon an	-30 80 ° one oil I compatible or offset and sp f ± 1.6 % FSO in temperature i ge > 0 bar: 150 ut also no fur mmunity acc . 2000 Hz) ec e oil accordii bus 32; Cate d others on r 1.4435 (316	C overp oil overp oan depending / tolerance ba is 70 °C; 0 °C for 60 min ording to EN accol accol accol accol accol accol accol L)	ressure: -10 n on installation p nd span ≤ ± 0.6 % utes with a max. I 61326 rding to DIN EN rding to DIN EN rding to DIN EN	250 °C osition and fi 6 FSO environment 1 60068-2-6 1 60068-2-2	vacuum pres Illing conditions tal temperature of 5	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Electromagnetic compatibility Mechanical stability Vibration Shock Filling fluids Standard Options Materials Pressure port Housing	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid silic filling fluid food thermal effects for ance band offset ≤ the max. medium nal pressure gaug permanent no damage, bu emission and i 5 g RMS (25 100 g / 11 mse silicone oil food compatibl (Mobil SHC Cii Halocarbon an stainless steel stainless steel	-30 80 ° one oil compatible or offset and sp f ± 1.6 % FSO in temperature i ge > 0 bar: 150 ut also no fur mmunity acc . 2000 Hz) ec e oil accordii bus 32; Cate d others on r 1.4435 (316 1.4301 (304	C overp oil overp oan depending / tolerance ba is 70 °C; 0 °C for 60 min ording to EN accol accol accol accol accol accol accol L)	ressure: -10 n on installation p nd span ≤ ± 0.6 % utes with a max. I 61326 rding to DIN EN rding to DIN EN rding to DIN EN	250 °C osition and fi 6 FSO environment 1 60068-2-6 1 60068-2-2	vacuum pres Illing conditions tal temperature of 5	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Electromagnetic compatibility Mechanical stability Vibration Shock Filling fluids Standard Options Materials Pressure port Housing Viewing glass	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid solic thermal effects for the max. medium nal pressure gaug permanent no damage, bu emission and i 5 g RMS (25 100 g / 11 mse silicone oil food compatibl (Mobil SHC Cil Halocarbon an stainless steel laminated safe	-30 80 ° one oil compatible or offset and sp f ± 1.6 % FSO in temperature i ge > 0 bar: 150 ut also no fur mmunity acc 2000 Hz) ec e oil accordin bus 32; Cate d others on r 1.4435 (316 1.4301 (304 ty glass	PC overp oil overp oan depending / tolerance ba is 70 °C; 0 °C for 60 min ording to EN accol acc	ressure: -10 y on installation p nd span ≤ ± 0.6 % utes with a max. I 61326 rding to DIN EN rding to DIN EN rding to DIN EN rding to Regis	250 °C osition and fi 6 FSO environment 1 60068-2-6 1 60068-2-2	vacuum pres Illing conditions tal temperature of 5	sure: -1	0 150 °C
for cooling element 300°C ⁴ an optional cooling element car ⁵ for flange-, Varivent-, DRD-vers ⁶ for vacuum ranges and absolute max. temperature of the mediur cooling element). Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Mechanical stability Vibration Shock Filling fluids Standard	n influence sion: tolera e pressure m for nomi	storage: filling fluid silic filling fluid silic filling fluid food thermal effects for acce band offset ≤ the max. medium nal pressure gauge permanent no damage, bu emission and i 5 g RMS (25 100 g / 11 mse silicone oil food compatibl (Mobil SHC Cil Halocarbon an stainless steel stainless steel laminated safe none, not inclu	-30 80 ° one oil I compatible or offset and sp f ± 1.6 % FSO in temperature i pe > 0 bar: 150 ut also no fur mmunity acc 2000 Hz) ec e oil accordin bus 32; Cate d others on r 1.4435 (316 1.4301 (304 ty glass ded in the so inless steel	C overp oil overp oan depending / tolerance ba is 70 °C; °C for 60 min ording to EN acco acco acco acco bag to 21CFF gory Code: 1 request L)) cope of deliv 1.4435 (316	ressure: -10 y on installation p nd span ≤ ± 0.6 % utes with a max. I 61326 rding to DIN EN rding to DIN EN	250 °C osition and fi 6 FSO environment 1 60068-2-6 1 60068-2-2 tration No.:	vacuum pres lling conditions lal temperature of cal	sure: -1	0 150 °C

Explosion protection		
Approvals	IBExU 05 ATEX 1106 X	(with SIL2: IBExU 05 ATEX1105 X)
AX12-x act i	zone 0: II 1G E	x ia IIC T4 Ga
AX2 - x act i (with SIL2)	zone 20: II 1D E	x ia IIIC T85 °C Da
Safety technical maximum values	$U_i = 28 V$, $I_i = 98 mA$, $P_i = 6$ capacity of max. 27 nF to the	380 mW, C _i = 0 nF, L _i = 0 μH, the supply connections have an inner he housing
Permissible temperatures for	in zone 0: -20 6	60 °C with p _{atm} 0.8 bar up to 1.1 bar
environment	in zone 1 or higher: -40 7	70 °C
Connecting cables	capacitance: signal l	line/shield also signal line/signal line 160 pF/m
(by factory)	inductance: signal l	line/shield also signal line/signal line 1 μH/m
Option		
SIL2-version	according to IEC 61508 / IE	EC 61511
Miscellaneous		
Display	range of indication ±9999; 8 52-segement bargraph; acc	2.5 x 22.5 mm; 5-digit 7-segment main display, digit height 8 mm, 8-digit 14-segment additional display, digit height 5 mm; curacy 0.1% ± 1 digit
Ingress protection	IP 67	
Installation position	differing installation position	a vertical position with the pressure port connection down; n for $P_N \le 2$ bar have to be specified in the order)
Weight	min. 400 g (depending on n	nechanical connection)
Operational life	100 million load cycles	
CE-conformity	EMC Directive: 2014/30/EL	J
ATEX Directive	2014/34/EU	
Wiring diagrams		
2-wire-system (current)		2-wire-system (current) HART® - communication
p supply -		P supply + A + Vs supply - Unterface RS232 PC
Pin configuration		
Electrical connections		M12x1 (4-pin), metal
Supply +		1 3
Supply – Shield		5 plug housing
		pidg housing
Electrical connections (dimensio	ns in mm)	
14,5		
M12x1 (4-pin)		
Designs ⁷		
		A CONTRACTOR OF
side display		45° display
		45° display



	Ordering code	x act i	
x act i	□-□-□-□	-0	□-□
Pressure	5 1 1 5 1 2		
absolute 1 Input [bar] 0 0.4	4 0 0 0		
0 1 0 2	1 0 0 1 2 0 0 1		
0 4 0 10 0 20	4 0 0 1 1 0 0 2 2 0 0 2		
0 40 -0.4 0.4	4 0 0 2 S 4 0 0		
-1 1 -1 2 -1 4	S 1 0 2 V 2 0 2 V 4 0 2		
-1 10 customer	V 1 0 3 9 9 9 9		consult
Design side display 45° display	К Н К 4		
Output 4 20 mA / 2-wire	1		
intrinsic safety (ia) 4 20 mA / 2-wire intrinsic safety (ia)	E		
4 20 mA / 2-wire with HART [®] -communication	1		
SIL2: 4 20 mA / 2-wire SIL2: intrinsic safety (ia) 4 20 mA / 2-wire	1S ES		
SIL2: intrinsic safety (ia) 4 20 mA / 2-wire with HART [®] -communication	IS		
customer Accuracy	9		consult
0.1 % FSO Electrical connection male plug M12x1 (4-pin), metal		1	
Mechanical connection		M 1 0 9 9 9	consult
G1" cone Clamp DN 25 / 1" (DIN 32676) / 3A Clamp DN 32 / 1 1/2" (DIN 32676) / 3A		K 3 1 C 6 1 C 6 2	
Clamp DN 50 / 2" (DIN 32676) / 3A Clamp 3/4" (DIN 32676) / 3A		K 3 1 C 6 1 C 6 2 C 6 3 C 6 9	
dairy pipe DN 25 (DIN 11851) ² dairy pipe DN 40 (DIN 11851) ² dairy pipe DN 50 (DIN 11851) ²		M 7 3 M 7 5	
Varivent [®] DN 40/50 / 3A flange DN 25 / PN 40 (DIN 2501)		P 4 1	
flange DN 50 / PN 40 (DIN 2501) flange DN 80 / PN 16 (DIN 2501)		F 2 0 F 2 3 F 1 4 D R D	
DRD Ø 65 mm ² Diaphragm stainless steel 1.4435 (316L)		D R D 1	
Hastelloy [®] C-276 (2.4819) tantalum ³		H T	consult
Seals without		0	
Filling Fluids silicone oil			1
food compatible oil (FDA) / 3A Halocarbon customer			2 C consult 9 consult
Special version standard			0 0 0
with cooling element up to 300°C / 3A customer			2 0 0 9 9 9 consult

 if setting range shall be different from nominal range please specify in your order
 ¹ absolute pressure possible from 1 bar
 ² cup nut resp. mounting flange is included in the delivery (already pre-assembled)
 ³ tantalum diaphragm possible with nominal pressure ranges from 1 bar
 HART[®] is a registered trade mark of HART Communication Foundation; Hastelloy[®] is a brand name of Haynes International Inc. Varivent[®] is a brand name of GEA Tuchenhagen GmbH



x act ci

Precision Pressure Transmitter for Food / Beverage, Pharmaceutical Industry and Biotechnology

Ceramic Sensor

accuracy according to IEC 60770: 0.1 % FSO

Nominal pressure

from 0 ... 160 mbar up to 0... 20 bar

Output signals

2-wire: 4 ... 20 mA others on request

Special characteristics

- turn-down 1:5
- hygienic version
- flush mounted, capacitive ceramic sensor
- several process connections (inch thread, Clamp, etc.)
- with integrated display and operating module
- diaphragm Al₂O₃ 99.9 %

Optional versions

- explosion protection intrinsic safety (ia)
- HART[®]-communication

The precise pressure transmitter x|act ci measures the pressure of gases, steam and fluids. The special-developed capacitive ceramic sensor for this transmitter, which can optionally be delivered in pure ceramic, has a high overpressure capability and excellent media stability.

Several process connections e.g. inch thread or hygienic versions like Varivent[®], dairy pipe or Clamp are available. The robust stainless steel globe housing has a high ingress protection IP 67 and all characteristics for a residue-free and antibacterial cleaning.

Preferred areas of use are



Food and beverage



Ū



Laboratory techniques

Preferred using in



Viscous and pasty media



Pressure ranges ¹ Nominal pressure gauge	[bar]	0.16	0.4	1	2	5	10	20
Overpressure	[bar]	4	6	8	15	25	35	45
Permissible vacuum	[bar]	-0.3).5	10	1	-1	+0
¹ On customer request we adjus				-	within the turn-d			ar).
Output signal / Supply		•					-	·
Output signal / Supply		otondord		anol			V = 10	20.17
2-wire: 4 20 mA		standard: options:	analogue si intrinsic saf				V _s = 12 . V _s = 12	30 V _{DC} 28 V _{DC}
		optionol			ART [®] -communi	ication	$V_{\rm S} = 12$.	
Current consumption		max. 25 mA						
Performance								
Accuracy ²		nominal pres	sure < 1 bar:	≤ ± 0.2	% FSO			
2		nominal pres	sure ≥ 1 bar:	≤ ± 0.1	% FSO			
			ressure range	s:		2) % ESO		
			up to 0.4 bar		+ (TD-1) x 0.0	iz) % F30		
			ressure range	s: < + (0.1	+ (TD-1) x 0.0	1) % ESO		
		from 1 bar up			· · ·	,		
					/ adjusted rang			
Permissible load			V _{S min}) / 0.02 /		<u> </u>		n: R _{min} = 250 Ω	
Influence effects			% FSO / 10 V		ssible load: 0.0	05 % FSO / kg	2	
Long term stability				erence condition				
Response time				eration of elect			measuring	rate 5/sec
Adjustability		electronic dar offset:	nping:	0 10 0 80				
		turn-down of	enan.		5 (span min. 0.	02 har)		
² accuracy according to IEC 60	770 – limit		· · · · · · · · · · · · · · · · · · ·			02 001)		
Thermal errors / Permissi				.,,,,	······,,,,			
Thermal error			rn-down) % F	SO / 10 K in c	ompensated ra	inge -208	0°C	
Permissible temperatures		medium:	,	-25 1		<u> </u>		
		environment:		-20 7	0 °C			
		storage:		-30 8	O°C			
Electrical protection								
Short-circuit protection		permanent						
Reverse polarity protection		U	out also no fun					
Electromagnetic compatibil	ty	emission and	immunity acc	ording to EN 6	1326			
Mechanical stability								
Vibration		5 g RMS (20			ng to DIN EN 6			
Shock		100 g / 11 ms	sec	accordi	ng to DIN EN 6	60068-2-27		
Materials								
Pressure port			-	•	pipe and clam	•	ess steel 1.4404	4 (316L)
·· ·			G1 1/2" flush	· · · · · · · · · · · · · · · · · · ·		PVDF		
Housing			el 1.4301 (304)					
Viewing glass		laminated sat		05 405	<u></u>			
Seals		EPDM	sible temperat	ure: -25 125	·C)			
		others on req	uest					
Diaphragm		ceramics Al ₂						
Media wetted parts			, seals, diaphr	agm				
Explosion protection			· · ·	-				
Approval		IBExU05ATE	X1106 X					
AX12-x act ci		zone 0/1 ³ :	- 1					
		II 2G Ex ia II0	C T4 Gb					
		II 1/2G Ex ia						
		II 1G Ex ia IIC	14 Ga					
		zone 20:						
Safety technical maximum	alues	II 1D Ex ia III		80 mW, C _i = 0				
Salety technical maximum	alues				acity of max. 2	7 nF to the bo	usina	
Permissible temperatures for	or	in zone 0:			$_{\rm n}$ 0.8 bar up to			
environment		in zone 1 or h		70 °C				
Connecting cables		cable capacit	•	line/shield als	o signal line/sig	gnal line: 160	pF/m	
(by factory)		cable inducta	nce: signa	line/shield als	o signal line/si		l/m	
		l pressure range	nce: signal e. Nominal press	line/shield als ure ranges ≤160	mbar are marke	d with "2G".		

x<mark>act ci</mark> Technical Data





xjact ci		Ordering code x act ci	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	x act ci		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Pressure		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	gauge		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		1 6 0 0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2		
Design side display K 4 I			
Design side display K 4 I	20		
Output 420 mA/2-wire 1 0 <td></td> <td></td> <td>consult</td>			consult
Output 420 mA/2-wire 1 0 <th0< th=""> 0</th0<>			
intrinsic safe() (a) A A A B A B	Output		
4 20 mA / 2-wire I			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	4 20 mA / 2-wire	E	
questomer 9 4	4 20 mA / 2-wire	1	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			consult
P _N ≥ 1 bar 0.1 % FSO 1 I <thi< th=""> I I</thi<>	Accuracy		
customer 9 a<			
male plug M12x1 (4-pin) M 1 0 <th0< th=""> 0 0 <th0< t<="" td=""><td>customer</td><td>9</td><td>consult</td></th0<></th0<>	customer	9	consult
Mechanical connection M 0 <td></td> <td>M 1 0</td> <td></td>		M 1 0	
G 1 1/2" DIN flush (DIN 3852) M 0 0 K 0 0	customer	9 9 9	consult
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		M 0 0	
dairy pipe DN 50 (DIN 11851) 1 M 7 6 I		C 6 2	
dairy pipe DN 50 (DIN 11851) 1 M 7 6 I		M 7 5	
flange DN 25 / PN 40 (DIN 2501) F 2 0 I		M 7 6	
DRD Ø 65 mm 1 D R D R D R D R D R D R D R D R D R D R D R D R D R D R D R D R D R D C <		F 2 0	
DRD Ø 65 mm 1 D R D R D R D R D R D R D R D R D R D R D R D R D R D R D R D R D R D C <		F 2 3	
Diaphragm I	DRD Ø 65 mm	DRD	
Ceramics Al ₂ O ₃ 99,9% C I <thi< th=""> I I <thi< th=""></thi<></thi<>		9 9 9	consult
Seals I <thi< th=""> I <thi< th=""> <thi< th=""></thi<></thi<></thi<>	ceramics Al ₂ O ₃ 99,9%		
FKM 1 I		9	consult
customer 9 I consult Pressure port I I I standard: I I I I stainless steel 1.4404 (316L) I I I I option for G 1 1/2" flush: I I I I Customer B I I I Option for G 1 1/2" flush: I I I I PVDF B I I I I Customer 9 I I I I	FKM		
standard: 1 1 stainless steel 1.4404 (316L) 1 1 option for G 1 1/2" flush: 1 1 PVDF B 1 customer 9 1			consult
stainless steel 1.4404 (316L) 1 I option for G 1 1/2" flush: I I PVDF B I customer 9 Consult			
PVDF B Customer 9 Consult	stainless steel 1.4404 (316L)		1
customer 9 consult			B
Special version	customer		
standard 0 0 0			
customer 9 9 9 consult			9 9 9 consult

A if setting range shall be different from nominal range please specify in your order ¹ cup nut resp. mounting flange is included in the delivery (already pre-assembled)

HART[®] is a registered trade mark of HART Communication Foundation; Varivent[®] is a brand name of GEA Tuchenhagen GmbH

³⁴ PRECISION PRESSURE TRANSMITTER



DMP 331Pi

Precision Pressure Transmitter

Pressure Ports and Process Connections with Flush Welded Stainless Steel Diaphragm

accuracy according to IEC 60770: 0.1 % FSO

Nominal pressure

from 0 ... 400 mbar up to 0 ... 40 bar

Output signals

2-wire: 4 ... 20 mA 3-wire: 0 ... 10 V others on request

Product characteristics

- excellent temperature response 0.04 % FSO / 10K
- Turn-Down 1:10
- processing of the sensor signal using digital electronics
- process connections suitable for hygienic application
- vacuum resistant

Optional versions

- communication interface for adjustment of offset, span and damping
- IS-version (on request)

The precision pressure transmitter DMP 331Pi demonstrates the further development of well-tried industrial pressure transmitter DMP 331P.

The signal from the specially designed piezoresistive stainless steel sensor is processed by the newly developed digital electronic system, performing thus an active compensation of sensor-specific deviations such as hysteresis, thermal errors and non-linearity.

The temperature range of -40 \dots 125 °C can be extended by the integration of a cooling element up to 300 °C.

Preferred areas of use are



Laboratory techniques





Pharmaceutical industry



Pressure ranges ¹								
Nominal pressure		0.4	1	2	4	10	20	40
gauge / absolute ²	[bar]	-				-		
Overpressure	[bar]	2	5	10	20	40	80	105
Burst pressure ≥	[bar]	3	7.5	15	25	50	120	210
Vacuum resistance			nlimited vacuu			< 1 bar: on requ		
¹ On customer request we adj ² absolute pressure permissib			e turn-down-pos	ssibility by soft	tware on the require	ed pressure range		
, ,		1 501						
Vacuum ranges					4 0			
Nominal pressure	[bar]	-0.4 0.4			-1 2	-1 4		-1 10
Overpressure	[bar]	2	5		10	20		40
Burst pressure ≥	[bar]	3	7.5		15	25		50
Output signal / Supply								
Standard			20 mA / \					
Option IS-version			20 mA / \					
Options			20 mA with c					
			10 V / \					
³ only possible with el. connec	ction Bi		10 V with cor	nmunication	Interface °			
Performance	CUON BI	ider series 723	(7-pin)					
Accuracy ⁴		IEC 60770: ≤	+ 0.1 % ESO					
performance after turn-dov	wn		_ 0.1 /01 00					
- TD ≤ 1:5		no change of	accuracv 5					
- TD > 1:5				wing formula	a (for nominal pre	ssure ranges ≤	0.40 bar s	ee note 5):
			15 x turn-dow			Ū.		,
					ge / adjusted rang			
					accuracy is calcu			
					racy is $\leq \pm 0.25$ %			
Permissible load		current 2-wire				tage 3-wire: R _n		
nfluence effects		supply: 0.05				d: 0.05 % FSO	/ kΩ	
Long term stability			i-down) % FS	0 / year at re	eference conditio	ns		
Response time		< 5 msec				1	6)	
Adjustability				arameters po	ossible (interface	/ software nece	essarv °):	
			mnina:0 10	0 600	offect: 0 00 0	(ESO +		of chan: may 1:10
⁴ accuracy according to IEC 6	50770 -		nping: 0 10 tment (non-lines		offset: 0 90 %	6 FSO t		of span: max. 1:10
⁴ accuracy according to IEC 6 ⁵ except nominal pressure ran		limit point adjus	tment (non-linea	arity, hysteresi	is, repeatability)	<u>6 FSO t</u>		of span: max. 1:10
⁵ except nominal pressure ran ≤ ± (0.1 + 0.02 x turn-down)	nges ≤ (% FSC	limit point adjus 0.40 bar; for thes 0 e.g. turn-down	tment (non-lineation of $1:3: \le \pm (0.1 + 1)$	arity, hysteresi accuracy is a: + 0.02 x 3) %	is, repeatability) s follows: FSO i.e. accuracy i	is ≤ ± 0.16 % FSO	urn down (·
⁵ except nominal pressure ran ≤ ± (0.1 + 0.02 x turn-down) ⁶ software, interface, and cable	nges ≤ (% FSC le have	limit point adjus 0.40 bar; for thes 0 e.g. turn-down to be ordered se	tment (non-linea se calculation of of 1:3: $\leq \pm$ (0.1 + eparately (softwa	arity, hysteresi accuracy is a + 0.02 x 3) % are appropriat	is, repeatability) s follows: FSO i.e. accuracy i	is ≤ ± 0.16 % FSO	urn down (·
⁵ except nominal pressure ran ≤ ± (0.1 + 0.02 x turn-down) ⁶ software, interface, and cable Thermal effects ⁷ (Offset	nges ≤ (% FSC le have t and S	limit point adjust 0.40 bar; for thes 0 e.g. turn-down to be ordered se 5 pan) / Permis	timent (non-linea se calculation of of 1:3: $\leq \pm$ (0.1 - eparately (softwa ssible temper	arity, hysteresi accuracy is a + 0.02 x 3) % are appropriat r atures	is, repeatability) s follows: FSO i.e. accuracy e for Windows [®] 95,	is ≤ ± 0.16 % FSC 98, 2000, NT Ver	urn down (·
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⁵ except nominal pressure ran $\leq \pm (0.1 + 0.02 \times turn-down)$ ⁵ software, interface, and cable Thermal effects ⁷ (Offset Tolerance band [% I Tolerance band [% I TC, average [% FSO / P Permissible temperatures Permissible temperatures Permissible temperature me for cooling element 300°C ⁷ an optional cooling element of ⁸ an optional cooling element of ⁹ an optio	nges ≤ (% FSC le have t and S FSO] 10 K] * * edium can infl dium for bility 2-6)	limit point adjus 0.40 bar; for thes $e.g. turn-down to be ordered se gean) / Permis \leq \pm (0.35 \times tu)\leq \pm (0.035 \times tu)\leq \pm (0.035 \times tu)medium:electronics / estorage:filling fluid silifilling fluid silifilling fluid silifilling fluid silifilling fluid silifilling fluid focuence thermal er nominal pressupermanentno damage, theemission andsilicone oilfood compatil(Mobil SHC COG 1/2": 20 g F$	tment (non-line se calculation of of 1:3: $\leq \pm$ (0.1 - eparately (softwa ssible temper rn-down) urn-down) environment: cone oil od compatible ffects for offset irre gauge > 0 be put also no fur limmunity acc ble oil accordii Cibus 32; Cate RMS (25 20	arity, hysteresi accuracy is a: + 0.02 x 3) % are appropriat atures in compo- in compo- -40 12 -10 12 -25 4 -40 11 -25 4 -40 11 ov and span dep- ar: 150 °C for the action ording to EN motion to 21CFF gory Code: 1	is, repeatability) s follows: FSO i.e. accuracy i e for Windows® 95, ensated range C ensated range C ensated range C 25 °C for filling flu 25 °C for filling flu 26 °C for filling flu 27 °C for filling flu 28 °C for filling flu 29 °C for filling flu 20 °C for fil	is ≤ ± 0.16 % FSC 98, 2000, NT Ver 80 °C 80 °C 80 °C 300 °C 250 °C on position and filli nax. environmenta 	ible oil vacuum: vacuum: ing condition i temperatu	higher, and XP) -40 150 °C ⁹ -10 150 °C ⁹ ns. re of 50 °C
⁵ except nominal pressure ran $\leq \pm (0.1 + 0.02 \times turn-down)$ ⁵ software, interface, and cable Thermal effects ⁷ (Offset Tolerance band [% I Tolerance band [% I TC, average [% FSO / Permissible temperatures Permissible temperature me for cooling element 300°C ⁷ an optional cooling element of ⁸ max. temperature of the mec ⁹ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Reverse polarity protection Electromagnetic compatible Filling fluids Standard Options Mechanical stability Vibration (DIN EN 60068-2 Shock (DIN EN 60068-2	nges ≤ (% FSC le have t and S FSO] 10 K] * * edium can infl dium for bility 2-6)	limit point adjus 0.40 bar; for these be g. turn-down to be ordered se (0.35 x tur ≤ ± (0.35 x tur ≤ ± (0.035 x t medium: electronics / e storage: filling fluid sili filling fluid sili filling fluid sili filling fluid foc uence thermal e r nominal pressu permanent no damage, t emission and silicone oil food compatil (Mobil SHC C	tment (non-line se calculation of of 1:3: $\leq \pm$ (0.1 - eparately (softwa ssible temper rn-down) urn-down) environment: cone oil od compatible ffects for offset irre gauge > 0 be put also no fur limmunity acc ble oil accordii Cibus 32; Cate	arity, hysteresi accuracy is a: + 0.02 x 3) % are appropriat atures in compo- in compo- -40 12 -10 12 -25 4 -40 11 -25 4 -40 11 ov and span dep- ar: 150 °C for the action ording to EN motion to 21CFF gory Code: 1	is, repeatability) s follows: FSO i.e. accuracy i e for Windows® 95, ensated range C ensated range C 25 °C for filling flu 25 °C for filling flu 26 °C for filling flu 27 °C for filling flu 28 °C for	is ≤ ± 0.16 % FSC 98, 2000, NT Ver 80 °C 80 °C 80 °C 300 °C 250 °C on position and filli nax. environmenta 	ible oil vacuum: vacuum: ing condition i temperatu	higher, and XP) -40 150 °C ⁹ -10 150 °C ⁹ ns. re of 50 °C
⁵ except nominal pressure ran $\leq \pm (0.1 + 0.02 \times turn-down)$ ⁶ software, interface, and cable Thermal effects ⁷ (Offset Tolerance band [% I TC, average [% FSO / Permissible temperatures Permissible temperature me for cooling element 300°C ⁷ an optional cooling element 6 ⁸ max. temperature of the mec ⁹ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Reverse polarity protection Reverse polarity protection Standard Options Mechanical stability Vibration (DIN EN 60068-2 Shock (DIN EN 60068-2	nges ≤ (% FSC le have t and S FSO] 10 K] * * edium can infl dium for bility 2-6)	limit point adjus 0.40 bar; for thes $e.g. turn-down to be ordered se gean) / Permis \leq \pm (0.35 \times tu)\leq \pm (0.035 \times tu)\leq \pm (0.035 \times tu)medium:electronics / estorage:filling fluid silifilling fluid silifilling fluid silifilling fluid silifilling fluid focuence thermal er nominal pressupermanentno damage, temission andsilicone oilfood compatil(Mobil SHC C)G 1/2": 20 g FG 1/2": 500 g$	tment (non-line se calculation of of 1:3: $\leq \pm$ (0.1 - eparately (softwa ssible temper rn-down) urn-down) environment: cone oil od compatible ffects for offset irre gauge > 0 ba put also no fur limmunity acc ble oil accordii Cibus 32; Cate RMS (25 20 / 1 msec;	arity, hysteresi accuracy is a: + 0.02 x 3) % are appropriat atures in compo- in compo- -40 12 -10 12 -25 42 -40 11 -25 42 -40 11 ov and span dep- ar: 150 °C for the action ording to EN mg to 21CFF gory Code: 1	is, repeatability) s follows: FSO i.e. accuracy i e for Windows® 95, ensated range C ensated range C ensated range C 25 °C for filling flu 25 °C for filling flu 26 °C for filling flu 27 °C for filling flu 28 °C for filling flu 29 °C for filling flu 20 °C for fil	is ≤ ± 0.16 % FSC 98, 2000, NT Ver 80 °C 80 °C 80 °C 300 °C 250 °C on position and filli nax. environmenta 	urn down o sion 4.0 or i ible oil vacuum: vacuum: ing condition il temperatu 00) ot 5 2000 ec	higher, and XP) -40 150 °C ⁹ -10 150 °C ⁹ ns. re of 50 °C hers on request Hz)
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⁵ except nominal pressure ran $≤ \pm (0.1 + 0.02 \times turn-down)$ ⁶ software, interface, and cable Thermal effects ⁷ (Offset Tolerance band [% I TC, average [% FSO / Permissible temperatures Permissible temperatures Permissible temperature of for cooling element 300°C ⁷ an optional cooling element 60° ⁹ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Reverse polarity protection Electromagnetic compatible Filling fluids Standard Options Mechanical stability Vibration (DIN EN 60068-2 Shock (DIN EN 60068-2 Materials Pressure port Housing	nges ≤ (% FSC le have t and S FSO] 10 K] 3 8 edium can infi dium for on pility 2-6) 2-27)	limit point adjus 0.40 bar; for thes i.e.g. turn-down to be ordered se pan) / Permis $\leq \pm (0.35 x tu \leq \pm (0.035 x t)medium:electronics / estorage:filling fluid sillifilling fluid sillifood compatil(Mobil SHC CG 1/2": 20 g FG 1/2": 500 g$	tment (non-linea se calculation of of 1:3: $\leq \pm (0.1 +$ aparately (softwa ssible temper rn-down) urn-down) environment: cone oil od compatible ffects for offset of ffects for offset of rre gauge > 0 be put also no fur immunity acc ble oil accordin Cibus 32; Cate RMS (25 20 / 1 msec; el 1.4435 (316	arity, hysteresi accuracy is a: + 0.02 x 3) % are appropriat atures in compo- in compo- -40 12 -10 12 -25 4 -40 11 -25 4 -40 11 ov and span depo- ar: 150 °C for the arction ording to 21CFF gory Code: 1 00 Hz); ott 	is, repeatability) s follows: FSO i.e. accuracy i e for Windows® 95, ensated range C ensated range C 25 °C for filling flu 25 °C for filling flu 26 °C for filling flu 27 °C for filling flu 28 °C for filling flu 29 °C for filling flu 20 °C f	is ≤ ± 0.16 % FSC 98, 2000, NT Ver 1 80 °C 1 80 °C 1 300 °C 1 250 °C 1 250 °C 1 250 °C 1 250 °C 1 250 °C 1 250 °C 2 200	urn down o sion 4.0 or i ible oil vacuum: vacuum: ing condition il temperatu 00) ot 5 2000 ec othe	higher, and XP) -40 150 °C ° -10 150 °C ° ns. re of 50 °C hers on request Hz) ers on request
⁵ except nominal pressure ran ≤ ± (0.1 + 0.02 × turn-down) ⁶ software, interface, and cable Thermal effects ⁷ (Offset Tolerance band [% I TC, average [% FSO / Permissible temperatures Permissible temperatures Permissible temperatures Permissible temperatures Permissible temperatures Permissible temperatures Permissible temperatures Permissible temperature of ran optional cooling element of ⁸ max. temperature of the med ⁹ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatib Filling fluids Standard Options Mechanical stability Vibration (DIN EN 60068-2 Shock (DIN EN 60068-2 Materials Pressure port Housing Option compact field hous	nges ≤ (% FSC le have t and S FSO] 10 K] 3 8 edium can infi dium for on pility 2-6) 2-27)	limit point adjus 2.40 bar; for these 9.e.g. turn-down to be ordered se span) / Permis $\leq \pm (0.35 \times tu \leq \pm (0.035 \times tu)\leq \pm (0.035 \times $	tment (non-line e calculation of of 1:3: $\leq \pm$ (0.1 - eparately (softwa ssible temper rn-down) urn-down) environment: cone oil od compatible ffects for offset irre gauge > 0 be put also no fur immunity acc ble oil accordii Dibus 32; Cate RMS (25 20 / 1 msec; el 1.4435 (316 el 1.4301 (304	arity, hysteresi accuracy is a: + 0.02 x 3) % are appropriat atures in compo- -40 1: -10 1: -25 4 -40 1: -25 4 -40 1: 00 and span deption and span deption and span deption ar: 150 °C for (is, repeatability) s follows: FSO i.e. accuracy i.e. e for Windows® 95, ensated range C ensated range C 25 °C for filling flu 25 °C for filling flu 26 °C for filling flu 26 °C for filling flu 26 °C for filling flu 27 °C for filling flu 28 °C for filling flu 29 °C for filling flu 20 °	is ≤ ± 0.16 % FSC 98, 2000, NT Ver 80 °C 80 °C Juid silicone oil Juid food compat 300 °C 250 °C on position and filli nax. environmenta ation No.: 14150 2": 10 g RMS (2 2": 10 g / 1 msc is, nickel plated	urn down o sion 4.0 or i ible oil vacuum: vacuum: ing condition il temperatu 00) ot 5 2000 ec othe (clamping	higher, and XP) -40 150 °C ⁹ -10 150 °C ⁹ ns. re of 50 °C hers on request Hz)
⁵ except nominal pressure ran ≤ ± (0.1 + 0.02 × turn-down) ⁶ software, interface, and cable Thermal effects ⁷ (Offset Tolerance band [% I TC, average [% FSO / Permissible temperatures Permissible temperatures Permissible temperature of for cooling element 300°C ⁷ an optional cooling element 6 ⁹ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Reverse polarity protection Electromagnetic compatibi Filling fluids Standard Options Mechanical stability Vibration (DIN EN 60068-2 Shock (DIN EN 60068-2 Materials Pressure port Housing	nges ≤ (% FSC le have t and S FSO] 10 K] 3 8 edium can infi dium for on pility 2-6) 2-27)	limit point adjus) 40 bar; for these Pe.g. turn-down to be ordered se ipan) / Permis $\leq \pm (0.35 \times tu \leq \pm (0.035 \times tu)\leq \pm (0.035 \times tu)\leq \pm (0.035 \times tu)\leq torage:filling fluid sillifilling fluid sillifilling fluid sillifilling fluid sillifilling fluid sillifilling fluid sillifilling fluid focuence thermal er nominal pressupermanentno damage, teemission andsilicone oilfood compatil(Mobil SHC C)G 1/2": 20 g FG 1/2": 500 gstainless steesstainless steessteesstainless steesstainless stees$	tment (non-line e calculation of of 1:3: $\leq \pm$ (0.1 - eparately (softwa ssible temper rn-down) urn-down) environment: cone oil od compatible ffects for offset irre gauge > 0 be put also no fur immunity acc ble oil accordin ble oil accordin bles 32; Cate RMS (25 20 / 1 msec; el 1.4435 (316 el 1.4301 (304 FKM (reco	arity, hysteresi accuracy is a: + 0.02 x 3) % are appropriat atures in compo- -40 1: -10 1: -25 4 -40 1: -25 4 -40 1: -0 1: -25 4 -40 1: -25 4 -40 1: -25 4 -40 1: -10 1: -25 4 -40 1: -25 4 -26 4 -27	is, repeatability) s follows: FSO i.e. accuracy i.e. e for Windows® 95, ensated range C ensated range C ensated range C 25 °C for filling flu 25 °C for filling flu 26 °C for filling flu 26 °C for filling flu 26 °C for filling flu 26 °C for filling flu 27 °C for filling flu 28 °C for filling flu 29 °C for filling flu 20 °C for	is ≤ ± 0.16 % FSC 98, 2000, NT Ver 80 °C 80 °C 14150 	urn down o sion 4.0 or i ible oil vacuum: vacuum: ing condition il temperatu 00) ot 5 2000 ec othe (clamping C)	-40 150 °C ⁹ -10 150 °C ⁹ -10 150 °C ⁹ ns. re of 50 °C hers on request Hz) ers on request range 2 8 mm)
⁵ except nominal pressure ran $≤ \pm (0.1 + 0.02 \times turn-down)$ ⁶ software, interface, and cable Thermal effects ⁷ (Offset Tolerance band [% I TC, average [% FSO / Permissible temperatures Permissible temperature me for cooling element 300°C ⁷ an optional cooling element of ⁸ max. temperature of the med ⁹ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Reverse polarity protection Electromagnetic compatibi Filling fluids Standard Options Mechanical stability Vibration (DIN EN 60068-2 Shock (DIN EN 60068-2 Materials Pressure port Housing Option compact field hous	nges ≤ (% FSC le have t and S FSO] 10 K] 3 8 edium can infi dium for on pility 2-6) 2-27)	limit point adjus) 40 bar; for these pe.g. turn-down to be ordered se ipan) / Permis $\leq \pm (0.35 \times tu \leq \pm (0.035 \times tu)\leq \pm (0.035 \times tu)= $	tment (non-line es calculation of of 1:3: $\leq \pm$ (0.1 - eparately (softwa ssible temper rn-down) urn-down) environment: cone oil od compatible ffects for offset i ure gauge > 0 ba put also no fur immunity acc ble oil accordii Cibus 32; Cate RMS (25 20 / 1 msec; el 1.4435 (316 el 1.4301 (304 FKM (recc FFKM (recc	arity, hysteresi accuracy is a: + 0.02 x 3) % are appropriat in compo- in compo- -40 1; -10 1; -25 4 -40 10 -40	is, repeatability) s follows: FSO i.e. accuracy i.e. e for Windows® 95, ensated range C ensated range C 25 °C for filling flu 25 °C for filling flu 26 °C for filling flu 26 °C for filling flu 26 °C for filling flu 27 °C for filling flu 28 °C for filling flu 29 °C for filling flu 20 °	is ≤ ± 0.16 % FSC 98, 2000, NT Ver 80 °C 80 °C 14150 300 °C 250 °C 250 °C 250 °C 250 °C 	urn down o sion 4.0 or i ible oil vacuum: vacuum: ing condition il temperatu 00) ot 5 2000 ec othe (clamping C)	higher, and XP) -40 150 °C ° -10 150 °C ° ns. re of 50 °C hers on request Hz) ers on request
5 except nominal pressure ransing ≤ ± (0.1 + 0.02 x turn-down) 5 software, interface, and cable Thermal effects 7 (Offset Tolerance band [% I Tolerance band [% I TC, average [% FSO / 7 Permissible temperatures Permissible temperature metor for cooling element 300°C 7 an optional cooling element 300°C 8 filling fluids Standard Options Mechanical stability Vibration (DIN EN 60068-2 Materials Pressure port Housing Option compact field hous Seals (O-ring) Seals (O-ring)	nges ≤ (% FSC le have t and S FSO] 10 K] 3 8 edium can infi dium for on pility 2-6) 2-27)	limit point adjus) 40 bar; for these pe.g. turn-down to be ordered se ipan) / Permis $\leq \pm (0.35 \times tu \leq \pm (0.035 \times tu)\leq \pm (0.035 \times tu)= $	tment (non-line se calculation of of 1:3: $\leq \pm$ (0.1 - ssible temper rn-down) urn-down) environment: cone oil od compatible ffects for offset i ure gauge > 0 ba put also no fur immunity acc ble oil accordii Cibus 32; Cate RMS (25 20 / 1 msec; el 1.4435 (316 el 1.4301 (304 FKM (recc FFKM (recc pipe, Varivent	arity, hysteresi accuracy is a: + 0.02 x 3) % are appropriat atures in compo- in compo- -40 12 -10 12 -25 40 -40 10 -40 10	is, repeatability) s follows: FSO i.e. accuracy i.e. e for Windows® 95, ensated range C ensated range C ensated range C 25 °C for filling flu 25 °C for filling flu 26 °C for filling flu 27 °C for filling flu 28 °C for filling flu 29 °C for filling flu 20 °C for	is ≤ ± 0.16 % FSC 98, 2000, NT Ver 80 °C 80 °C 14150 300 °C 250 °C 250 °C 250 °C 250 °C 	urn down o sion 4.0 or i ible oil vacuum: vacuum: ing condition il temperatu 00) ot 5 2000 ec othe (clamping C)	-40 150 °C ⁹ -10 150 °C ⁹ -10 150 °C ⁹ ns. re of 50 °C hers on request Hz) ers on request range 2 8 mm)
⁵ except nominal pressure ran $\leq \pm (0.1 + 0.02 \times turn-down)$ ⁵ software, interface, and cable Thermal effects ⁷ (Offset Tolerance band [% I TC, average [% FSO / Permissible temperatures Permissible temperatures Permissible temperatures Permissible temperature of ro cooling element 300°C ⁷ an optional cooling element of ⁸ max. temperature of the med ⁹ also for P _{abs} \leq 1 bar Electrical protection Short-circuit protection Reverse polarity protection Reverse polarity protection Electromagnetic compatible Filling fluids Standard Options Mechanical stability Vibration (DIN EN 60068-2 Shock (DIN EN 60068-2 Materials Pressure port Housing Option compact field hous	nges ≤ (% FSC le have t and S FSO] 10 K] 3 8 edium can infi dium for on pility 2-6) 2-27)	limit point adjus) 40 bar; for these pe.g. turn-down to be ordered se ipan) / Permis $\leq \pm (0.35 \times tu \leq \pm (0.035 \times tu)\leq \pm (0.035 \times tu)= \pm (0.035 \times t$	tment (non-line te calculation of of 1:3: $\leq \pm$ (0.1 - esparately (softwa ssible temper rn-down) urn-down) environment: cone oil od compatible ffects for offset i ure gauge > 0 ba but also no fur immunity acc ble oil accordin Cibus 32; Cate RMS (25 20 / 1 msec; el 1.4435 (316 el 1.4435 (316 el 1.4435 (316 el 1.4435 (316 el 1.4435 (316 el 1.4431 (304 FKM (recc FFKM (recc pipe, Varivent stainless ste	arity, hysteresi accuracy is a: + 0.02 x 3) % are appropriat in compo- in compo- in compo- -40 12 -10 12 -25 4 -40 10 -40 11 -25 4 -40 10 ov oil ov and span dep ar: 150 °C for 0 art	is, repeatability) s follows: FSO i.e. accuracy i.e. e for Windows® 95, ensated range C ensated range C ensated range C 25 °C for filling flu 25 °C for filling flu 26 °C for filling flu 27 °C for filling flu 28 °C for filling flu 29 °C for filling flu 20 °C for	is ≤ ± 0.16 % FSC 98, 2000, NT Ver 1 80 °C 1 80 °C 1 300 °C 1 250	urn down o sion 4.0 or i ible oil vacuum: vacuum: ing condition il temperatu 00) ot 5 2000 ec othe (clamping C)	-40 150 °C ⁹ -10 150 °C ⁹ -10 150 °C ⁹ ns. re of 50 °C hers on request Hz) ers on request range 2 8 mm)

DMP 331Pi Technical Data


Mechanical connection (dimensions in mm) standard option connector ISO 4400ca. 33ca. 33connector ISO 4400 connector ISO 4400 --ca. 33ġ ģ 8 Ø34,5 -Ø34.5 Ø34,5 12 43 139 Ø26.5 Ø26,5 á 6 Ø26,5 89 SW44 SW27 ¥. ØA G1' G1/2 seal. sea ØR Ø50 dairy pipe (DIN 11851) G1" flush DIN 3852 G1/2" flush DIN 3852 dimensions in mm DN 25 DN 40 DN 50 size A B 23 32 45 44 56 68.5 P_N connector ISO 4400-≤ 40 ≤ 40 ≤ 25 33 ca. 33-[bar] HE -23 2 Ø34,5 -Ø34,5 - Ø26.5 16 A 74-06 83 2 Ø26,5 -Ø26,5 ØA ØB Ø64 Ø68 Clamp (DIN 32676) Ø84 cooling element up to 300 °C dimensions in mm Varivent® DN 25 DN 32 DN 50 size P_N ≤ 25 bar A B 45 32 23 50.5 50.5 64 P_N ≤ 16 ≤ 16 ≤ 16 [bar] ⇔ metric threads and others on request

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	Ordering code DMP 331Pi	
DMP 331Pi		
Pressure gauge absolute 1	5 0 0 5 0 1	
Input [bar]		
1.0 2.0		
4.0 10		
20 40	4 0 0 1 1 0 2 1 0 0 2 1	
-0.40 0.40 -1 1		
-1 2 -1 4		
-1 10 customer		consult
Output 4 20 mA / 2-wire		oonouit
intrinsic safety 4 20 mA / 2-wire 0 10 V / 3-wire		consult
customer	9	consult
Accuracy 0.1 % FSO		
Electrical connection	9	consult
male and female plug ISO 4400 male plug Binder series 723 (5-pin)	1 0 0 2 0 0 A 0 0	
male plug Binder series 723 (7-pin) ² cable outlet with PVC cable (IP67) ³	A 0 0 T A 0	
cable outlet, cable with ventilation tube (IP68) ⁴	T R 0	
male plug M12x1 (4-pin) / metal compact field housing	M 1 0 1 1 0	
stainless steel 1.4301 (304) ⁵ customer	9 9 9	consult
Mechanical connection G1/2" with flush		
welded diaphragm (DIN 3852) ⁶ G1" with flush		
welded diaphragm (DIN 3852) Clamp DN 25 / 1" (DIN 32676) / 3A	Z 3 1 C 6 1	
Clamp DN 32 / 1 1/2" (DIN 32676) / 3A Clamp DN 50 / 2" (DIN 32676) / 3A	C 6 2 C 6 3 C C 6 3 C C 6 3 C C 6 3 C C 6 3 C C 6 C C 6 C C 6 C C 6 C C 6 C C 6 C	
Clamp 3/4" (DIN 32676) / 3A dairy pipe DN 25 (DIN 11851) ⁵	C 6 9 M 7 3	
dairy pipe DN 40 (DIN 11851) ⁵ dairy pipe DN 50 (DIN 11851) ⁵	C 6 2 C 6 3 C 6 9 M 7 3 M 7 5 M 7 6	
Varivent [®] DN 40/50 / 3A	P 4 1	oonoult
Customer Diaphragm	9 9 9	consult
stainless steel 1.4435 (316L) Hastelloy [®] C-276 (2.4819)		
tantalum customer	Т 9	consult consult
Seals for clamp or dairy pipe: without	0	
for inch thread - standard: FKM for inch thread - option: FFKM		
Customer Filling Fluids	9	consult
silicone oil food compatible oil (FDA) / 3A		
customer Special version	e	consult
standard RS-232 interface ⁷	1 1 1 1 2 1	
with cooling element up to 300 °C RS-232 interface and	2 1 1	
cooling element up to 300 °C 7 customer	2 2 1 9 9 9	consult
	3 3 3	Consult

1 absolut pressure possible from 1 bar

¹ absolut pressure possible from 1 bar
 ² cable socket is included in delivery
 ³ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C), others on request
 ⁴ cable with ventilation tube (code TR0 = PVC cable), different cable types and lengths available
 ⁵ The cup nut has to be mounted by production of pressure transmitter with electrical connection field housing and mechanical connection dairy pipe.

The cup nut has to be ordered as separate position.

⁷ RS-232 interface only possible with el. connection Binder series 723 (7-pin)

Software, Interface and cable for DMP 331 Pi with option RS-232 have to be order separately

(Ordering code: CIS-G; Software appropriate for Windows® 95, 98, 2000, NT Version 4.0 or newer and XP)



DMK 331P

Industrial Pressure Transmitter

Pressure Ports with Flush Welded Stainless Steel Diaphragm

accuracy according to IEC 60770: 0.5 % FSO

Nominal pressure

from 0 ... 60 bar up to 0 ... 400 bar

Output signals

2-wire: 4 ... 20 mA 3-wire: 0 ... 20 mA / 0 ... 10 V others on request

Special characteristics

suited for viscous and pasty media

Optional versions

- IS-version
 Ex ia = intrinsically safe for gases and dusts
- SIL 2 according to IEC 61508 / IEC 61511
- food compatible filling fluid with FDA approval
- cooling element for media temperatures up to 300 °C
- customer specific versions

The pressure transmitter DMK 331P is suitable for measuring the pressure of viscous and pasty media, where a totally flush pressure port is required.

As on all industrial pressure transmitters made by BD|SENSORS, you may choose between various electrical and mechanical connections also on DMK 331P.

Preferred areas of use are



Plant and machine engineering



Food industry

Preferred used for



Viscous and pasty media



DN	1K 331P
Tecl	nnical Data

40

Input pressure range	
Nominal pressure gauge/abs. [bai	ar] 60 100 160 250 400
Overpressure [bai	ar] 100 200 400 400 600
Burst pressure ≥ [bai	ar] 180 300 500 750 1000
Output signal / Supply	
Standard	2-wire: 4 20 mA / $V_S = 8 32 V_{DC}$ SIL-version: $V_S = 14 28 V_{DC}$
Option IS-protection	2-wire: 4 20 mA / $V_{\rm S}$ = 10 28 $V_{\rm DC}$ SIL-version: $V_{\rm S}$ = 14 28 $V_{\rm DC}$
Options 3-wire	3-wire: 020 mA / $V_{\rm S} = 1430 V_{\rm DC}$
Performance	$0 \dots 10 V$ / $V_{\rm S} = 14 \dots 30 V_{\rm DC}$
Accuracy ¹	≤ ± 0.5 % FSO
Permissible load	current 2-wire: $R_{max} = [(V_S - V_{S min}) / 0.02 \text{ A}] \Omega$
	current 3-wire: $R_{max} = 500 \Omega$
	voltage 3-wire: $R_{min} = 10 \text{ k}\Omega$
Influence effects	supply: 0.05 % FSO / 10 V
L	load: 0.05 % FSO / kΩ
Long term stability	$\leq \pm 0.3 \%$ FSO / year at reference conditions
Response time	2-wire: ≤ 10 msec
1 accuracy according to JEC 60770	3-wire: ≤ 3 msec
	limit point adjustment (non-linearity, hysteresis, repeatability) an) ² / Permissible temperatures
Thermal error	$\leq \pm 0.2$ % FSO / 10 K
In compensated range	-20 85°C
Permissible temperatures ³	medium: -40 125 °C for filling fluid silicone oil
	-10 125 °C for filling fluid sincone on
	electronics / environment: -40 85 °C
	storage: -40 100 °C
Permissible temperature medium	
for cooling element 300°C	filling fluid food compatible oil overpressure: -10 250 °C vacuum: -10 150 °C
	uence thermal effects for offset and span depending on installation position and filling conditions. overpressure > 0 bar: 150 °C for 60 minutes with a max. environmental temperature of 50 °C
Electrical protection	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326
Mechanical stability	
Vibration	20 g RMS (25 2000 Hz) according to DIN EN 60068-2-6
Shock	500 g / 1 msec according to DIN EN 60068-2-27
Filling fluids	
Filling fluids Standard	silicone oil
Filling fluids Standard Options	silicone oil food compatible oil (with FDA approval)
Standard	silicone oil food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500)
Standard Options	food compatible oil (with FDA approval)
Standard Options Materials	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request
Standard Options Materials Pressure port	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L)
Standard Options Materials Pressure port Housing	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L)
Standard Options Materials Pressure port Housing Option compact field housing	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr
Standard Options Materials Pressure port Housing	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C)
Standard Options Materials Pressure port Housing Option compact field housing	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr
Standard Options Materials Pressure port Housing Option compact field housing	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C)
Standard Options Materials Pressure port Housing Option compact field housing Seals Diaphragm Media wetted parts	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) others on request
Standard Options Materials Pressure port Housing Option compact field housing Seals Diaphragm Media wetted parts ⁴ for pressure ranges P _N ≤ 100 bar	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) others on request stainless steel 1.4435 (316 L) pressure port, seals, diaphragm
Standard Options Materials Pressure port Housing Option compact field housing Seals Diaphragm Media wetted parts	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) others on request stainless steel 1.4435 (316 L) pressure port, seals, diaphragm
Standard Options Materials Pressure port Housing Option compact field housing Seals Diaphragm Media wetted parts 4 for pressure ranges $P_N \le 100$ bar Explosion protection (only for 4 Approvals	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) others on request stainless steel 1.4435 (316 L) pressure port, seals, diaphragm 4 20 mA / 2-wire) IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X
Standard Options Materials Pressure port Housing Option compact field housing Seals Diaphragm Media wetted parts 4 for pressure ranges $P_N \leq 100$ bar Explosion protection (only for 4)	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) others on request stainless steel 1.4435 (316 L) pressure port, seals, diaphragm 4 20 mA / 2-wire) IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0:
StandardOptionsMaterialsPressure portHousingOption compact field housingSealsDiaphragmMedia wetted parts 4 for pressure ranges $P_N \le 100$ barExplosion protection (only for 4ApprovalsDX19-DMK 331P	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) others on request stainless steel 1.4435 (316 L) pressure port, seals, diaphragm 420 mA / 2-wire) IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da
Standard Options Materials Pressure port Housing Option compact field housing Seals Diaphragm Media wetted parts 4 for pressure ranges $P_N \le 100$ bar Explosion protection (only for 4 Approvals	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) others on request stainless steel 1.4435 (316 L) pressure port, seals, diaphragm 420 mA / 2-wire) IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da s U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i ≈ 0 nF, L _i ≈ 0 µH,
StandardOptionsMaterialsPressure portHousingOption compact field housingSealsDiaphragmMedia wetted parts 4 for pressure ranges $P_N \le 100$ barExplosion protection (only for 4ApprovalsDX19-DMK 331P	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) others on request stainless steel 1.4435 (316 L) pressure port, seals, diaphragm 420 mA / 2-wire) IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da
StandardOptionsMaterialsPressure portHousingOption compact field housingSealsDiaphragmMedia wetted parts 4 for pressure ranges $P_N \leq 100$ barExplosion protection (only for 4ApprovalsDX19-DMK 331PSafety technical maximum valuesPermissible temperatures forenvironment	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) others on request stainless steel 1.4435 (316 L) pressure port, seals, diaphragm 4 20 mA / 2-wire) IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da s U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i ≈ 0 nF, L _i ≈ 0 µH, the supply connections have an inner capacity of max. 27 nF to the housing
StandardOptionsMaterialsPressure portHousingOption compact field housingSealsDiaphragmMedia wetted parts 4 for pressure ranges $P_N \le 100$ barExplosion protection (only for 4ApprovalsDX19-DMK 331PSafety technical maximum valuesPermissible temperatures for	food compatible oil (with FDA approval) (Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500) others on request stainless steel 1.4435 (316 L) stainless steel 1.4404 (316 L) stainless steel 1.4301 (304); cable gland M12x1.5, brass, nickel plated (clamping range 2 8 mr standard: FKM (recommended for medium temperatures ≤ 200 °C) option: FFKM ⁴ (recommended for medium temperatures > 200 °C) others on request stainless steel 1.4435 (316 L) pressure port, seals, diaphragm 4 20 mA / 2-wire) IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da s U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i ≈ 0 nF, L _i ≈ 0 µH, the supply connections have an inner capacity of max. 27 nF to the housing



Mechanical connection (dimensions in mm) standard options :33 =33 +33 F 8 33 g Ø34,5 Ø34,5 Ø34,5 Ø26.5 Ø26,5 Ø26.5 51.5 59,55 3 SW 34 SW44 SW27 0) Ø50 0 Ŧ -02--÷ 15 -19--18ŧ. G3/4* G1/2* G1" g40 G1/2" flush DIN 3852 G3/4" flush DIN 3852 G1" flush DIN 3852 =33 1 1 1 1 1 2 Ø34.5 Ø26,5 Ø26,5 8 0 SW27 0 --23.5---20/2-÷ G1/2* cooling element 300 °C 8 G1/2" flush with radial o-ring SIL- and SIL-Ex version: total length increases by 26.5 mm! ⇔ metric threads and other versions on request ⇔

⁸ possible for nominal pressure ranges $P_N \le 160$ bar

	Orde	ering c	cod	e D	Mł	< (35	51P								
DMK 351P			-□	-□	- 🗌].	- [[]		-[]-[]-[-			
Pressure																
gauge absolute ¹	2 9 5 2 9 6															
Input [mH ₂ O] [bar] 0.4 0.04	(0 4 0 0					1									
0.6 0.06	(0 0 0 0														
1.0 0.10 1.6 0.16		1 0 0 0 1 6 0 0														
2.5 0.25	2	2 5 0 0														
4.0 0.40 6.0 0.60	6															
10 1.0	1	1 0 0 1														
16 1.6 25 2.5	2	1 6 0 1 2 5 0 1														
40 4.0	4	4 0 0 1														
60 6.0 100 10		6 0 0 1 1 0 0 2														
160 16	1	1 6 0 2														
200 20 customer	2	2 0 0 2 9 9 9 9														consult
Output																contrait
4 20 mA / 2-wire 0 10 V / 3-wire			1 3													consult
intrinsic safety 4 20 mA / 2-wire			E 9													consult
Accuracy			9													consult
standard: 0.35 % FSO			_	3			T									
option for $P_N \ge 0.6$ bar: 0.25 % FSO customer				2 9												consult
Electrical connection				9												Consult
male and female plug ISO 4400					1 2	0	0									
male plug Binder series 723 (5-pin) male plug M12x1 (4-pin) / metal					Z M		0									
cable outlet with PVC cable (IP67) ²					т		0									
cable outlet, cable with ventilation tube (IP68) ³					т	R	0									
compact field housing					8	5	0									
stainless steel 1.4301 (304) customer						9										consult
Mechanical connection					-	-	- 1									
G 1 1/2" DIN flush (DIN 3852) Clamp DN 32 (DIN 32676)								M (C 6	0 0 6 2							
Clamp DN 50 (DIN 32676)								C	6 3							
dairy pipe DN 40 (DIN 11851) ⁴ dairy pipe DN 50 (DIN 11851) ⁴									75 76							
Varivent [®] DN 40/50 (P _N ≤ 10 bar)								P 4	4 1							consult
flange DN 25 / PN 40 (DIN 2501) flange DN 50 / PN 40 (DIN 2501)								F 2 F 2	2 0 2 3							consult
flange DN 80 / PN 16 (DIN 2501)								F 4	2 3							consult consult
customer						_	_	9 9	1 4 9 9							consult
Seals FKM										1						
EPDM										3						
Pressure port										9						consult
stainless steel 1.4404 (316L)											1					
Diaphragm											9					consult
ceramics Al ₂ O ₃ 96 %												2				
ceramics Al ₂ O ₃ 99.9 % customer												C 9				consult
Special version												9				consuit
standard													0	0 9	0	
customer													9	ษ	ษ	consult

¹ absolute pressure from 0.04 bar up to 0.25 bar on request

² standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

³ code TR0 = PVC cable, cable with ventilation tube available in different types and lengths

⁴ The cup nut has to be mounted by production of pressure transmitter with electrical connection field housing and mechanical connection dairy pipe.

The cup nut has to be ordered as separate position.

Varivent[®] is a brand name of GEA Tuchenhagen GmbH

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DMK 351P

Pressure Transmitter for the Process Industry

Ceramic Sensor

accuracy according to IEC 60770: Standard: 0.35 % FSO Option: 0.25 % FSO

Nominal pressure

from 0 ... 40 mbar up to 0 ... 20 bar

Output signal

2-wire: 4 ... 20 mA 3-wire: 0 ... 10 V others on request

Special characteristics

- hygienic version
- different process connections (G1 1/2", diary pipe, Clamp, etc.)
- high overpressure capability

Optional versions

- IS-version
 Ex ia = intrinsically safe for gases and dusts
- diaphragm 99.9 % Al₂O₃
- customer specific versions
 e.g. special pressure ranges

The pressure transmitter DMK 351P has been designed for measuring small system pressure in the food industry and chemical industry.

The DMK 351P is based on an own-developed capacitive ceramic sensor element. It features high overpressure resistance and high resistance against most of aggressive media. A variety of different process and electrical connections and an intrinsically safe version complete the range of possibilities.

Preferred areas of use are



Food industry



Chemical and petrochemical industry

Preferred used for



Paint and varnish



Viscous and pasty media



DMK 351P Technical Data

Pressure ranges																
Nominal pressure gauge	[bar]	0.04	0.06	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	20
Nominal pressure absolute	[bar]		on	reque	est		0.4	0.6	1	1.6	2.5	4	6	10	16	20
Overpressure	[bar]	2	2	4	4	6	6	8	8	15	25	25	35	35	45	45
Permissible vacuum	[bar]	-0.	2	-0).3		-().5			1		-1			
Output signal / Supply																
Standard		2-wire:	: 4	20	mA /	V _S = 9	9 32	V _{DC}								
Option IS-protection		2-wire:	: 4	20	mA /	$V_{\rm S}$ = 1	14 2	3 V _{DC}								
Option 3-wire	:	3-wire:	: 0	10	V /	V _S =	12.5	32 V _{DC}	:							
Performance																
Accuracy ¹		standa	ard:		≤	± 0.35	5 % FS	0								
		option	for P_{N}	≥ 0.6	bar: ≤	± 0.25	5 % FS	0								
Long term stability		≤±0.1	% FS	O / ye	ar at re	eferenc	e cond	itions								
Influence effects		supply				.05 %										
		load:				.05 %										
Permissible load		curren						_{S min}) / ().02 AJ	Ω						
Turn on time		voltage		e.	R	R _{min} = 1	U K12									
Turn-on time Mean measuring rate		700 m 5 / sec														
Response time				neo tim	. · ·	200 m										
iveshouse nine		mean i max. r				80 mse										
¹ accuracy according to IEC 6077								peatabili	ty							
Thermal errors (offset and s							,		,							
Thermal error		≤ ±0.1		-			n comr	ensate	d rang	e - 20	80°C					
Permissible temperatures		mediu		0710			40 1		arang	0 20.	00 0					
				enviro	nment:		40 1									
	:	storage	e:				40 1	00 °C								
Electrical protection																
Short-circuit protection		perma	nent													
Reverse polarity protection		no dar	nage,	but als	so no fu	Inction										
Electromagnetic compatibility		emissi	on and	d immu	unity ac	cordin	g to EN	61326								
Mechanical stability																
Vibration		10 g R	RMS (2	0 2	000 Hz) a	accordi	ng to D	IN EN	60068	-2-6					
Shock		100 g /	/ 1 ms	ес		а	ccordi	ng to D	IN EN	60068-	2-27					
Materials																
Pressure port	:	stainle	ss ste	el 1.44	04 (31	6L)										
Housing	:	stainle	ss ste	el 1.44	04 (31	6L)										
Option compact field housing	:	stainle	ss ste	el 1.43	801 (304	4); cat	ole glar	nd M12	x1.5, b	rass, n	ickel pl	ated (c	lampin	g range	e 2 8	3 mm)
Seal (media wetted)		FKM														
		EPDM														
Distance		others					,									
Diaphragm		standa option:			nic Al₂C nic Al₂C											
Media wetted parts					s, diapł		70									
Explosion protection (only f					5, ulupi	nagin										
Approval DX 14-DMK 351 P		IBExU			70 X											
		zone 0			Ex ia II		20									
		zone 2			Ex ia II											
Safety technical maximum val									Li = 5	μΗ. C	_{and} = 27	nF				
Max. permissible temperature		zone 0						atm 0.8 k								
environment		zone 1			-25 .	70 °(C .									
Connecting cables (by factory)		capaci inducta		•							160 pF 1 μH/n					
Miscellaneous																
Current consumption		max. 2	21 mA													
Weight		min. 20														
Installation position		any	-													
Operational life		100 m	illion lo	ad cy	cles											
CE-conformity					4/30/E	U										
ATEX Directive		2014/3	84/EU													
		-														

DMK 351P Technical Data





	Ordering code DMK 351P	
DMK 351P		-
Pressure	2 9 5	
absolute ¹ Input [mH ₂ O] [bar]		
0.4 0.04		
0.6 0.06 1.0 0.10		
1.6 0.16		
2.5 0.25 4.0 0.40	2 5 0 0 4 0 0 0	
6.0 0.60	6 0 0 0	
10 1.0 16 1.6		
25 2.5	2 5 0 1	
40 4.0 60 6.0	4 0 0 1 6 0 0 1	
60 6.0 100 10	1 0 0 2	
160 16	1 6 0 2	
200 20 customer	2 0 0 2 9 9 9 9 9	consult
Output		
4 … 20 mA / 2-wire 0 … 10 V / 3-wire		consult
intrinsic safety 4 20 mA / 2-wire	E	
Accuracy	9	consult
standard: 0.35 % FSO	3	
option for $P_N \ge 0.6$ bar: 0.25 % FSO	2 9	
Electrical connection	9	consult
male and female plug ISO 4400	1 0 0	
male plug Binder series 723 (5-pin) male plug M12x1 (4-pin) / metal	2 0 0 M 1 0	
cable outlet with PVC cable (IP67) ²		
cable outlet, cable with ventilation tube (IP68) ³	T R 0	
compact field housing		
stainless steel 1.4301 (304)	8 5 0	
Customer Mechanical connection	9 9 9	consult
G 1 1/2" DIN flush (DIN 3852)	M 0 0	
Clamp DN 32 (DIN 32676) Clamp DN 50 (DIN 32676)	C 6 2 C 6 3	
dairy pipe DN 40 (DIN 11851) 4	M 7 5	
dairy pipe DN 50 (DIN 11851) ⁴ Varivent [®] DN 40/50 ($P_N \le 10$ bar)	M 7 6 P 4 1	00001/#
flange DN 25 / PN 40 (DIN 2501)	F 2 0	consult consult
flange DN 50 / PN 40 (DIN 2501)	F 2 3	consult
flange DN 80 / PN 16 (DIN 2501) customer	F 2 3 F 1 4 9 9 9	consult consult
Seals		
FKM EPDM	1 3	
customer	9	consult
Pressure port stainless steel 1.4404 (316L)	1	
customer	9	consult
Diaphragm		
ceramics Al ₂ O ₃ 96 % ceramics Al ₂ O ₃ 99.9 %	2 C	
customer	9	consult
Special version standard		
customer		0 0 0 9 9 9 consult

¹ absolute pressure from 0.04 bar up to 0.25 bar on request
 ² standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request
 ³ code TR0 = PVC cable, cable with ventilation tube available in different types and lengths
 ⁴ The cup nut has to be mounted by production of pressure transmitter with electrical connection field housing and mechanical connection dairy pipe. The cup nut has to be ordered as separate position.

Varivent[®] is a brand name of GEA Tuchenhagen GmbH



DMP 331P

Industrial Pressure Transmitter

Process Connections with Flush Welded Stainless Steel Diaphragm

accuracy according to IEC 60770: standard: 0.35 % FSO option: 0.25 % FSO

Nominal pressure

from 0 ... 100 mbar up to 0 ... 40 bar

Output signals

2-wire: 4 ... 20 mA / 3-wire: 0 ... 10 V others on request

Special characteristics

- hygienic version
- diaphragm with low surface roughness
- ► CIP / SIP cleaning up to 150 °C
- vacuum resistant

Optional versions

- IS-version
 Ex ia = intrinsically safe
 for gases and dust
- SIL 2 version according to IEC 61508 / IEC 61511
- diaphragm in Hastelloy[®] or Tantalum
- cooling element for media temperatures up to 300 °C

The pressure transmitter DMP 331P was designed for use in the food / beverage and pharmaceutical industry. The compact design with hygienic versions makes it possible to achieve an outstanding performance in terms of accuracy, temperature behaviour and long term stability.

The modular construction concept allows a combination of various process connections with different filling fluids and a cooling element. Several electrical connections complete the profile of DMP 331P.

Preferred areas of use are



Food and beverage



Material and test certificates

- inspection certificate 3.1 according to EN 10204
- test report 2.2 according to EN 10204

Input pressure range ¹									
Nominal pressure gauge	[bar]	-10	0.10	0.16	0.25	0.40	0.60	1	1.6
Nominal pressure abs.	[bar]	-	-	-	-	0.40	0.60	1	1.6
Overpressure	[bar]	5	0.5	1	1	2	5	5	10
Burst pressure ≥	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15
Nominal pressure		2.5	4	6		0	16	25	40
gauge / abs.	[bar]	2.5		0		0	10	23	40
Overpressure	[bar]	10	20	40	4	10	80	80	105
Burst pressure ≥	[bar]	15	25	50	5	50	120	120	210
Vacuum resistance		$P_N > 1$ bar: U $P_N \le 1$ bar: C	Inlimited vacu	um resistan	се				
¹ consider the pressure resistan	nce of fitti	1							
Output signal / Supply									
Standard		2-wire: 4	. 20 mA /	V _S = 8 3	2 V _{DC}	SIL-version	n:V _s = 14.	28 V _{DC}	
Option IS-version			. 20 mA /			SIL-version	n:V _S = 14.	28 V _{DC}	
Options 3-wire			. 20 mA / 1 . 10 V /	V _s = 14 3 V _s = 14 3					
Performance									
Accuracy ²			nominal pres			.5 % FSO			
			nominal present nominal present present present not present the present of the pr			.35 % FSO .25 % FSO			
Permissible load		current 2-wir		(V _S – V _{S min})					
		current 3-wir voltage 3-wir	e: $R_{max} = 5$	00 Ω	1				
Influence effects			5 % FSO / 10		lood: 0	.05 % FSO	(kO		
						.05 % FSU /	K12		
Long term stability		1	SO / year at re	eterence con		10			
Response time	//	2-wire: < 10				≤ 3 msec			
² accuracy according to IEC 60					repeatability)				
Thermal effects (Offset an		1		ures					
Nominal pressure P _N	[bar]		-1 0		< 0	.40		≥ 0.40	
Tolerance band [9	% FSO]		≦±0.75		≤ ±			≤±0.75	i
in compensated range	[°C]	-:	20 85		0			-20 85	5
Permissible temperatures ⁴		storage:	environment:	-10 12 -40 8 -40 10	0° 00	ng fluid food	l compatibl	e oil	
Permissible temperature me for cooling element 300°C	edium	filling fluid si filling fluid fo	licone oil od compatible		erpressure: erpressure:			acuum: -40 1 acuum: -10 1	
³ an optional cooling element ca		co thormal offer				ation position	and filling c	onditions.	
⁴ max. temperature of the media									
⁴ max. temperature of the media ⁵ also for $P_{abs} \le 1$ bar									
⁴ max. temperature of the media ⁵ also for $P_{abs} \le 1$ bar Electrical protection Short-circuit protection		permanent		150 °C for 60					
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection	um for no	permanent no damage,	gauge > 0 bar:	150 °C for 60 unction	minutes with				
⁴ max. temperature of the media ⁵ also for $P_{abs} \le 1$ bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili	um for no	permanent no damage,	gauge > 0 bar: but also no fu	150 °C for 60 unction	minutes with				
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration	um for nc	permanent no damage, emission and	gauge > 0 bar: but also no fu	150 °C for 60 unction ccording to E	minutes with	a max. enviro	nmental tem		
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration according to DIN EN 60068 Shock	ty -2-6	permanent no damage, emission and	gauge > 0 bar: but also no fu d immunity ac	150 °C for 60 unction ccording to E	minutes with	a max. enviro	nmental tem	nperature of 50 °C	
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration according to DIN EN 60068 Shock according to DIN EN 60068	ty -2-6	permanent no damage, emission and G 1/2": 20 c	gauge > 0 bar: but also no fu d immunity ac	150 °C for 60 unction ccording to E	minutes with	a max. enviro	nmental tem	nperature of 50 °C	
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration according to DIN EN 60068 Shock according to DIN EN 60068 Filling fluids	ty -2-6	permanent no damage, emission and G 1/2": 20 g G 1/2": 500	gauge > 0 bar: but also no fu d immunity ac	150 °C for 60 unction ccording to E	minutes with	a max. enviro	nmental tem	nperature of 50 °C	
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration according to DIN EN 60068 Shock according to DIN EN 60068 Filling fluids Standard	ty -2-6	permanent no damage, emission and G 1/2": 20 g G 1/2": 500 silicone oil	gauge > 0 bar: but also no fu d immunity ac g / 1 msec	150 °C for 60 unction coording to E 2000 Hz)	N 61326	a max. enviro	nmental tem	nperature of 50 °C	
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration according to DIN EN 60068 Shock according to DIN EN 60068 Filling fluids Standard	ty -2-6	permanent no damage, emission and G 1/2": 20 g G 1/2": 500 silicone oil food compat	gauge > 0 bar: but also no fu d immunity ac g / 1 msec ible oil accord Cibus 32; Cat	150 °C for 60 unction coording to E 2000 Hz) ding to 21CF	minutes with N 61326 R178.3570	others: 10	nmental tem g RMS (25 g / 1 msec	2000 Hz)	
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration according to DIN EN 60068 Shock according to DIN EN 60068 Filling fluids Standard Options Materials	ty -2-6	permanent no damage, emission and G 1/2": 20 g G 1/2": 500 silicone oil food compat (Mobil SHC others on rec	gauge > 0 bar: but also no fu d immunity ac g / 1 msec ible oil accoro Cibus 32; Cat quest	150 °C for 60 unction coording to E 2000 Hz) ding to 21CF tegory Code	minutes with N 61326 R178.3570	others: 10	nmental tem g RMS (25 g / 1 msec	nperature of 50 °C	
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration according to DIN EN 60068 Shock according to DIN EN 60068 Filling fluids Standard Options Materials Pressure port	ty -2-6	permanent no damage, emission and G 1/2": 20 g G 1/2": 500 silicone oil food compat (Mobil SHC others on re-	gauge > 0 bar: but also no fu d immunity ac g / 1 msec ible oil accoro Cibus 32; Cat quest el 1.4435 (31	150 °C for 60 unction coording to E 2000 Hz) ding to 21CF tegory Code 6 L)	minutes with N 61326 R178.3570	others: 10	nmental tem g RMS (25 g / 1 msec	2000 Hz)	request
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration according to DIN EN 60068 Shock according to DIN EN 60068 Filling fluids Standard Options Materials Pressure port Housing	-2-6 -2-27	permanent no damage, emission and G 1/2": 20 c G 1/2": 500 silicone oil food compat (Mobil SHC others on re- stainless ste stainless ste	gauge > 0 bar: but also no fu d immunity ac g / 1 msec ible oil accore Cibus 32; Cat quest el 1.4435 (31 el 1.4404 (31	150 °C for 60 unction coording to E 2000 Hz) ding to 21CF tegory Code 6 L) 6 L)	minutes with N 61326 R178.3570 H1; NSF R	a max. enviro others: 10 g others: 100 egistration I	nmental tem g RMS (25 g / 1 msec No.: 14150	others on	·
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration according to DIN EN 60068 Shock according to DIN EN 60068 Filling fluids Standard Options Materials Pressure port Housing Option compact field housir	-2-6 -2-27	permanent no damage, emission and G 1/2": 20 g G 1/2": 500 silicone oil food compat (Mobil SHC others on re- stainless ste stainless ste stainless ste	gauge > 0 bar: but also no fu d immunity ac g / 1 msec ible oil accoro Cibus 32; Cat quest el 1.4435 (31 el 1.4404 (31 el 1.4301 (30	150 °C for 60 unction coording to E 2000 Hz) ding to 21CF tegory Code 6 L) 6 L) 4); cable gla	minutes with N 61326 R178.3570 H1; NSF R and M12x1.{	others: 10 g others: 10 g others: 100 egistration I	g RMS (25 g / 1 msec No.: 14150 kel plated (nperature of 50 °C	·
⁴ max. temperature of the media ⁵ also for $P_{abs} \le 1$ bar Electrical protection	-2-6 -2-27	permanent no damage, emission and G 1/2": 20 g G 1/2": 500 silicone oil food compat (Mobil SHC others on re- stainless ste stainless ste stainless ste stainless ste stainless ste	gauge > 0 bar: but also no fu d immunity ac g / 1 msec ible oil accore Cibus 32; Cat quest el 1.4435 (31 el 1.4404 (31	150 °C for 60 unction coording to E 2000 Hz) ding to 21CF tegory Code 6 L) 6 L) 4); cable gla ended for m mended for m	minutes with N 61326 R178.3570 H1; NSF R and M12x1.	a max. enviro others: 10 g others: 100 egistration I 5, brass, nic eratures ≤ 2	nmental tem g RMS (25 g g / 1 msec No.: 14150 kel plated (200 °C)	others on	2 8 mm
⁴ max. temperature of the media ⁵ also for P _{abs} ≤ 1 bar Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibili Mechanical stability Vibration according to DIN EN 60068 Shock according to DIN EN 60068 Filling fluids Standard Options Materials Pressure port Housing Option compact field housir	-2-6 -2-27	permanent no damage, emission and G 1/2": 20 g G 1/2": 500 silicone oil food compat (Mobil SHC others on re- stainless ste stainless ste	gauge > 0 bar: but also no fu d immunity ac g / 1 msec g / 1 msec ible oil accord Cibus 32; Cat quest el 1.4435 (31 el 1.4404 (31 el 1.4301 (30 FKM (recomm	150 °C for 60 unction coording to E 2000 Hz) ding to 21CF tegory Code 6 L) 6 L) 4); cable gla nended for m mended for m mended for m 1.4435 (316	minutes with N 61326 R178.3570 H1; NSF R and M12x1. edium temp nedium temp	a max. enviro others: 10 g others: 100 egistration I 5, brass, nic eratures ≤ 2	nmental tem g RMS (25 g g / 1 msec No.: 14150 kel plated (200 °C)	nperature of 50 °C 2000 Hz) c 0) c clamping range others on	2 8 mm

DMP 331P Technical Data

Explosion protection (only for 4.	20 mA / 2-wire)				
Approvals	IBExU 10 ATEX 10	68 X / IECEx IBE	E 12.0027X		
DX19-DMP 331P	zone 0: II 1G Ex zone 20: II 1D Ex	cia IIC T4 Ga cia IIIC T 85°C Da			
Safety technical maximum values		ions have an inner o	capacity of max. 27 nl	F to the housing	
Ambient temperature range	in zone 0: -20 60	0 °C with p _{atm} 0.8 ba	ar up to 1.1 bar	in zone 1 or higher:	-20 70 °C
Connecting cables	cable capacitance:	signal line/shiel	d also signal line/sign	al line: 160 pF/m	
by factory)	cable inductance:	signal line/shiel	d also signal line/sign	al line: 1μH/m	
Miscellaneous					
Option SIL2 version 6	according to IEC 6	1508 / IEC 61511			
Current consumption	signal output currer	nt: max. 25 mA		signal output voltage	e: max. 7 mA
Weight	min. 200 g (depend	ling on process con	nection)		
nstallation position			position with the press bar have to be specifi		down;
Operational life	100 million load cyo	cles			
CE-conformity	EMC Directive: 201	4/30/EU			
ATEX Directive	2014/34/EU				
only for 4 20 mA / 2-wire					
Viring diagrams					
2-wire-system (current)		2 wir	e-system (current / voltag	(or	
p supply +	F	p	supply +	Vs	
Vs supply -	-	1/1	supply -		
Pin configuration					
Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	compact field housing	cable colours (IEC 60757)
Supply + Supply – Signal + (only 3-wire)	1 2 3	3 4 1	1 2 3	IN + IN - OUT+	WH (white) BN (brown) GN (green)
Shield	ground pin	5	4	۲	GNYE
Electrical connections (dimensio	• • •				(green-yellow)
standard	options		M12x1		
	Ļ				
9 2 9 2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	2 = g34,5		g g g g g g g g g g g g g g g g g g g		
)			
ISO 4400 (IP 65)	Binder series 72 (IP 67)	3 5-pin	M12x1 4-pin (IP 67)		
	Q 49,5			\$7,4-	
	-	CM12x1,5 ← Ø 28,5	50 - ØX	- 5'01	
	compact field he (IP 67)		able outlet with PVC cab (IP 67) ⁷	ventilatio	utlet, cable with on tube (IP 68) ⁸
➡ universal field housing stainles ⁷ standard: 2 m PVC cable without ventil	. ,	-		80) and other versions	on request
³ different cable types and lengths availa			,		



⁹ possible only for $P_N \ge 1$ bar

DMP 331P

	Orde	ing co	de D	M	P 3	31	Ρ						
DMP 331P	-]-		- 🔲		- 🗆	- 🗆]-C]-C			
Pressure	5.0.0												
absolute	5 0 0 5 0 1				_								
0.10	1 0 0 0												
0.16 ¹ 0.25 ¹	1 6 0 0 2 5 0 0												
0.40 0.60	4 0 0 0 6 0 0 0												
1.0 1.6	1 0 0 1 1 6 0 1												
2.5 4.0	2 5 0 1 4 0 0 1												
6.0 10	6 0 0 1 1 0 0 2												
16	1 6 0 2												
25 40	2 5 0 2 4 0 0 2												
-1 0 customer	4 0 0 2 X 1 0 2 9 9 9 9												consult
Output 4 20 mA / 2-wire		1											
0 … 20 mA / 3-wire 0 … 10 V / 3-wire		2 3											
intrinsic safety 4 20 mA / 2-wire SIL2 4 20 mA / 2-wire		E 1S											
SIL2 with intrinsic safety 4 20 mA / 2-wire		ES											
Accuracy		9											consult
standard for $P_N \ge 0.4$ bar:0.35 % FSOstandard for $P_N < 0.4$ bar:0.50 % FSO		3 5 2	5										
option for $P_N \ge 0.4$ bar: 0.25 % FSO customer		2	2										consult
Electrical connection male and female plug ISO 4400			1 0	0									
male plug Binder series 723 (5-pin) cable outlet with PVC cable (IP67) ²			2 0 T A	0									
cable outlet,			TR										
cable with ventilation tube (IP68) ³ male plug M12x1 (4-pin) / metal			M 1	0									
compact field housing stainless steel 1.4301 (304) ⁴			85										
Customer Mechanical connection			99	9									consult
G1/2" with flush welded diaphragm (DIN 3852) ⁵					z	0 0							
G3/4" with flush welded diaphragm (DIN 3852)					z	3 0							
G1" with flush welded diaphragm (DIN 3852)					z	3 1							
G1" DIN 3852 with rad. o-ring and flush diaphragm ⁶					Z :	5 7							
G1/2" DIN 3852 with rad_o-ring					Ζe	6 1							
and flush diaphragm ⁵ G 1 [°] cone					ĸ	3 1							
Clamp DN 25 / 1" (DIN 32676) / 3A Clamp DN 32 / 1 1/2" (DIN 32676) / 3A						6 1 6 2							
Clamp DN 50 / 2" (DIN 32676) / 3A Clamp 3/4" (DIN 32676) / 3A						63 69							
dairy pipe DN 25 (DIN 11851) ⁴ dairy pipe DN 40 (DIN 11851) ⁴					M	6 9 7 3 7 5 7 6 4 1 9 9							
dairy pipe DN 50 (DIN 11851) ⁴ Varivent [®] DN 40/50 / 3A					M	76							
Diaphragm					9 9	9 9							consult
stainless steel 1.4435 (316L)							1						
tantalum Hastelloy [®] C-276 (2.4819)							T H						consult
Seals							9						consult
for clamp, dairy pipe, Varivent [®] : without for inch thread - standard: FKM								0					
for inch thread - option: FFKM customer								7					consult
Filling Fluids								Э					Consuit
silicone oil food grade oil (FDA) / 3A									1				
Special version									9				consult
standard with cooling element up to 300°C / 3A										0	0 0 9	0	
customer										9	9	9	consult

¹ absolute pressure possible from 0.4 bar
 ² standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C), others on request
 ³ code TR0 = PVC cable, cable with ventilation tube available in different types and lengths
 ⁴ The cup nut has to be mounted by production of pressure transmitter with electrical connection field housing and mechanical connection dairy pipe. The cup nut has to be ordered as separate position.

⁵ possible only for $P_N \ge 1$ bar ⁶ possible only for $P_N \le 2$ bar Varivent[®] is a brand name of GEA Tuchenhagen GmbH, Hastelloy[®] is a brand name of Haynes International Inc.



DMP 331i DMP 333i

Precision **Pressure Transmitter**

Stainless Steel Sensor

accuracy according to IEC 60770: 0.1 % FSO

Nominal pressure

from 0 ... 400 mbar up to 0 ... 600 bar

Output signal

2-wire: 4 ... 20 mA 3-wire: 0 ... 10 V others on request

Product characteristics

- thermal error in compensated range ► -20 ... 80 °C: 0.2 % FSO TC 0.02 % FSO / 10K
- Turn-Down 1:10
- communication interface for adjusting of offset, span and damping

Optional versions

- **IS-versions** Ex ia = intrinsically safe for gases and dusts
- adjustment of nominal pressure ranges (factory-provided)

The precision pressure transmitter DMP 331i and DMP 333i demonstrate the further development of our industrial pressure transmitters.

The signal processing of sensor signal is done by digital electronics with 16-bit analogue digital converter. Consequently, it is possible to conduct an active compensation and the transmitters with excellent measurements and exceptionally attractive price to offer on the market.

Preferred areas of use are



Laboratory techniques

Energy production (gas consumption and thermal energy measurement)



DMP 331i / DMP 333i

Technical Data

Pressure ranges DMP 331i	1								
Nominal pressure									
gauge / absolute	[bar]	0.4	1	2	4	10	20	40	60
Overpressure	[bar]	2	5	10	20	40	80	105	105
Burst pressure	[bar]	3	7.5	15	25	50	120	210	210
•		-					1		
Vacuum ranges									
Nominal pressure gauge	[bar]		0.4	-1 1		-1 2	-1 4		-1 10
Overpressure	[bar]		2	5		10	20		40
Burst pressure	[bar]	:	3	7.5		15	25		50
Pressure ranges DMP 333i	1								
Nominal pressure								_	
gauge / absolute	[bar]		100		200		400	6	00
Overpressure	[bar]		210		600		1000	10	000
Burst pressure	[bar]		420		1000		1250	12	250
¹ On customer request we adjust	the devi	ice within th	e turn-down-	possibility by s	oftware on the	e required pres	sure range.		
Output signal / Supply		a :							
Standard		2-wire:	4 20 mA		2 36 V _{DC}				
Option IS-version		2-wire:	4 20 mA		4 28 V _{DC}	n interface?			
Options analogue signal		2-wire: 3-wire:	4 20 mA 0 10 V		ommunicatio 4 36 V _{DC}	n interface ²			
		J-WILE.	0 10 V 0 10 V		mmunicatio	n interface ²			
² only possible with el. connection	Binder	series 723							
Performance									
Accuracy		IEC 6077	70 ³ : ≤ ± 0.1	% FSO					
performance after turn-down									
- TD :	≤ 1:5	no chang	e of accura	cy ⁴					
- TD :	> 1:5	for calcul	ation use th	e following f	ormula (for r	nominal press	sure ranges ≤ 0.	.40 bar see no	ote 4):
				m-down] % F			3		,
		with turn-	-down = nor	ninal pressu	re range / ac	ljusted range			
		e.g. with	a turn-dowr	n of 1:10 follo	wing accura	acy is calculat	ted:		
		≤ ± (0.1 -	+ 0.015 x 10)) % FSO i.e	accuracy is	s ≤ ± 0.25 %	FSO		
Permissible load				= [(V _S - V _{S mi}	n) / 0.02 A] 🤇	2	voltage 3-wire:	R _{min} = 10 kΩ	
Influence effects			.05 % FSO				load: 0.05 % FS	SO / kΩ	
Long term stability		· · ·	turn-down) % FSO / ye	ar at referer	ce conditions	3		
Response time		approx. 5							
Adjustability (with option		configura	tion of follo	•••	•		software necess		
Adjustability (with option communication interface RS2		configura electronio	tion of follo c damping: (0 100 sec	offse	t: 0 90 % F		sary ⁵): n down of spa	n: max. 1:10
Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077	, 0 – limit	configura electronic point adjus	tion of follor c damping: (stment (non-li	0 100 sec nearity, hyster	offse esis, repeatat	t: 0 90 % F			n: max. 1:10
Adjustability (with option communication interface RS2	, 0 – limit : ≤ 0 .40	configura electronic point adjus bar; for the	tion of follo c damping: (stment (non-li ese calculatio	0 100 sec nearity, hyster on of accuracy	offse esis, repeatat is as follows:	t: 0 90 % F hility)	SO turr		n: max. 1:10
Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges	, 0 – limit ≤ 0 .40 =SO e.g.	configura electronic point adjus bar; for the turn-down	tion of follow c damping: (stment (non-li ese calculation of 1:3: $\leq \pm$ (0	0 100 sec nearity, hyster on of accuracy 0.1 + 0.02 x 3)	offse esis, repeatab is as follows:) % FSO i.e. a	<u>t:`0 90 % F</u> bility) ccuracy is ≤ ± (<u>SO turr</u> 0.16 % FSO	n down of spa	
Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges $\leq \pm (0.1 + 0.02 \times turn-down) \% F$ ⁵ software, interface, and cable has Thermal effects (Offset and	0 - limit 0 - 0.40 SO e.g. ave to b Span)	configura electronic point adjus bar; for the turn-down e ordered s / Permis	tion of follor c damping: (stment (non-li ese calculation of 1:3: $\leq \pm$ ((eparately (so sible tempo	0 100 sec nearity, hyster on of accuracy 0.1 + 0.02 x 3) ftware approprie tatures	offse esis, repeatab is as follows:) % FSO i.e. a riate for Windo	t: 0 90 % F iility) ccuracy is ≤ ± 0 ows® 95, 98, 20	SO turr 0.16 % FSO 100, NT Version 4.	n down of spa	
Adjustability (with option communication interface RS2 3 accuracy according to IEC 6077 4 except nominal pressure ranges $\leq \pm (0.1 + 0.02 \times turn-down) \% F$ 5 software, interface, and cable has Thermal effects (Offset and Tolerance band [%	0 - limit S ≤ 0.40 SO e.g. ave to be Span) FSO]	configura electronic point adjus bar; for the turn-down e ordered s / Permis $\leq \pm (0.2)$	tion of follor c damping: (stment (non-li ese calculatic of 1:3: ≤ ± ((eparately (so sible temp er < turn-down	0 100 sec nearity, hyster no fo accuracy 0.1 + 0.02 x 3) ftware appropri- pratures) in c	offse esis, repeatab is as follows:) % FSO i.e. a iate for Windo ompensated	t: 0 90 % F iility) ccuracy is ≤ ± 0 ows [®] 95, 98, 20 I range -20	SO turr 0.16 % FSO 000, NT Version 4. 80 °C	n down of spa	
Adjustability (with option communication interface RS2 3 accuracy according to IEC 6077 4 except nominal pressure ranges $\leq \pm (0.1 + 0.02 \times turn-down) \% F$ 5 software, interface, and cable hasThermal effects (Offset and Tolerance band [% TC, average [% FSO /	0 - limit S ≤ 0.40 SO e.g. ave to be Span) FSO]	configura electronic point adjus bar; for thi bar; for thi turn-down e ordered s / Permis $\leq \pm (0.2)$ $\pm (0.02 \text{ x})$	tion of follo c damping: (stment (non-li ese calculatic of 1:3: $\leq \pm$ ((eparately (so sible temp er (turn-down) turn-down)	0 100 sec nearity, hyster in of accuracy 0.1 + 0.02 x 3) ftware appropr eratures) in c in c	offse esis, repeatab is as follows: 9 % FSO i.e. a riate for Windo ompensatec ompensatec	t: 0 90 % F iility) ccuracy is ≤ ± 0 ows® 95, 98, 20	SO turr 0.16 % FSO 000, NT Version 4. 80 °C	n down of spa	
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Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges $\leq \pm (0.1 + 0.02 \times turn-down) \% F$ ⁵ software, interface, and cable he Thermal effects (Offset and Tolerance band [% TC, average [% FSO / Permissible temperatures Electrical protection Short-circuit protection Electromagnetic compatibility Materials Pressure port Housing Option compact field housing Seals	0 – limit	configura electronic point adjus bar; for thi turn-down e ordered s / Permis ≤ ± (0.2) ± (0.02 x medium: electronii storage: permane no dama emission stainless stainless stainless stainless stainless stainless	tion of follo c damping: (stment (non-li ese calculatic of 1:3: ≤ ± (t) sible tempic k turn-down) turn-down) cs / environ nt ge, but also and immur steel 1.440 steel 1.440 steel 1.440 steel 1.430	0 100 sec nearity, hyster in of accuracy 20.1 + 0.02 x 3 / ftware appropri- eratures) in c -25 ment: -25 -40 • no function hity according 4 (316 L) 4 (316 L) 1 (304); cat	offse esis, repeatat is as follows: 9% FSO i.e. a riate for Windo ompensatec ompensatec ompensatec 125 °C 125 °C 100 °C	t: 0 90 % F iility) ccuracy is ≤ ± 1 ivws® 95, 98, 20 I range -20 I range -20 26 22 22 22 22 22 22 22 22 22	SO turr 0.16 % FSO 000, NT Version 4. 80 °C 80 °C	n down of spa	1 XP)
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Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges $\leq \pm (0.1 + 0.02 \times turn-down) \% F$ ⁵ software, interface, and cable he Thermal effects (Offset and Tolerance band [% TC, average [% FSO / Permissible temperatures Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Materials Pressure port Housing Option compact field housing Seals Diaphragm Media wetted parts	0 – limit = ≤ 0.40 = SO e.g ave to b Span) FSO] 10 K]	configura electronic point adjus bar; for thi turn-down e ordered s / Permis ≤ ± (0.2) ± (0.02 x medium: electroni storage: permane no dama emission stainless stainless stainless stainless stainless pressure	tion of follo c damping: (atment (non-li ese calculatic of 1:3: $\leq \pm$ (i eparately (so sible tempine (turn-down) turn-down) cs / environ nt ge, but also and immur steel 1.440 steel 1.440 steel 1.443 port, seal,	0 100 sec nearity, hyster in of accuracy 20.1 + 0.02 x 3 ; ftware appropri- eratures) in c -25 ment: -25 -40 • no function ity according 4 (316 L) 4 (316 L) 1 (304); cat 5 (316L) diaphragm	offse esis, repeatab is as follows: 1% FSO i.e. a iate for Windo ompensatec ompensatec 125 °C 125 °C 100 °C	t: 0 90 % F iility) ccuracy is ≤ ± 1 ivws® 95, 98, 20 I range -20 I range -20 I range -20 26 2x1.5, brass, others	SO turr 0.16 % FSO 00, NT Version 4. 80 °C 80 °C 80 °C	n down of spa	1 XP)
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Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges $\leq \pm (0.1 + 0.02 \times turn-down) \% F$ ⁵ software, interface, and cable he Thermal effects (Offset and Tolerance band [% TC, average [% FSO / Permissible temperatures Electrical protection Short-circuit protection Electromagnetic compatibility Materials Pressure port Housing Option compact field housing Seals Diaphragm Media wetted parts ⁶ welded version only with pressure	0 – limit = ≤ 0.40 = SO e.g ave to b Span) FSO] 10 K]	configura electronic point adjus bar; for thi turn-down e ordered s / Permis ≤ ± (0.2) ± (0.02 x medium: electronic storage: permane no dama emission stainless stainless stainless stainless stainless pressure according	tion of follo c damping: (atment (non-li ese calculatic of 1:3: $\leq \pm$ ((eparately (so sible tempi (surn-down) turn-down) cs / environ nt ge, but also and immur steel 1.440 steel 1.440 steel 1.443 port, seal, i to EN 837; we	0 100 sec nearity, hyster n of accuracy 20.1 + 0.02 x 3 j ftware appropri- pratures) in c -25 ment: -25 -40 • no function ity according 4 (316 L) 4 (316 L) 1 (304); cat 5 (316L) diaphragm added version r	offse esis, repeatab is as follows: 1% FSO i.e. a iate for Windo ompensatec ompensatec 125 °C 125 °C 100 °C	t: 0 90 % F iility) ccuracy is ≤ ± 1 ivws® 95, 98, 20 I range -20 I range -20 I range -20 26 22 22 22 22 22 22 22 22 22	SO turr 0.16 % FSO 000, NT Version 4. 80 °C 80 °C 80 °C 90 °C nickel plated (c 90 °C on request 90 °C	n down of spa	1 XP)
Adjustability (with option communication interface RS2 ³ accuracy according to IEC 6077 ⁴ except nominal pressure ranges ≤ ± (0.1 + 0.02 x turn-down) % F ⁵ software, interface, and cable he Thermal effects (Offset and Tolerance band [% TC, average [% FSO / Permissible temperatures Electrical protection Short-circuit protection Reverse polarity protection Electromagnetic compatibility Materials Pressure port Housing Option compact field housing Seals Diaphragm Media wetted parts ⁶ welded version only with pressure	0 – limit = ≤ 0.40 = SO e.g ave to b Span) FSO] 10 K]	configura electronic point adjus bar; for thi turn-down e ordered s / Permis ≤ ± (0.2) ± (0.02 x medium: electronii storage: permane no dama emission stainless stainless stainless stainless stainless pressure according	tion of follo c damping: (atment (non-li ese calculatic of 1:3: $\leq \pm$ ((eparately (so sible tempine (turn-down) turn-down) cs / environ cs / environ cs / environ esteel 1.440 steel 1.440 steel 1.440 steel 1.443 port, seal, to EN 837; we S (20 200	0 100 sec nearity, hyster n of accuracy 20.1 + 0.02 x 3 j ftware appropri- pratures) in c -25 ment: -25 -40 • no function ity according 4 (316 L) 4 (316 L) 1 (304); cat 5 (316L) diaphragm added version r	offse esis, repeatab is as follows: 1% FSO i.e. a iate for Windo ompensatec ompensatec 125 °C 125 °C 100 °C	t: 0 90 % F iility) ccuracy is ≤ ± 1 ivws® 95, 98, 20 I range -20 I range -20 26 22x1.5, brass, others vith pressure ra accord	SO turr 0.16 % FSO 00, NT Version 4. 80 °C 80 °C 80 °C	n down of spa	1 XP)



DMP 331i / DMP 333i Technical Data



Orc	eri	ing	g c	00	le	D	M	Ρ	33	31i	/ D	M	Ρ	33	33	si					
DMP 331i / DMP 333i			Ц]-]-		-C]-[-[-[]-[T]
Pressure																					
For DMP 331i																					
gaug		1		0																	
absolut	э	1	1	1																	
For DMP 333i	1												1								
gaug																					
absolut Input [mH ₂ O] [bar]		1	3	1																	
For DMP 331i ²																					
4 0.40					4	0	0 0)													
10 1.0					1		0 1														
20 2.0					2	0	0 1	1													
40 4.0					4		0 1														
100 10					1		0 2														
200 20					2		0 2	2													
400 40					4		0 2														
600 60					6	0	0 2	2													
For DMP 333i ²					4	0	0 0														
100 200					1 2		03														
400					4		0 3														
600					6		0 3														
For DMP 331i					0	5		1													
-0.40	0.40				S	4	0 0)													
-1					S		0 2														
-1					V		0 2														
-1	4				V	4	0 2	2													
-1 1	0				V	1	0 3	3													
custome	r				9	9	99	9													consult
Output																					
4 20 mA / 2-wir									1												
intrinsic safety 4 20 mA / 2-win									E												
0 10 V / 3-wir									3												
custome	r								9												consult
Accuracy (at nominal pressure) 0.1 % FS)	-		-					_	1											
custome										ç											consult
Electrical connection											·										Consult
male and female plug ISO 440)		_	_	_	_	_	_				1 0	0								
male plug Binder series 723 (5-pir												2 0	0								
male and female plug Binder series 723 (7-pir											1	A 0	0								
male plug M12x1 (4-pin) / metal for analog output												И 1	0								
male plug M12x1 (4-pin) / metal for digital outp												И 1	3								
Bayonet MIL-C-26482 (10-6); 2 wir													0								
Bayonet MIL-C-26482 (10-6); 3 wir cable outlet with PVC cable (IP6)												B G	4								
cable outlet, cable with ventilation tube (IP6												ΓA ΓR	0 0								
compact field housing stainless steel 1.4301 (304											5	8 5	0								
custome											(3 5 9 9	9								consult
Mechanical connection												10									Concent
G1/2" DIN 385															1 (
G1/2" EN 83															2 0	0 0					
G1/4" DIN 385															3 (0 0					
G1/4" EN 83															4 (0 0					
G1/2" DIN 3852 with flush sense															F	0					
G1/2" DIN 3852 open pressure po 1/2" NP															H (0 0					
1/2" NP 1/4" NP																0 0 0 0 0 0 0 0 4 0 9 9					
1/4 NP custome															9 0						consult
Seals															5 5	5 3					consult
For DMP 331i																					
FK	4																1				
without (welded version) ^{5,6}																2				
For DMP 333i																					
FKI																	1				
NB																	5	5			
custome	r																ç				consult
Special version standar	4																		1 4	1 1	
communication interface RS23																			1 3	1 1 2 1 9 9	
custome																			9 0	9 9	consult
																			- 1 -	10	concart
· · · · · · · · ·																					

¹ measurement starts with ambient pressure

^a pressure ranges ≤ 60 bar as DMP 331i; pressure ranges > 60 bar as DMP 333i ³ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

⁶ standard. 2 In PVC cable windout verification table (permissible temperature. -s..., 70° c), others on request
 ⁶ code TRO = PVC cable, cable with ventilation tube available in different types and lengths
 ⁶ only possible for DMP 331i and P_N ≤ 40 bar
 ⁶ welded version only with pressure ports according to EN 837
 ⁷ Communication interface RS232 only possible with el. connection Binder serie 723 (7pin)
 Software, Interface and cable for DMP 331i and DMP 333i with option RS-232 have to be order separately

(Ordering code: CIS-G; Software appropriate for Windows® 95, 98, 2000, NT Version 4.0 or newer and XP

Windows® is a registrated trademark of Microsoft Corporation



DCT 531

Industrial Pressure Transmitter with RS485 Modbus RTU

Stainless Steel Sensor

accuracy according to IEC 60770: standard: 0.35 % FSO option: 0.25 % FSO

Nominal pressure

from 0 ... 100 mbar up to 0 ... 400 bar

output signal

RS485 with Modbus RTU protocol

Special characteristic

- perfect thermal behaviour
- excellent long term stability

Optional versions

- pressure port
 G 1/2" flush up to max. 40 bar
- pressure sensor welded
- customer specific versions

The DCT 531 with RS485 interface uses the communication protocol Modbus RTU which has found the way in industrial communication as an open protocol. The Modbus protocol is based on a master slave architecture with which up to 247 slaves can be questioned by a master – the data will transfer in binary form.

Due to the usage of high quality materials and components, the DCT 531 is suitable for almost every industrial application, if the medium is compatible with stainless steel 316L.

The modular concept of the pressure transmitter allows customized electrical or mechanical connections, so it is easy to adapt the DCT 531 to different conditions on-site.

Preferred areas of use are



Plant and machine engineering

Energy industry



Nominal pressure gauge		-10	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6		
Nominal pressure abs.	[bar]	-	-	-	-	0.40	0.60	1	1.6	2.5	4	6		
Overpressure	[bar]	5	0.5	1	1	2	5	5	10	10	20	40		
Burst pressure ≥	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50		
Nominal pressure gauge / abs.	[bar]	10	16		25	40	60	100	16	60	250	400		
Overpressure	[bar]	40	80		80	105	210	600	6(00	1000	1000		
Burst pressure ≥	[bar]	50	120		120	210	420	1000			1250	1250		
Vacuum resistance	[~~.]	$P_N \ge 1 b$	ar: unlimit ar: on req	ted vacut			120	1000			1200	1200		
Output signal Digital (pressure)		DQ 495	with Mod	bue DTU	Inrotocol									
•		K3 405		bus KTO										
Supply		N/ 0	00.1/											
Direct current		v _s = 9.	32 V _{DC}											
Performance							~~							
Accuracy ¹		standard	l for P _N ≥ l for P _N < ır P _N ≥ 0.4	0.4 bar:	≤ <u>+</u>	: 0.35 % F : 0.5 % FS : 0.25 % F	0							
Long term stability						conditions								
Measuring rate		500 Hz	/01/00/			501010115								
Delay time		500 mz	20											
¹ accuracy according to IEC	60770 li~			on-linearit	w hystore	eie renaata	hility)							
			usimeni (n	on-ineani	y, nystere:	sis, repeatai	onity)							
Thermal effects (Offset	-	1)	4	0			10.40				0.40			
Nominal pressure P _N	[bar]		-1				< 0.40		≥ 0.40 ≤ ± 0.75					
Tolerance band	[% FSO]		≤±0 -20	-			$\leq \pm 1$		_					
in compensated range	[°C]		-20	. 65			0 70			-2	0 85			
Permissible temperatu		and all and			05 4									
Permissible temperature	5	medium: electroni storage:	cs / envir	onment:	-25 1 -25 -40	85 °C								
Electrical protection		otorugor												
Short-circuit protection		permane	ent											
Reverse polarity protect	on		ige, but a	lso no fu	nction									
Electromagnetic compat			-			EN 6132	6							
Mechanical stability				,	0									
Vibration		10 a RM	S (25	2000 Hz)	accordi	ng to DIN	EN 60068	-2-6						
Shock		500 g / 1				ng to DIN								
Materials						3								
Pressure port / housing		stainless	steel 1.4	404 (316	31)									
Seals (media wetted)		standard			-,									
(options:	EPDN		² (for P⊾	i≤ 40 bar)			C	others on	request			
Diaphragm		stainless	steel 1.4			,								
Media wetted parts			port, sea											
² welded version only with p	ressure port			-										
Miscellaneous														
Weight		approx.	210 g											
Current consumption		typ. 7 m/												
Operational life			on load c	ycles										
Installation position		any ³		-										
Operational life		-	10 ⁶ press	ure cvcle	S									
CE-conformity			ective: 20			Pres	ssure Fau	ipment Dir	ective: 2	2014/68/F	U (modu	le A) 4		
³ Pressure transmitters are	calibrated in	-			-			•				,		



G1/2" DIN 3852 with M12x1 DCT 531 Technical Data

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Configuration Modbus RTU					
Standard configuration	001	-	1	-	1
Address				·	
Address	001				
	247				
Baud Rate					
4800 Bd			0		
9600 Bd			1		
19200 Bd			2		
38400 Bd			3		
Parity				·	
None					0
Odd					1
Even					2
Configuration code (to specify with order)		-		-	

	Ordering code DCT 531	
DCT 531		
Pressure		
gauge absolute 1	D C 7 D C 8	
Input [bar]		
0.10 ¹ 0.16 ¹		
0.16 1 0.25 1	1 6 0 0 2 5 0 0	
0.40	4 0 0 0	
0.60	6 0 0 0 1 0 0 1	
1.6	1 6 0 1	
2.5	2 5 0 1	
4.0 6.0	4 0 0 1 6 0 0 1	
10	1 0 0 2	
16	1 6 0 2	
25 40	2 5 0 2 4 0 0 2	
60	6 0 0 2	
100	1 0 0 3	
160 250		
400	4 0 0 3	
-1 0	2 5 0 3 4 0 0 3 X 1 0 2 9 9 9 9	
Output		consult
RS485 Modbus RTU	L5 L5	
Accuracystandard for $P_N \ge 0.4$ bar0.35 % FSO	2	
standard for $P_N \ge 0.4$ bar0.35 % FSOstandard for $P_N < 0.4$ bar0.5 % FSO	3 5	
option for $P_N \ge 0.4$ bar 0.25 % FSO	5	
0.1 % FSO customer	1 9	consult
Electrical connection	9	consult
male plug M12x1 (4-pin) / metal	M 1 3	
male plug Binder series 723 (5-pin) cable outlet with PVC cable (IP67) ²	2 0 7 T A 0	
cable outlet,		
cable with ventilation tube (IP68) ³		
Customer Mechanical connection	9 9 9	consult
G1/2" DIN 3852	1 0 0	
G1/2" EN 837 G1/4" DIN 3852	2 0 0 3 0 0	
G1/4" EN 837	4 0 0	
G1/2" DIN 3852	FOO	
with flush sensor ⁴ G1/2" DIN 3852 open pressure port ⁴		
1/2" NPT	N 0 0	
1/4" NPT	H 0 0 N 0 0 N 4 0 9 9 9	
Seals	9 9 9	consult
FKM	1	
EPDM	3	
without (welded version) ⁵ customer	2 9	consult consult
Special version		
standard		0 0 0 9 9 9 consult
customer		9 9 9 consult

¹ absolute pressure possible from 0.4 bar ² standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

³ code TR0 = PVC cable, cable with ventilation tube available in different types and lengths ⁴ not possible for nominal pressure $P_N > 40$ bar ⁵ welded version only with pressure ports according to EN 837, possible for $P_N \le 40$ bar



DCT 532

Industrial **Pressure Transmitter** with i²C interface

Stainless Steel Sensor

Accuracy according to IEC 60770: standard: ≤ ± 0.35 % FSO option: $\leq \pm 0.25$ % FSO

Nominal pressure

from 0 ... 100 mbar up to 0 ... 400 bar

Digital output signal

- i²C
- bus frequency max. 400 kHz
- configuration of data format
- interrupt signal

Special characteristic

- perfect thermal behaviour
- excellent long term stability

Optional versions

- pressure port G 1/2" flush up to 40 bar
- welded sensor
- customer specific versions

Contrary to the industrial pressure transmitter with analogue signal, the DCT 532 has a digital i²C-interface. i²C has a master-slave topology, whereby you can use up to 127 devices at one master. In addition to the typical settings, as slave address, data format, etc., it is possible to do special parametrisation for pressure unit and more.

Due to the usage of high quality materials and components, the DCT 532 is suitable for almost every industrial application, if medium is compatible with stainless steel 316L.

The modular concept of the pressure transmitter allows customized electrical or mechanical connections, so it is easy to adapt the pressure transmitter to different conditions on-site.

Preferred areas of use are



Plant and machine engineering

Energy industry



Input pressure range															
Nominal pressure gauge	[bar]	-10	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6			
Nominal pressure abs.	[bar]	-	-	-	-	0.40	0.60	1	1.6	2.5	4	6			
Overpressure	[bar]	5	0,5	1	1	2	5	5	10	10	20	40			
Burst pressure ≥	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50			
Nominal pressure gauge / abs.	[bar]	10	16	-		40	60	100	16	60	250	400			
Overpressure	[bar]	40	80		80	105	210	600	60	00	1000	1000			
Burst pressure ≥	[bar]	50	120		20	210	420	1000			1250	1250			
Burst pressure \geq [bar]50120120210420100010001250120Vacuum resistance $P_N \geq 1$ bar: unlimited vacuum resistance		1200													
			$P_N < 1$ bar: on request												
Output signal / Supply															
i ² C		V _s = 3.5	5.5 V _c	C											
Performance															
Accuracy ¹		standaro option fo	standard for $P_N \ge 0.4$ bar: $\le \pm 0.35 \%$ FSOstandard for $P_N < 0.4$ bar: $\le \pm 0.5 \%$ FSOoption for $P_N \ge 0.4$ bar: $\le \pm 0.25 \%$ FSO												
Max. I/O current		10 mA													
Long term stability			-			conditions									
Response time			1.5 msec + transmission time (depending on bus frequency)												
Measuring rate		500 Hz													
accuracy according to IEC 60			ustment (n	on-linearit	y, hystere	sis, repeata	bility)								
Thermal effects (Offset a		· ·													
Nominal pressure P _N	[bar]						< 0.40			≥ 0.40					
•	% FSO]		≤±0.	-			≤±1		_	≤ ± 0.75					
n compensated range Permissible temperatures	[°C]		-20	85			0 70			-2	85				
Permissible temperatures		medium: electroni storage:	cs / envir	onment:	-25 -25 -40	85 °C									
Electrical protection		1													
Short-circuit protection		permane						6							
Reverse polarity protection							e, but also s it can co			onstellati	on to dar	nages.			
Electromagnetic compatibil	lity	emission	and imm	unity acc	cording to	o EN 6132	6								
Mechanical stability															
Vibration		10 g RM	S (25 2	2000 Hz)	accord	ing to DIN	EN 60068	-2-6							
Shock		500 g / 1	msec		accord	ing to DIN	EN 60068	-2-27							
Materials															
Pressure port / Housing		stainless	steel 1.4	404 (316	6 L)										
Seals (media wetted)		standard: FKM options: EPDM													
Dianhragm		otainlass				i≤ 40 bar)			oth	ers on re	quest				
Diaphragm Modia wottod parts		1	steel 1.4		· · · ·										
Media wetted parts ² welded version only with pres		1.5	port, sea		-										
Weided Version only with pres	sure por	เจ ละบบเนเทย	J 10 EN 83	7, ⊢N⊇ 40	val										
		< 15 mA													
Current consumption		-													
Weight		approx.	240 g 2 68 for c	ahla with	ventilati	on tubo									
Ingress protection			00 101 0		ventiali										
Installation position		any ³	on load -												
Operational life		-	on load c	•		D		nmant D	ro oti C	044/00/	-11 /				
CE-conformity ³ Pressure transmitters are cali deviations in the zero point fo		n a vertical p			-		ssure Equi	•				,			

DCT 532 Technical Data





Configuration i ² C-interface																	
Stand configuration	0	5	0	-	0	-	0	-	0	-	0	-	0	0	0	0	1
Slave address																	
address	0	0	1														
	1	2	7														
Type of result register																	
32bit IEEE float					0												
16bit Integer					1												
Byte order of values																	
Low byte first							0										
High byte first							1										
Mode of result register																	
Value									0								
Percent of nominal									1								
Restore of address pointer																	
No restore											0						
To last set address on next start											1						
Digital meaning																	
Count of result													0	0	0	0	1
													1	0	0	0	0
Configuration code																	
(has to be defined with the order)				-		-		-		-		-					

	Ord	dering cc	de DC1	532			
DCT 532		<u> </u>		·			
Pressure	D C 0						
absolute 1 Input [bar]	DC1						
0.1 ¹ 0.16 ¹ 0.25 ¹	1016	0 0 0					
0.23	4 0						
1 1.6	1 0 1 6	0 1					
2.5 4	2 5 4 0	0 1 0 1					
6 10	6 0 1 0	0 1 0 2					
16 25 40	1 6 2 5	02					
40 60 100	6 0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$					
160 250	1 6 2 5	0303					
400 -1 0	4 0 X 1	0 3 0 2					
Output	9 9	99					consult
i ² C Accuracy		IC					
standard for $P_N \ge 0.4$ bar 0.35%		;	3 5				
$\begin{array}{ll} \mbox{standard for } P_{\rm N} < 0.4 \mbox{ bar} & 0.5 \ \% \\ \mbox{option for } P_{\rm N} \ge 0.4 \mbox{ bar} & 0.25 \ \% \\ \end{array}$		2	2				
0.1 % customer			1 9				consult consult
Electrical connection Male plug M12x1 (5-pin) / metal		_	N 1 7				
Male plug Binder series 723 (5-pin) Cable outlet with PVC cable ²			2 0 7 T A 0				
Cable outlet (IP68) 3 customer			2 0 7 T A 0 T R 0 9 9 9				consult
Mechanical connection G1/2" DIN 3852				1 0 0			
G1/2" EN 837 G1/4" DIN 3852				2 0 0 3 0 0			
G1/4" EN 837				4 0 0			
G1/2" DIN 3852 with flush sensor ⁴				F 0 0			
G1/2" DIN 3852 open pressure port ⁴ 1/2" NPT				H 0 0 N 0 0			
1/4" NPT customer				N 4 0 9 9 9			consult
Seals				510101	1		
EPDM without (welded version) 5					3		
customer	_	_	_		9		consult
Special version standard					0		
customer					9	99	consult

¹ absolute pressure possible from 0.4 bar

 $^2\,$ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 \dots 70°C), others on request

³ cable with ventilation tube (code TR0 = PVC cable), different cable types and lengths available, price without cable

 $^4\,$ not possible for nominal pressure $\,\,P_N^{}^{}>40\,\,bar$

 $^5\,$ welded version only with pressure ports according to EN 837, possible for $\rm P_N$ ≤ 40 bar



DCT 533

Industrial Pressure Transmitter with IO-Link Interface

Stainless Steel Sensor

accuracy according to IEC 60770: standard: $\leq \pm 0.35$ % FSO option: $\leq \pm 0.25$ % FSO

Nominal pressure

from 0 ... 100 mbar up to 0 ... 400 bar

Digital output signals

- IO-Link according to specification V 1.1
- Data transfer 38.4 kbit/s
- Smart sensor profile

Special characteristic

- perfect thermal behaviour
- excellent long term stability

Optional versions

- pressure port
 G 1/2" flush up to 40 bar
- welded sensor
- customer specific versions

IO-Link is a digital interface for sensors and actuators, which is worldwide standardized by IEC 61131-9. IO-Link does not have a bus topology, but it is a powerful point-to-point communication, where the device can be parametrized, and the measured values transferred. The integration to the master is easy by using the IODD-file.

The sensor technology of the DCT 533 is the same as those of the proven pressure transmitter DMP 331 / DMP 333, whereby the DCT 533 is suitable for almost every industrial application, if medium is compatible with stainless steel 316L.

The modular concept of the pressure transmitter allows customized electrical or mechanical connections, so it is easy to adapt the DCT 533 to different conditions on-site.

Preferred areas of use are



Plant and machine engineering

Er

Energy industry



Input pressure range Nominal pressure gauge	[bar]	-10	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6			
						0.40	0.60	1	1.6	2.5	4	6			
Nominal pressure abs.	[bar]	-	- 0.5	- 1	- 1	0.40		5	10	2.5	20	40			
	[bar]	5					5	-				-			
Burst pressure ≥	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	5			
Nominal pressure		40	10			40		400			050	400			
gauge / abs.	[bar]	10	16		25	40	60	100	16	160 250					
Overpressure	[bar]	40	80	1	80	105	210	600	60	00	1000	100			
Burst pressure ≥	[bar]	50	120) 1	20	210	420	1000	10	00	1250	125			
Vacuum resistance		P _N ≥ 1 ba	r: unlimit	ted vacuu	um resist	ance	P _N <	1 bar: on	request						
Output signal / Supply Standard				ما ، رما ، رم			N -	40 20 1	/						
Standard		IO-Link (r SIO (swit			ansmissi	on)	v _s =	18 30 \	DC						
IO-Link		V 1.1 / SI	-		or Drofilo										
Data transfer		COM 2			or Profile										
Mode		SIO / IO-I													
Standard		IEC 6113													
Performance			1-5												
		otorde	for D >	0.4 her		0.25.0/ 5	80								
Accuracy ¹		standard standard				: 0.35 % F : 0.5 % FS									
		option fo				: 0.25 % F									
Switching current (SIO-Mo	de)	max. 200		+ Dai.		0.25 /01	50								
Switching frequency	uc)	max. 200													
Switching cycles		> 100 x 1													
Long term stability	≤ ± 0.1 % FSO / year at reference conditions														
Turn-on time		SIO-Mod													
Response time		SIO-Mod													
Measuring rate		400 Hz													
¹ accuracy according to IEC 60	0770 – lin	nit point adju	ıstment (n	on-linearit	y, hystere	sis, repeata	bility)								
Thermal effects (Offset a							• /								
Nominal pressure P _N	[bar]		-1	0			< 0.40			≥ 0.40					
Tolerance band [% FSO]		≤±0.	75			≤±1		≤ ± 0.75						
in compensated range	[°C]	-20 85 0 70									-20 85				
Permissible temperature	s				· · · ·										
Permissible temperatures		medium:	-25 1	25 °C			elect	ronics / er	nvironme	ent: -	-25 85 °	°C			
		medium: -25 125 °C electronics / environment: -25 85 °C storage: -40 85 °C													
Electrical protection															
Short-circuit protection		permanent													
Reverse polarity protectior	า	no dama	ge, but a	lso no fur	nction										
Electromagnetic compatibi		emission and immunity according to EN 61326													
Mechanical stability							-								
Vibration		10 a RMS	6 (25 2	2000 Hz)	accordi	na to DIN	EN 60068	-2-6							
Shock		10 g RMS (25 2000 Hz) according to DIN EN 60068-2-6 500 g / 1 msec according to DIN EN 60068-2-27													
Materials		000 g / 1	111000		uccordi										
Pressure port / housing		stainless	stool 1 4	404 (316	:1)										
Seals (media wetted)		standard		404 (310	· L)										
		options:	EPDM	1											
		optiono.			² (for P	i≤ 40 bar)			c	others o	n request				
Diaphragm		stainless				,			-						
Media wetted parts		pressure			,										
² welded version only with pre-	ssure por	ts according	to EN 83	7, <i>P</i> ^N ≤40	bar										
Miscellaneous															
Current consumption		< 20 mA													
Weight		approx. 1	40 a												
Installation position		any ³	- 0												
Protection class		IP 67													
Operational life		100 millio	n load o	voles											
CE-conformity		EMC Dire		-	1	Dro		inmont Di	roctivo: (001/1/00	/Ell (mode				
³ Pressure transmitters are ca	librete - Li							-			B/EU (modu				
deviations in the zero point fo ⁴ This directive is only valid for	or pressur	e ranges P _l	_v ≤ 1 bar.						ngeu Un II	istanatiO	n inere call	se siigi			



DCT 533 Technical Data


		(Ordering	g cod	e D(СТ	533	3			
DCT 53	33	-		- 🗌 - 🛛]-[]		- 🗌]-[- <u></u> _]
Pressure											
Tressure	gauge	D C 2 D C 3									
Input	absolute ¹ [bar]	D C 3									
	0.1 1		1 0 0 0								
	0.16 ¹ 0.25 ¹		1 6 0 0								
	0.4		4 0 0 0								
	0.6 1		6000								
	1.6		1 6 0 1								
	2.5 4		2 5 0 1								
	6		6 0 0 1								
	10 16		1 0 0 2								
	25		$\begin{array}{cccccccccccccccccccccccccccccccccccc$								
	40 60		4 0 0 2								
	100		1 0 0 3								
	160 250		1 6 0 3								
	400		4 0 0 3								
	-1 0 customer		X 1 0 2								consult
Output			3 3 3 3 3								
Accuracy	IO-Link / SIO			10							
standard for $P_N \ge 0.4$ bar	0.35 %			:	3			Т			
standard for $P_N < 0.4$ bar option for $P_N \ge 0.4$ bar	0.5 % 0.25 %				5						
-	customer				9						consult
Electrical connection	2x1 (4-pin) / metal			-	M	1 7					
Cable out	let with PVC cable 2				T	A 0					
(Cable outlet (IP68) 3 customer				M T T 9	R 0 9 9					consult
Mechanical connection					9	9 9					Consult
	G1/2" DIN 3852 G1/2" EN 837						1 2	0 0 0 0			
	G1/4" DIN 3852						3	0 0			
	G1/4" EN 837 G1/2" DIN 3852						4				
	with flush sensor 4						F	0 0			
G1/2" DIN 3852 o	pen pressure port 4 1/2" NPT						H	0 0			
	1/4" NPT						N	0 0 4 0 9 9			
Seals	customer	_	-				9	99			consult
Jeals	FKM								1		
without	EPDM t (welded version) 5								3		
withou	customer								2 9		consult
Special version											
	standard customer									0 9	consult

¹ absolute pressure possible from 0.4 bar

 $^2\,$ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C), others on request

 3 cable with ventilation tube (code TR0 = PVC cable), different cable types and lengths available, price without cable

 $^4\,$ not possible for nominal pressure $\,P_{N}\,{>}\,40$ bar

 $^5\,$ welded version only with pressure ports according to EN 837, possible for $\rm P_N \le 40~bar$

INDUSTRIAL PRESSURE TRANSMITTER



DCT 561

Industrial Pressure Transmitter with RS485 Modbus RTU

Ceramic Sensor

accuracy according to IEC 60770: 0.5 % FSO

Nominal pressure

from 0 ... 600 mbar up to 0 ... 600 bar

Output signal

RS485 with Modbus RTU protocol

Special characteristic

- good thermal behaviour
- good long term stability

Optional versions

- pressure port G 1/2" open port PVDF for aggressive media (up to 60 bar)
- oxygen application

The DCT 561 with RS485 interface uses the communication protocol Modbus RTU which has found the way in industrial communication as an open protocol. The Modbus protocol is based on a master slave architecture with which up to 247 slaves can be questioned by a master - the data will transfer in binary form.

The sensor technology of the DCT 561 is the same as those of the proven pressure transmitter DMK 331, whereby the DCT 561 is suitable for pasty, polluted and aggressive media as well as for low-pressure oxygen applications.

The modular concept of the pressure transmitter allows customized electrical or mechanical connections, so it is easy to adapt the DCT 561 to different conditions on-site.

Preferred areas of use are

Plant and machine engineering Environmental engineering (water - sewage - recycling) Medical technology



Input pressure range ¹												
Nominal pressure gauge	[bar]	-10 ²	0.6	1	1.6	2.5	4	6	10	16		
Nominal pressure abs.	[bar]	-	0.6	1	1.6	2.5	4	6	10	16		
Overpressure	[bar]	3	2	3	5	5	12	12	20	50		
Burst pressure ≥	[bar]	4	4	4	7	7.5	15	18	30	70		
Nominal pressure												
gauge / abs.	[bar]	25	40	60	10	00	160	250	400	600		
Overpressure	[bar]	50	120	120	20	0	400	400	650	800		
Burst pressure ≥	[bar]	75										
Vacuum resistance		unlimited v	acuum resist	tance								
¹ PVDF pressure port possible ² accuracy ≤ 1 % FSO	e for nom	inal pressure i	ranges up to 6	i0 bar								
Output signal												
Digital (pressure)		RS485 wit	h Modbus R	TUprotoco	1							
Supply		110-100 Mit	in moubus it									
Direct current		V _s = 9 3	22.1/									
		V _S – 9 3	DZ V _{DC}									
Performance												
Accuracy ³		$\leq \pm 0.5\%$		4								
Long term stability		-	FSO / year a	at reference	conditions	i						
Measuring rate		500 Hz										
Delay time		500 msec										
³ accuracy according to IEC 6			· · · · · · · · · · · · · · · · · · ·		resis, repeat	ability)						
Thermal effects (Offset a	and Spa			eratures								
Thermal error		≤ ± 0.2 %										
In compensated range		-25 85 °										
Permissible temperatures			25 125 °C	с е	lectronics	/ environm	ent: -25	. 85 °C	storage: -	40 80		
⁴ for pressure port of PVDF th	e minimu	ım temperatur	e is -30 °C									
Electrical protection												
Short-circuit protection		permanent										
Reverse polarity protection			e, but also no									
Electromagnetic compatib	ility	emission a	nd immunity	according	to EN 613	26						
Mechanical stability												
Vibration		10 g RMS	(25 2000	Hz) a	ccording to	DIN EN 6	60068-2-6					
Shock		500 g / 1 n	nsec	а	ccording to	DIN EN 6	0068-2-27	7				
Materials												
Pressure port			stainless ste r G1/2" open			essure rand	ne un to 60	har PVDF	others on	request		
Housing			teel 1.4404 (2011 1 21		044000		
Seals		standard:		/								
		options:	EPDM (for F	P _N ≤ 160 ba	r)				others on	request		
Diaphragm		ceramic Al	₂ O ₃ 96 %									
Media wetted parts		pressure p	ort, seal, dia	phragm								
Miscellaneous												
Option oxygen application		for $P_N \le 25$		g in FKM Vi ar / 150° C	567 (with	BAM-appro	oval); pern	nissible max	imum values	are		
Current consumption		max. 7 mA										
Weight		approx. 21										
Installation position		any	5									
Protection class		IP 67										
Operational life			load cycles									
CE-conformity			tive: 2014/3		F	Pressure Fi	auipment I	Directive: 20	014/68/EU (m	nodule A)		
⁵ This directive is only valid for	r devices	1				. second E						
Wiring diagrams				5. 01 pi 00001 C	. 200 bal							
RS 485 / Modbus RTU												
	- 0	0 221/										
supply	/- -	9 32 V _{DC}										

RS 485

B (-)



	Ordering code DCT 561	
DCT 561]-[]]]
Pressure		
gauge absolute	2 5 0 2 5 1	
Input [bar]		
0.6	6 0 0 0 1 0 0 1	
1.6 2.5	1 6 0 1 2 5 0 1	
4.0	4 0 0 1	
6.0 10	6 0 0 1 1 0 0 2	
16 25	1 6 0 2 2 5 0 2	
40	4 0 0 2	
60 100	1 0 0 3	
160 250	1 6 0 3 2 5 0 3	
400	4 0 0 3	
600 -1 0	6 0 0 3 X 1 0 2	
Customer	X 1 0 2 9 9 9 9	consult
RS485 Modbus RTU	L5 L5 L5	
Accuracy 0,5 % FSO	5	
customer	9	consult
Electrical connection male plug M12x1 (4-pin) / metal	M 1 3	
male plug Binder series 723 (5-pin) cable outlet with PVC cable (IP67)	1 T A 0	
cable outlet,	TRO	
cable with ventilation tube (IP68) customer	999	consult
Mechanical connection G1/2" DIN 3852	3 1 0 0	
G1/2" EN 837	2 0 0	
G1/4" DIN 3852 G1/4" EN 837	3 0 0 4 0 0	
G1/2" DIN 3852 open pressure port 1/2" NPT	H 0 0 N 0 0	
1/4" NPT	N 4 0	
Seals	9 9 9	consult
FKM EPDM	4 2	
customer	4 3 9	consult
Pressure port stainless steel 1.4404 (316L)	1	
PVDF	5 B 9	
Diaphragm	9	consult
ceramics Al ₂ O ₃ 96% customer	2 9	consult
Special version		
standard oxygen application	6	0 0 0 0 0 7 9 9 9 consult
customer		9 9 9 consult

 1 standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

 $^{\rm 2}$ code TR0 = PVC cable, cable with ventilation tube available in different types and lengths

³ metric threads and others on request

 4 possible for nominal pressure range $P_{N} \le 160$ bar

 5 PVDF only with G1/2" DIN 3852 open pressure port (up to 60 bar), minimum permissible temperature is -30 $^\circ\text{C}$

⁶ oxygen application with FKM-seal up to 25 bar

⁷⁸ INDUSTRIAL PRESSURE TRANSMITTER



DCT 563

Industrial Pressure Transmitter with IO-Link Interface

Ceramic Sensor

accuracy according to IEC 60770: 0.5 % FSO

Nominal pressure

from 0 ... 600 mbar up to 0 ... 600 bar

Digital output signal

- IO-Link according to specification V 1.1
- data transfer 38.4 kbit/s
- smart sensor profile

Special characteristic

- good thermal behaviour
- good long term stability

Optional versions

- pressure port G 1/2" flush for pasty media (up to 25 bar)
- pressure port G 1/2" open port PVDF for aggressive media (up to 60 bar)
- oxygen application

IO-Link is a digital interface for sensors and actuators, which is worldwide standardized by IEC 61131-9. IO-Link does not have a bus topology, but it is a powerful point-to-point communication, where the device can be parameterized and the measured values transferred. The integration to the master is easy by using the IODD-file.

The sensor technology of the DCT 563 is the same as those of the proven pressure transmitter DMK 331, whereby the DCT 563 is suitable for pasty, polluted and aggressive media as well as for low-pressure oxygen applications.

The modular concept of the pressure transmitter allows customized electrical or mechanical connections, so it is easy to adapt the DCT 563 to different conditions on-site.

Preferred areas of use are

 Plant and machine engineering
 Environmental engineering (water - sewage - recycling)
 Medical technology



Input pressure renes 1												
Input pressure range ¹	[bor]	-10 ²	0.6	1	16) F	4	6	10	16		
Nominal pressure gauge	[bar]		0.6	1	1.6	2.5 2.5	4	6	10	16		
Nominal pressure abs.	[bar]	-	0.6	1	1.6	-		12	10	16		
Overpressure	[bar]	3	2	3	5	5	12		20	50		
Burst pressure ≥	[bar]	4	4	4	1	7.5	15	18	30	70		
Nominal pressure		25	40	60	100		160	250	400	600		
gauge / abs.	[bar]											
Overpressure	[bar]	50	120	120		200 400		400	650	800		
Burst pressure ≥	[bar]	75	150	180	300)	500	750	1000	1100		
Vacuum resistance	-		acuum resis									
¹ PVDF pressure port possible ² accuracy ≤ 1 % FSO	e for nom	inal pressure i	ranges up to b	0 bar								
Output signal / Supply												
Standard			easured val	ue / status i	transmissior	n) / V _s = 1	8 30 VE)C				
		1	hing output)									
IO-Link			/e / smart se	ensor profile	9							
Data transfer		COM2 38										
Mode			nk (COMx)									
Standard		IEC 61131	-2, IEC 611	31-9								
Performance												
Accuracy ³		≤ ± 0.5 % I	FSO									
Switching current (SIO-Mo	ode)	max. 200 r	nA									
Switching frequency		max. 200 H	Ηz									
Switching cycles		> 100 x 10 ⁶										
Long term stability		≤ ± 0.1 % FSO / year at reference conditions										
Turn-on time		SIO modus	s: approx. 20) msec								
Response time		SIO modus: < 4 msec										
Measuring rate 400 Hz												
³ accuracy according to IEC 6	0770 – lir	nit point adjus	tment (non-lin	earity, hystei	resis, repeata	bility)						
Thermal effects (Offset a	and Spa	n) / Permiss	sible Tempe	eratures								
Thermal error		≤ ± 0.3 % I										
In compensated range		-25 85 °	С									
Permissible temperatures			25 125 °C	c ele	ectronics / er	nvironmer	it: -25 8	35 °C	storage: -	40 80 °C		
⁴ for pressure port of PVDF th	ne minimu	ım temperatur	e is -30 °C									
Electrical protection												
Short-circuit protection		permanent										
Reverse polarity protection	n	no damage	e, but also n	o function								
Electromagnetic compatib	ility	emission a	nd immunity	according	to EN 6132	6						
Mechanical stability												
Vibration		10 g RMS	(25 2000	Hz) acc	cording to D	IN EN 600	68-2-6					
Shock		500 g / 1 m		· · · · · · · · · · · · · · · · · · ·	cording to D							
Materials		<u> </u>			<u> </u>							
Pressure port		standard.	stainless ste	el 1 4404 ((3161)							
						sure ranc	e up to 60	bar: PVDF	others on	request		
Housing		1	teel 1.4404									
Seals (media wetted)		standard:		(0.01)								
			EPDM (for F	P _N ≤ 160 ba	r)				others on	request		
		optionio.		-								
Diaphragm		ceramic Al										
. , ,		ceramic Al		phragm								
Diaphragm Media wetted parts		ceramic Al	2O3 96 %	phragm								
Diaphragm		ceramic Al pressure p	₂ O ₃ 96 % ort, seal, dia bar: O-rin	g in FKM V	i 567 (with E	3AM-appro	oval); pern	nissible maxi	mum values	are		
Diaphragm Media wetted parts Miscellaneous Option oxygen application		ceramic Al pressure p for $P_N \le 25$	₂ O ₃ 96 % ort, seal, dia bar: O-rin 25 ba		i 567 (with E	3AM-appro	oval); pern	nissible maxi	mum values	are		
Diaphragm Media wetted parts Miscellaneous Option oxygen application Current consumption		ceramic Al pressure p for $P_N \le 25$ max. 20 m	2O ₃ 96 % ort, seal, dia bar: O-rin 25 ba A	g in FKM V	i 567 (with E	3AM-appro	oval); pern	nissible maxi	mum values	are		
Diaphragm Media wetted parts Miscellaneous Option oxygen application Current consumption Weight		ceramic Al pressure p for $P_N \le 25$ max. 20 m approx. 14	2O ₃ 96 % ort, seal, dia bar: O-rin 25 ba A	g in FKM V	i 567 (with E	8AM-appro	oval); pern	nissible maxi	mum values	are		
Diaphragm Media wetted parts Miscellaneous Option oxygen application Current consumption Weight Installation position		ceramic Al pressure p for P _N ≤ 25 max. 20 m approx. 14 any	2O ₃ 96 % ort, seal, dia bar: O-rin 25 ba A	g in FKM V	i 567 (with E	BAM-appro	oval); pern	nissible maxi	mum values	are		
Diaphragm Media wetted parts Miscellaneous Option oxygen application Current consumption Weight Installation position Protection class		ceramic Al pressure p for $P_N \le 25$ max. 20 m approx. 14 any IP 67	2O3 96 % ort, seal, dia bar: O-rin 25 ba A 0 g	g in FKM V Ir / 150° C	i 567 (with E	BAM-appro	oval); pern	nissible maxi	mum values	are		
Diaphragm Media wetted parts Miscellaneous Option oxygen application Current consumption Weight Installation position		ceramic Al pressure p for $P_N \le 25$ max. 20 m approx. 14 any IP 67 100 million	2O ₃ 96 % ort, seal, dia bar: O-rin 25 ba A	g in FKM V rr / 150° C	· · · · · · · · · · · · · · · · · · ·			nissible maxi				

DCT 563 Technical Data





	Ordering code DCT 563	
DCT 563		
Pressure		
gauge absolute Input [bar] 0.6 1.0 1.6 2.5 4.0 6.0 10 16 25 4.0 6.0 10 16 255 40 60 100 160 250 400 600 600	D C 5	
-1 0 customer	X 1 0 2 9 9 9 9	consult
Output IO-Link (COMx) / SIO		Consult
Accuracy		
0.5 % FSO customer Electrical connection male plug M12x1 (4-pin) / metal cable outlet with PVC cable (IP67) 1	5 9 M 1 7 T A 0	consult
cable outlet, cable with ventilation tube (IP68) ²		
Customer Mechanical connection 3 G1/2" DIN 3852 G1/2" EN 837 G1/4" EN 837 G1/4" EN 837 G1/2" DIN 3852 with semi-flush sensor 4 G1/2" DIN 3852 open pressure port G1/2" DIN 3852 open pressure port 1/2" NPT 1/4" NPT 1/4" NPT	9 9 9 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	consult
customer	N 4 0 9 9 9	consult
Seals FKM EPDM ⁵ customer	1 3 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	consult
Pressure port stainless steel 1.4404 (316L) PVDF 6 customer	1 B 9 9 9 9 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0	consult
Diaphragm ceramics Al ₂ O ₃ 96%		Consult
customer Special version	2 9	consult
standard oxygen application ⁷ customer	0 0 0 0 0 7 9 9 9	consult

¹ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

² code TR0 = PVC cable, cable with ventilation tube available in different types and lengths

³ metric threads and others on request

⁴ possible for nominal pressure ranges $P_N \le 25$ bar; absolute pressure ranges on request

 5 possible for nominal pressure range $P_{N} \leq 160 \; \text{bar}$

⁶ PVDF only with G1/2" DIN 3852 open pressure port (up to 60 bar), minimum permissible temperature is -30 °C

⁷ oxygen application with FKM-seal up to 25 bar

INDUSTRIAL PRESSURE TRANSMITTER



DMP 343

Industrial Pressure Transmitter

Without Media Isolation

accuracy according to IEC 60770: 0.35 % FSO

Nominal pressure

from 0 ... 10 mbar up to 0 ... 1000 mbar

Product characteristics

- excellent linearity
- small thermal effect
- excellent long term stability

Optional versions

- IS-version: Ex ia = intrinsically safe for gases and dusts
- different electrical and mechanical connections
- customer specific versions

The pressure transmitter DMP 343 has been especially designed for the measurement of very low gauge pressure and for vacuum applications. Permissible media are nonaggressive, dry gases and non-aggressive, low viscos oils.

The DMP 343 features excellent thermal behaviour and outstanding long term stability. A variety of standard output signals as well as mechanical and electrical connections make the DMP 343 covering a wide field of applications.

Preferred areas of use are



Plant and machine engineering



Heating and air conditioning



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Input pressure range			1		1
Nominal pressure gauge	[bar] 600 ¹	1000	1600	2000	2200
Overpressure	[bar] 800	1400	2200	2800	2800
Burst pressure ≥	[bar] 3000	4000	6000	6000	6000
¹ only available with pressure port	G1/2" EN 837				
Output signal / Supply			- 14		
Standard		20 mA / $V_{\rm S} = 12 \dots 3$			
Option IS-protection		20 mA / $V_{\text{S}} = 14 \dots 2$			
Option 3-wire	3-wire: 01	0 V / V _S = 14 3	0 V _{DC}		
Performance					
Accuracy ²	≤ ± 0.35 % FSO				
Permissible load	current 2-wire: voltage 3-wire:	$R_{max} = [(V_S - V_S min)]$ $R_{min} = 10 \text{ k}\Omega$	i) / 0.02 A] Ω		
Influence effects	supply: 0.05 %			oad: 0.05 % FSO / k	Ω
Long term stability		year at reference conc	litions		
Response time	< 5 msec				
Adjustability		fset is possible within t		the nominal pressure	e range, without an
² accuracy according to IEC 60770		racteristic curve and ac			
Thermal effects (Offset and			(pealability)		
Thermal error	≤ ± 0.25 % FSO		nsated range -20 8	5 °C	
Permissible temperatures			s / environment: -40.		age: -40 100 °C
Electrical protection	medium. 40		37 chivitoninichit. 40.	05 0 3101	age. 40 100 O
•	normanant				
Short-circuit protection Reverse polarity protection	permanent no damage, but	also no function			
Electromagnetic					
compatibility	emission and im	munity according to EN	N 61326		
Mechanical stability					
Vibration	10 g RMS (20		to DIN EN 60068-2-0		
Shock	100 g / 11 msec	. according	to DIN EN 60068-2-2	27	
Materials					
Pressure port	stainless steel 1	· /			
Housing	stainless steel 1	· · · /			
Option compact field housing		.4301 (304); cable glai	nd M12x1.5, brass, ni	ickel plated (clampin	g range 2 8 mm)
Seals	none (welded ve	/			
Diaphragm	stainless steel 1	. ,			
Media wetted parts	pressure port, d				
Explosion protection (only f					
Approvals DX19-DMP 334	zone 0: II 10	1068 X / IECEx IBE E Ex ia IIC T4 Ga Ex ia IIIC T 85°C Da	12.0027X		
Safety technical maximum val		93 mA, $P_i = 660$ mW, C			
		ections have an inner o			
Permissible temperatures for environment	in zone 0: in zone 1 or high	ner: -20 70 °C	vith p _{atm} 0.8 bar up to		
Connecting cables (by factory) cable capacitant cable inductance		eld also signal line/si eld also signal line/si		
Miscellaneous					
Current consumption	signal output cu signal output vo				
Weight	approx. 240 g				
Installation position	any				
Operational life	p _N = 600 bar: 10	0 million load cycles	p _N > 600 bar: 10 m	nillion load cycles	
CE-conformity	EMC Directive:	2014/30/EU	Pressure Equipme	ent Directive: 2014/68	3/EU (module A)
ATEX Directive	2014/34/EU				
Wiring diagrams	· · ·				
2-wire-system (current)		3-wire	-system (current / voltag	ne)	
p supply + A supply -	• + Vs		supply +		

DMP 343 Technical Data



³ different cable types and lengths available, permissible temperature depends on kind of cable



	Ord	eri	ng	g C	od	e [DM	Ρ	34	43							
DMP 343	-				-	-[]-[-[-]-[]
Pressure																	
gauge	1 0 0		Т							_							
Input [mbar]																	
10		0 1	1 0	0													
16		0 1	16	0													
25		0 2 0 4 0 6	2 5	0 0 0													
40		0 4	1 0	0													
60		0 6	5 0	0													
100		1 (0 0	0													
160		1 6 2 5 4 0	5 0														
250		2 5 4 0	5 0	0													
400		4 (0 0	0													
600		6 (0 0	0 1 2 9													
1000		1 (0 0	1													
-1000 0		X 1 9 9	1 0	2													
customer		9 9	9 9	9													consult
Output																	
4 20 mA / 2-wire					1												
0 20 mA / 3-wire					2												
0 10 V / 3-wire					2 3 E 9												
intrinsic safety 4 20 mA / 2-wire					E												
customer		_			9					_			_				consult
Accuracy																	
standard for $P_N > 100 \text{ mbar}$: 0.35 % FSO						3											
standard for $P_N \le 100$ mbar: 0.5 % FSO						5											
Electrical connection								0	0								
male and female plug ISO 4400							1	0	0								
male plug Binder series 723 (5-pin)							2 T	0	000000000000000000000000000000000000000								
cable outlet with PVC cable (IP67) ¹ cable outlet,							I										
							Т	R	0								
cable with ventilation tube (IP68) ²							Μ	1 1	0								
male plug M12x1 (4-pin) / metal							IV										
compact field housing stainless steel 1.4301 (304)							8	5	0								
customer							0	9	0								consult
Mechanical connection							3	3	3								Consult
G1/2" DIN 3852										1	0	0					
G1/2" EN 837										2	2 0	0					
G1/4" DIN 3852										3	3 0	0					
G1/4" EN 837										4		0					
G1/2" DIN 3852 open pressure port										H	10	0					
1/2" NPT										N	10	0					
1/4" NPT										N	4	0					
customer ³										ç	N 0 N 4 9 9	9					consult
Seals											1.5						
FKM													1		T		
customer													9				consult
Special version										_							
standard														C	0	0	
customer														g	0	9	
															•	•	*

 1 standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request 2 code TR0 = PVC cable, cable with ventilation tube available in different types and lengths 3 metric threads and others on request

⁸ INDUSTRIAL PRESSURE TRANSMITTER



DMP 331

Industrial Pressure Transmitter for Low Pressure

Stainless Steel Sensor

accuracy according to IEC 60770: standard: 0.35 % FSO option: 0.25 / 0.1 % FSO

Nominal pressure

from 0 ... 100 mbar up to 0 ... 60 bar

Output signals

2-wire: 4 ... 20 mA 3-wire: 0 ... 20 mA / 0 ... 10 V others on request

Special characteristic

- perfect thermal behaviour
- excellent long term stability
- pressure port
 G 1/2" flush from 100 mbar

Optional versions

- IS-version
 Ex ia = intrinsically safe for gases and dusts
- SIL 2-according to IEC 61508 / IEC 61511
- welded pressure sensor
- customer specific versions

The pressure transmitter DMP 331 can be used in all industrial areas when the medium is compatible with stainless steel 1.4404 (316 L) or 1.4435 (316 L). Additional are different elastomer seals as well as a helium tested welded version available.

The modulare concept of the device allows to combine different stainless steel sensors and electronic modules with a variety of electrical and mechanical versions.Thus a diversity of variations is created, meeting almost all requirements in industrial applications.

Preferred areas of use are



Plant and machine engineering

Environmental engineering (water - sewage - recycling)



Energy industry



Input pressure range													
<u> </u>	[bor]	1 0	0.10	0.16	0.25	0.40	0.60	1	16				
	[bar]	-10	0.10	0.16	0.25	0.40	0.60	1	1.6				
	[bar] [bar]	- 5	- 0.5	- 1	- 1	0.40	0.60	1 5	1.6 10				
· ·		5 7.5	0.5	1.5	1.5	3	5 7.5	5 7.5	10				
บนเอเ µเธอรินเย ≤	[bar]	1.5	1.0	1.0	1.0	J	1.0	1.0	10				
Nominal pressure													
· ·	[bar]	2.5	4	6	10	16	25	40	60				
	[bar]	10	20	40	40	80	80	105	105				
	[bar]	15	25	50									
Vacuum resistance		P _N ≥ 1 bar: ι	unlimited vac	uum resistar	nce								
		$P_N < 1$ bar: 0	on request										
Output signal / Supply													
Standard			20 mA /				SIL-version:						
Option IS-protection			20 mA /				SIL-version:	V _S = 14 2	8 V _{DC}				
Options 3-wire			20 mA /	0									
		0	10 V /	V _S = 14	. 30 V _{DC}								
Performance													
Accuracy ¹		standard:	nominal pre	ssure < 0.4 k	bar: $\leq \pm 0$.	50 % FSO							
			nominal pre			35 % FSO							
			nominal pre			25 % FSO							
Demosiacible laced			for all nomin			10 % FSO							
Permissible load		current 2-wi) / 0.02 A] Ω								
		current 3-wi voltage 3-wi		: 240 Ω 10 kΩ									
Influence effects							load: 0.05 %	(ESO / kO					
Long term stability		supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ											
		≤ ± 0.1 % FSO / year at reference conditions 2-wire: ≤ 10 msec 3-wire: ≤ 3 msec											
Response time 2-wire: ≤ 10 msec 3-wire: ≤ 3 msec ¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability) 3-wire: ≤ 3 msec													
Thermal effects (Offset and				inty, nysteresi	s, repeatability)								
•	[bar]	·)	-1 0		< (10		≥ 0.40					
	-SO]												
in compensated range	[°C]												
Permissible temperatures	[0]		20 00		0	. 70		20 00	,				
Permissible temperatures		medium: electronics / storage:	environmen	-40 12 t: -40 8 -40 10	5 °C								
Electrical protection		<u>U</u>											
Short-circuit protection		permanent											
Reverse polarity protection			but also no	function									
Electromagnetic compatibility			d immunity a		EN 61326								
Mechanical stability													
Vibration		10 a RMS ()	25 2000 H	z) accordin	g to DIN EN 6	0068-2-6							
Shock		500 g / 1 ms		,	g to DIN EN 6								
Materials													
Pressure port		stainless ste	el 1.4404 (3	16 L)									
Housing			el 1.4404 (3	,									
Option compact field housing				,	land M12x1.5	, brass, nicke	el plated (clar	nping range	2 8 mm)				
Seals		standard:	· · ·										
			EPDM										
			velded version		40 bar)		oth	ers on reque	st				
Diaphragm			el 1.4435 (3										
Media wetted parts		•	rt, seals, dia										
² welded version only with pressur				40 bar									
Explosion protection (only f	for 4			/ 1505									
Approvals DX19-DMP 331		zone 0: I	I 1G Ex ia II	C T4 Ga	3E 12.0027X								
	L.		I 1D Ex ia III										
Safety technical maximum val	iues	the supply c	onnections h	nave an inne	C _i ≈ 0 nF, L _i ≈ r capacity of r	nax. 27 nF to							
Permissible temperatures for environment		in zone 0:	-20 higher: -20		h p _{atm} 0.8 bar	up to 1.1 ba	r						
Connecting cables (by factory	()	cable capac			d also signal	line/signal lin	e [.] 160 nF/m						
	·)	cable induct			d also signal								

Miscellaneous		
Option SIL2 version ³	according to IEC 61508 / IEC 61511	
Current consumption	signal output current: max. 25 mA	signal output voltage: max. 7 mA
Weight	approx. 200 g	
Installation position	any ⁴	
Operational life	100 million load cycles	
CE-conformity	EMC Directive: 2014/30/EU	
ATEX Directive	2014/34/EU	
2		

 3 only for 4 \ldots 20 mA / 2-wire, not in combination with accuracy 0.1 %

⁴ Pressure transmitters are calibrated in a vertical position with the pressure connection down. If this position is changed on installation there can be slight deviations in the zero point for pressure ranges P_N ≤ 1 bar.







Pin configuration

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1/ metal	Bayonet MI (10-		compact field housing	cable colours (IEC 60757)
		(5-pin)	(4-pin)	2-wire	3-wire	neiu nousing	(IEC 00757)
Supply +	1	3	1	A	A	IN +	WH (white)
Supply –	2	4	2	B	D	IN –	BN (brown)
Signal + (for 3-wire)	3	1	3	-	В	OUT +	GN (green)
Shield	ground	E	4	procesu	ro port	-	GNYE
Silleid	pin 😇	5	4	pressu	le port	۲	(green-yellow)

M12x1

Electrical connections (dimensions in mm)



ISO 4400 (IP 65)





Binder series 723 5-pin (IP 67)



(IP 67)



Ø34.5



10.5





0

Ø34.5

0.5

15



cable outlet, cable with ventilation tube (IP 68) ⁶

⇒ universal field housing stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

⁵ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)
 ⁶ different cable types and lengths available, permissible temperature depends on kind of cable



	0	rderir	n <u>g</u> (cod	e D	MF	o 3	31							
DMP 331]-[]]		- 🗌	-	-[]	Τ]-[Ι	Ι	-[]-[Γ		
Pressure gauge	1 1 0														
absolute 1	1 1 0 1 1 1			_	_										
Input [bar] 0.10 ¹	_	1 0	0 0												
0.16 1		1 6	0 0												
0.25 ¹ 0.40		2 5 4 0	0000												
0.60		6 0	0 0												
1.0 1.6			0 1 0 1												
2.5		2 5	0 1												
4.0 6.0		4 0 6 0	0 1 0 1												
10		1 0	0 2												
16 25		1 6 2 5	0 2 0 2												
40		4 0	0 2 0 2 0 2												
60		6 0	0 2												
-1 0 customer		X 1 9 9	02 99												consult
Output		,1-1													
4 … 20 mA / 2-wire 0 … 20 mA / 3-wire				1 2											
0 10 V / 3-wire				3											
intrinsic safety 4 20 mA / 2-wire SIL2 4 20 mA / 2-wire				E 1S											
SIL2 with intrinsic safety				ES											
4 20 mA / 2-wire customer				9											consult
Accuracy				5											consult
standard for $P_N \ge 0.4$ bar: 0.35 % FSO standard for $P_N < 0.4$ bar: 0.50 % FSO					3 5										
standard for $P_N < 0.4$ bar: 0.50 % FSO option 1 for $P_N \ge 0.4$ bar: 0.25 % FSO					5 2										
option 2: 0.10 % FSO ²					1										
customer Electrical connection					9										consult
male and female plug ISO 4400							0 0								
male plug Binder series 723 (5-pin) cable outlet with PVC cable (IP67) ³						2 T	0 0 A 0								
cable outlet,							R 0								
cable with ventilation tube (IP68) ⁴ male plug M12x1 (4-pin) / metal						M	1 0								
Bayonet MIL-C-26482 (10-6); 2 wire						в	G 0)							
Bayonet MIL-C-26482 (10-6); 3 wire compact field housing							G 4								
stainless steel 1.4301 (304)							5 0								
Customer Mechanical connection	_	_				9	99								consult
G1/2" DIN 3852	_	_	_	_	_	_	-	-	1 (0 0					
G1/2" EN 837									2 (0 0 0					
G1/4" DIN 3852 G1/4" EN 837									3 (0 0					
G1/2" DIN 3852										0 0					
with flush sensor ⁵ G1/2" DIN 3852 open pressure port ⁵									H (
1/2" NPT									N (0 0					
1/4" NPT customer									N 4	4 0 9 9					consult
Seals									010	510					Contrait
FKM EPDM											1				
without (welded version) ^{5, 6}											3 2 9				
customer											9				consult
Special version standard												0	0	0	
customer												9	9	9	consult

¹ absolute pressure possible from 0.4 bar

² not in combination with SIL

³ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C), others on request

 4 code TR0 = PVC cable, cable with ventilation tube available in different types and lengths 5 only for $P_N \le 40$ bar

⁶ welded version only with pressure ports according to EN 837

INDUSTRIAL PRESSURE TRANSMITTER



DMP 333

Industrial Pressure Transmitter for High Pressure

Stainless Steel Sensor

accuracy according to IEC 60770: standard: 0.35 % FSO option: 0.25 / 0.1 % FSO

Nominal pressure

from 0 ... 100 bar up to 0 ... 600 bar

Output signals

2-wire: 4 ... 20 mA 3-wire: 0 ... 20 mA / 0 ... 10 V others on request

Special characteristics

- excellent long-term stability, also with high dynamic pressure loads
- insensitive to pressure peaks
- high overpressure capability

Optional versions

- IS-version
 Ex ia = intrinsically safe for gases and dusts
- SIL 2 version according to IEC 61508 / IEC 61511
- customer specific versions

The pressure transmitter type DMP 333 has been especially designed for use in hydraulic applications with high static and dynamic pressure. The transmitter is characterized by an excellent long term stability, also under fast changing pressure as well as positive and negative pressure peaks.

The modular concept of the device allows to combine different stainless steel sensors and electronic modules with a variety of electrical and mechanical versions. Thus a diversity of variations is created, meeting almost all requirements in hydraulic applications.

Preferred areas of use are



<u>Plant and machine engineering</u> Machine tools Hydraulic presses Injection moulding machine Handling equipment Elevated platforms Test benches



Mobile hydraulics



Input pressure range						
Nominal pressure		100	160	250	400	600
gauge ¹ / abs.	[bar]	100	100	250	400	000
Overpressure	[bar]	210	600	1000	1000	1000
Burst pressure ≥	[bar]	1000	1000	1250	1250	1800
¹ measurement starts with ambien	nt press	sure				
Output signal / Supply						
Standard			mA / V _s = 832		on: V _S = 14 28 V _D	
Option IS-protection			$mA / V_s = 10 \dots 28$		on: V _S = 14 28 V _D	с
Options 3-wire			$mA / V_s = 14 \dots 30$			
Performance		0 10 \	/ / V _s = 14 30	V _{DC}		
Accuracy ²		standard: ≤ ± 0.3	5 % ESO			
roouracy			5 % FSO			
		option 2: $\leq \pm 0.1$				
Permissible load		•	$R_{max} = [(V_S - V_{S min})]$	0.02 ALO		
			$R_{max} = 240 \Omega$	··· · ·]		
			$R_{min} = 10 k\Omega$			
Influence effects		supply: 0.05 % FSC				
		load: 0.05 % FSC				
Long term stability			ar at reference condi	tions		
Response time		2-wire: ≤ 10 msec				
		3-wire: ≤ 3 msec				
² accuracy according to IEC 6077	70 — limi	t point adjustment (non-	linearity, hysteresis, re	peatability)		
Thermal effects (Offset and	l Span)				
Tolerance band						
in compensated range		0 70 °C				
Permissible temperatures	!					
Permissible temperatures		medium:	-40 125 °	2		
			ment: -40 85 °			
		storage:	-40 100 °	C		
Electrical protection						
Short-circuit protection		permanent				
Reverse polarity protection		no damage, but also	o no function			
Electromagnetic compatibility	/		nity according to EN	61326		
Mechanical stability						
Vibration		10 g RMS (25 20	00 Hz) according to	DIN EN 60068-2-6		
Shock			according to			
Materials						
Pressure port		stainless steel 1.440)4 (316 L)			
Housing		stainless steel 1.440	· /			
Option compact field housing	1			d M12x1.5. brass. n	ickel plated (clampin	g range 2 8 mm)
Seals	,	standard: FKM	or (corr), cable glain			.g .age e
			for P _N ≤ 160 bar)		others	on request
Diaphragm		stainless steel 1.443				
Media wetted parts		pressure port, seals				
Explosion protection (only	for 4.		· · ·			
Approvals		,	68 X / IECEx IBE	12.0027X		
DX19-DMP 333			ia IIC T4 Ga			
			ia IIIC T 85°C Da			
Safety technical maximum va	alues		mA, P _i = 660 mW, C _i	≈0 nF, Li≈0 uH.		
			ons have an inner ca		F to the housing	
Permissible temperatures for		in zone 0:		p _{atm} 0.8 bar up to 1.1		
environment		in zone 1 or higher:				
Connecting cables (by factor	v)	cable capacitance:		lso signal line/signa	l line: 160 pF/m	
	.,	cable inductance:	•	lso signal line/signa	•	
				and an an an an angli a		



⁷ different cable types and lengths available, permissible temperature depends on kind of cable

DMP 333 Technical Data

Mechanical connections (dimensions in mm)



		Ord	derir	ng c	:od	e D	MP) 3	33							
DM	P 333	-			-	-	- 🗌]-[<u></u> .	- 🗌	-[
Pressure	gauge ¹	130														
	absolute	1 3 0 1 3 1														
Input	[bar]															
	100		1 0	0 3												
	160		1 0 1 6 2 5 4 0	0 3												
	250		2 5	0303												
	400		4 0	0 3												
	600 customer		6 0 9 9	0399												
Output	customer		9 9	9 9												consult
Output	4 20 mA / 2-wire	_		_	1								-			
	0 20 mA / 3-wire				2											
	0 10 V / 3-wire				3											
intrinsic safe	ety 4 20 mA / 2-wire				Ē											
SII	L2 4 20 mA / 2-wire				1S											
SIL	2 with Intrinsic safety				ES											
	4 20 mA / 2-wire															
	customer			_	9								_			consult
Accuracy						0										
standard:	0.35 % FSO					3										
option 1:	0.25 % FSO 0.10 % FSO ²					2 1										
option 2:	customer					9										consult
Electrical connect						5										Consult
	female plug ISO 4400			_	_	_	1	0 0)				_			
	nder series 723 (5-pin)							0 0								
	with PVC cable (IP67) ³							A 0)							
	cable outlet,							R 0								
cable with	ventilation tube (IP68) 4															
	g M12x1 (4-pin) / metal						M	1 0)							
	C-26482 (10-6); 2 wire						В	G 0								
	C-26482 (10-6); 3 wire						В	G 4								
	compact field housing less steel 1.4301 (304)						8	5 0								
Stairi	customer						٩	9 9								consult
Mechanical conne							3	3 3	·							Consult
incontantoar contro	G1/2" DIN 3852			_	_	_	_	_	_	1 0	0		_			
	G1/2" EN 837									2 0	0					
	G1/4" DIN 3852									3 0	0					
	G1/4" EN 837									4 0	0					
	1/2" NPT									N 0 9 9	0					
	customer									99	9					consult
Seals																
	FKM EPDM ⁵											1				
	customer											3 9				consult
Special version	Customer											9				Consult
opecial version	standard												0	0	0	
	customer													9	9	consult
														, ,	1 -	

¹ measurement starts with ambient pressure

² not in combination with SIL

 3 standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

⁴ code TR0 = PVC cable, cable with ventilation tube available in different types and lengths

 5 possible for nominal pressure ranges $P_{\text{N}} \leq 160$ bar

⁸ INDUSTRIAL PRESSURE TRANSMITTER



DMP 339

Industrial Pressure Transmitter

Stainless Steel Sensor

accuracy according to IEC 60770: 0.35 % FSO

Nominal pressure

from 0 ... 60 bar to 0 ... 600 bar

Output signals

2-wire: 4 ... 20 mA 3-wire: 0 ... 20 mA / 0 ... 10 V others on request

Special characteristics

- mechanical connection: G ¼" flush
- suitable for viscous and pasty media

Optional versions

- IS-version
 Ex ia = intrinsically safe for gases and dusts
- several electrical connections
- customer specific versions

The DMP 339 industrial pressure transmitter features a G $\frac{1}{4}$ " flush pressure port and was designed for the use in a range of machinery including metering systems. It is ideal for measuring the pressure of viscous and pasty media, as only a small dead space is created.

Material accumulation, dripping and stringing in machinery is eliminated. This increases the efficiency and reliability of your machines.

The DMP 339 is available with various electrical connections, ensuring an excellent adaption to the application conditions.

Preferred areas of use are:



Plant and machine engineering - especially conveyor plants and dosing systems



Input pressure range ¹											
			1								
Nominal pressure	60	100	160	250	400	600 ²					
gauge / abs. [bar] Overpressure [bar]	•	210	600	600	1050	1050					
· · ·		300	750	750	1200	1400					
Burst pressure ≥ [bar]	1	300	750	750	1200	1400					
¹ nominal pressure P _N < 60 bar on require ² nominal pressure 600 bar without UL											
Output signal / Supply											
Standard	2-wire: 4 2	$20 \text{ mA} / \text{V}_{\text{S}} =$	8 32 V _{DC}								
Option IS-version	2-wire: 4 2	20 mA / V _s =	10 28 V _{DC}								
Options 3-wire	3-wire: 0 2	3-wire: 0 20 mA / V_s = 14 30 V_{DC} 0 10 V / V_s = 14 30 V_{DC}									
Performance											
Accuracy ³	≤ ± 0.35 % FSO										
Permissible load		current 2-wire: $R_{max} = [(V_S - V_{S min}) / 0.02 A] \Omega$									
	current 3-wire:		, iiiii) / 0.0 2 / 1 -2	volta	ge 3-wire: R _{min} =	= 10 kΩ					
Influence effects	supply: 0.05 % F				0.05 % FSO / k						
Long term stability	≤ ± 0.1 % FSO /		ce conditions								
Response time	2-wire: ≤ 10 mse			3-wir	e: ≤ 3 msec						
³ accuracy according to IEC 60770 – li			eresis, repeatability)	0 111	0. = 0 11000						
Thermal effects (Offset and Spa			,								
Tolerance band	≤ ± 1 % FSO										
in compensated range	-20 85 °C										
	-20 05 0										
Permissible temperatures	10.1	25.00			0	400.00					
Permissible temperatures	medium: -40 1	25°C ele	ectronics / environ	ment: -40 85 °	c storage	e: -40 100 °C					
Electrical protection											
Short-circuit protection	permanent										
Reverse polarity protection	no damage, but										
Electromagnetic compatibility	emission and im	munity accordin	g to EN 61326								
Mechanical stability											
Vibration	10 g RMS (25	2000 Hz) ac	cording to DIN EN	60068-2-6							
Shock	100 g / 11 msec		cording to DIN EN								
Materials											
Pressure port	etainless steel 1	4548 (17 A DH	ERS) for G1/4" flu	ch (DIN 3852)							
Housing	stainless steel 1.			SII (DIN 3052)							
<u>v</u>		· /	bla aland M10v1 F	hrana niakal nlat	ad (alamaina rar						
Option compact field housing			ble gland M12x1.5	, brass, flicker pla	eu (clamping rai						
Seals	FKM; others on I	•									
Diaphragm	stainless steel 1.	. ,									
Media wetted parts	pressure port, di										
Explosion protection (only for 4)									
Approvals											
DX19-DMP 339	zone 0: II 1G	1068 X / IEC Exia IIC T4 Ga	a								
DX19-DMP 339	zone 0: II 1G zone 20: II 1D	Ex ia IIC T4 Ga Ex ia IIIC T 85°	a °C Da	0.11.0							
DX19-DMP 339 Safety technical maximum values	zone 0: II 1G zone 20: II 1D U _i = 28 V _{DC} , I _i = 9	Ex ia IIC T4 Ga Ex ia IIIC T 85° 93 mA, P _i = 660	a °C Da mW, C _i ≈ 0 nF, L _i		nF						
DX19-DMP 339	zone 0: II 1G zone 20: II 1D	Ex ia IIC T4 Ga Ex ia IIIC T 85° 33 mA, P _i = 660 -20 60 °(er: -20 70 °(a °C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C	up to 1.1 bar							
DX19-DMP 339 Safety technical maximum values	zone 0: II 1C zone 20: II 1D U _i = 28 V _{DC} , I _i = 9 in zone 0:	E x ia IIC T4 Ga Ex ia IIIC T 85 3 mA, P _i = 660 -20 60 °(er: -20 70 °(ce: signal line/	a °C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar	up to 1.1 bar line/signal line: 16	0 pF/m						
DX19-DMP 339 Safety technical maximum values Ambient temperature range	zone 0: II 1G zone 20: II 1D $U_i = 28 V_{DC}, I_i = 9$ in zone 0: in zone 1 or high cable capacitance	E x ia IIC T4 Ga Ex ia IIIC T 85 3 mA, P _i = 660 -20 60 °(er: -20 70 °(ce: signal line/	a °C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C dshield also signal	up to 1.1 bar line/signal line: 16	0 pF/m						
DX19-DMP 339 Safety technical maximum values Ambient temperature range Connecting cables (by factory)	zone 0: II 1G zone 20: II 1D $U_i = 28 V_{DC}$, $I_i = 9$ in zone 0: in zone 1 or high cable capacitance cable inductance	Ex ia IIC T4 Ga Ex ia IIIC T 85 3 mA, P _i = 660 -20 60 °C er: -20 70 °C e: signal line/ : signal line/	a °C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C ′shield also signal ′shield also signal	up to 1.1 bar line/signal line: 16 line/signal line: 1 ן	0 pF/m IH/m						
DX19-DMP 339 Safety technical maximum values Ambient temperature range Connecting cables (by factory) Miscellaneous Current consumption	zone 0: II 1G zone 20: II 1D U _i = 28 V_{DC} , I _i = 9 in zone 0: in zone 1 or high cable capacitance cable inductance	Ex ia IIC T4 Ga Ex ia IIIC T 85 3 mA, P _i = 660 -20 60 °C er: -20 70 °C e: signal line/ : signal line/	a °C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C ′shield also signal ′shield also signal	up to 1.1 bar line/signal line: 16	0 pF/m IH/m						
DX19-DMP 339 Safety technical maximum values Ambient temperature range Connecting cables (by factory) Miscellaneous Current consumption Weight	zone 0: II 1G zone 20: II 1D $U_i = 28 V_{DC}$, $I_i = 9$ in zone 0: in zone 1 or high cable capacitance cable inductance signal output cur approx. 120 g	Ex ia IIC T4 Ga Ex ia IIIC T 85 3 mA, P _i = 660 -20 60 °C er: -20 70 °C e: signal line/ : signal line/	a °C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C ′shield also signal ′shield also signal	up to 1.1 bar line/signal line: 16 line/signal line: 1 ן	0 pF/m IH/m						
DX19-DMP 339 Safety technical maximum values Ambient temperature range Connecting cables (by factory) Miscellaneous Current consumption Weight Installation position	zone 0: II 1G zone 20: II 1D U _i = 28 V _{DC} , I _i = 9 in zone 0: in zone 1 or high cable capacitance cable inductance signal output cur approx. 120 g any 4	Ex ia IIC T4 Ga Ex ia IIIC T 85 3 mA, P _i = 660 -20 60 °(er: -20 70 °(ce: signal line/ :: signal line/ rrent: max. 25 m	a °C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C ′shield also signal ′shield also signal	up to 1.1 bar line/signal line: 16 line/signal line: 1 ן	0 pF/m IH/m						
DX19-DMP 339 Safety technical maximum values Ambient temperature range Connecting cables (by factory) Miscellaneous Current consumption Weight Installation position Operational life	zone 0: II 1G zone 20: II 1D U _i = 28 V _{DC} , I _i = 9 in zone 0: in zone 1 or high cable capacitance cable inductance signal output cur approx. 120 g any 4 100 million load	Ex ia IIC T4 Ga Ex ia IIIC T 85° 33 mA, P _i = 660 -20 60 °C eer: -20 70 °C ee: signal line/ e: signal line/ rent: max. 25 m	a [®] C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C 'shield also signal 'shield also signal A signal	up to 1.1 bar line/signal line: 16 line/signal line: 1 µ output voltage: ma	0 pF/m IH/m IX. 7 mA						
DX19-DMP 339 Safety technical maximum values Ambient temperature range Connecting cables (by factory) Miscellaneous Current consumption Weight Installation position Operational life CE-conformity	 zone 0: II 1G zone 20: II 1D U_i = 28 V_{DC}, I_i = 9 in zone 0: in zone 1 or high cable capacitance cable inductance signal output cur approx. 120 g any ⁴ 100 million load EMC Directive: 2 	Ex ia IIC T4 Ga Ex ia IIIC T 85° 33 mA, P _i = 660 -20 60 °C eer: -20 70 °C ee: signal line/ e: signal line/ rent: max. 25 m	a [®] C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C 'shield also signal 'shield also signal A signal	up to 1.1 bar line/signal line: 16 line/signal line: 1 ן	0 pF/m IH/m IX. 7 mA	:U (module A) ⁵					
DX19-DMP 339 Safety technical maximum values Ambient temperature range Connecting cables (by factory) Miscellaneous Current consumption Weight Installation position Operational life CE-conformity ATEX Directive	zone 0: II 1G zone 20: II 1D U _i = 28 V _{DC} , I _i = 9 in zone 0: in zone 1 or high cable capacitance cable inductance signal output cur approx. 120 g any 4 100 million load EMC Directive: 2 2014/34/EU	Ex ia IIC T4 Ga Ex ia IIIC T 85° 23 mA, Pi = 660 -20 60 °C eer: -20 70 °C ee: signal line/ e: signal line/ erent: max. 25 m cycles 2014/30/EU	a [®] C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C shield also signal shield also signal A signal Pressu	up to 1.1 bar line/signal line: 16 line/signal line: 1 µ output voltage: ma	0 pF/m IH/m IX. 7 mA	U (module A) ⁵					
DX19-DMP 339 Safety technical maximum values Ambient temperature range Connecting cables (by factory) Miscellaneous Current consumption Weight Installation position Operational life CE-conformity ATEX Directive ⁴ Pressure transmitters are calibrated is ⁵ This directive is only valid for devices	zone 0: II 1G zone 20: II 1D $U_i = 28 V_{DC}$, $I_i = 9$ in zone 0: in zone 1 or high cable capacitance cable inductance signal output cur approx. 120 g any ⁴ 100 million load EMC Directive: 2 2014/34/EU in a vertical position w	Ex ia IIC T4 Ga Ex ia IIIC T 85° 23 mA, P _i = 660 -20 60 °C er: -20 70 °C e: signal line/ e: signal	a ^b C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C shield also signal shield also signal A signal Pressu	up to 1.1 bar line/signal line: 16 line/signal line: 1 µ output voltage: ma	0 pF/m IH/m IX. 7 mA	U (module A) ⁵					
DX19-DMP 339 Safety technical maximum values Ambient temperature range Connecting cables (by factory) Miscellaneous Current consumption Weight Installation position Operational life CE-conformity ATEX Directive ⁴ Pressure transmitters are calibrated in	zone 0: II 1G zone 20: II 1D $U_i = 28 V_{DC}$, $I_i = 9$ in zone 0: in zone 1 or high cable capacitance cable inductance signal output cur approx. 120 g any ⁴ 100 million load EMC Directive: 2 2014/34/EU in a vertical position w	Ex ia IIC T4 Ga Ex ia IIIC T 85° 23 mA, P _i = 660 -20 60 °C er: -20 70 °C e: signal line/ e: signal	a ^b C Da mW, C _i ≈ 0 nF, L _i C with p _{atm} 0.8 bar C shield also signal shield also signal A signal Pressu	up to 1.1 bar line/signal line: 16 line/signal line: 1 µ output voltage: ma	0 pF/m IH/m IX. 7 mA	U (module A) ⁵					

DMP 339 Technical Data



DMP 339 Imput <		Ordering co	ode Dl	MP 3	339			
gauge 1 3 5 1 <td>DMP 339</td> <td></td> <td>]-[]- </td> <td></td> <td> -[]</td> <td><u> </u></td> <td>]-[]]</td> <td>]</td>	DMP 339]-[]-		-[]	<u> </u>]-[]]]
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4 20 mA / 2-wire 1		9 9 9 9						consult
0 20 mA / 3-wire 2 1			1					
0 10 V / 3-wire 3 0								
intrinsic safety 4 20 mA / 2-wire E I			3					
Accuracy Image: Construct of the second			F					
0.35 % FSO 3 3 4 4 4 4 6	5		9					consult
customer 9 0<	Accuracy							
Electrical connection 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 1 0 1	0.35 % FSO		3					
male and female plug ISO 4400 1 0 <t< td=""><td>customer</td><td></td><td>9</td><td></td><td></td><td></td><td></td><td>consult</td></t<>	customer		9					consult
male plug Binder series 723 (5-pin) 2 0 0 1								
cable outlet with PVC cable (IP67) 3 T A 0 I								
cable outlet, cable with ventilation tube (IP68) 4TR0I0IIImale plug M12x1 (4-pin) / metalM10IIIIIIcompact field housing stainless steel 1.4301 (304)850IIIIIMechanical connection999IIIIIIMechanical connectionF02IIIIG1/4" DIN 3852 with flush sensor customerF02IIISealsIIIIIIISealsFKMI1IIIISpecial version999IIISpecial versionIIIIIIStandardIIIIIIStandardII </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
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G1/4" DIN 3852 with flush sensor customer F 0 2 I I I Seals I I I I I I Special version I I I I I I Standard I I I I I I I I Special version I I I I I I I I Special version I			_	9 9 9 9				consult
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standard 0 0 customer 9 9 9			_					
customer 9 9 9 consult	standard						0 0 0	
	customer						999	consult

 $^{\rm 1}$ nominal pressure gauge $\rm P_N < 60~$ bar on request

² nominal pressure 600 bar without UL certification

 3 standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 \dots 70°C), others on request

⁴ code TR0 = PVC cable, cable with ventilation tube available in different types and lengths

02 INDUSTRIAL PRESSURE TRANSMITTER



DMP 335

Industrial Pressure Transmitter

Welded, Dry Stainless Steel Sensor

accuracy according to IEC 60770: 0.5 % FSO

Nominal pressure

from 0 ... 6 bar up to 0 ... 600 bar

Output signals

2-wire: 4 ... 20 mA 3-wire: 0 ... 10 V others on request

Special characteristics

- suitable for oxygen applications
- insensitive to pressure peaks
- high overpressure capability

Optional versions

- IS-version
 Ex ia = intrinsically safe for gases and dusts
- customer specific versions

The industrial pressure transmitter DMP 335 is based on a welded stainless steel pressure sensor without fluid.

This characteristic has a special advantage with applications where silicone oil or elastomeric seals cannot be used.

Preferred areas of use are

- G
- Medical technology



Plant and machine engineering



Commercial vehicles and mobile hydraulics



Refrigeration



Oxygen application



DMP 335 Technical Data

Input pressure range Nominal pressure gauge	[bar] 6	10	16	25	40	60	100	160	250	400	600
	[bar] 12	20	32	50	80	120	200	320	500	800	1 200
	[bar] 30	50	80	125	200	300	500	800	1 400	2 000	3 000
Vacuum resistance	unlimite						000				0.000
		-									
Output signal / Supply											
Standard	2-wire:	4 2	0 mA /	V _s = 8	32 Vpc						
Option IS-version	2-wire:			$V_{\rm S} = 10$							
Option 3-wire	3-wire:			V _S = 14							
Performance	o wire.	01	0 1	VS 1-1	00 • DC						
Accuracy ¹	≤ ± 0.5 °	% ESO									
Permissible load			D - [/	V _S – V _{S min}		0					
) / 0.02 A	1 2 2					
voltage 3-wire: R _{min} = 10 kΩ Influence effects supply: 0.05 % FSO / 10 V											
	load:										
Long term stability				eference c	onditions						
Response time		10 mse			onunono						
	-	≤ 3 msec	•								
¹ accuracy according to IEC 60770			on-linearit	y, hysteresi	s, repeatab	ility)					
Thermal effects (Offset and					<u>.</u>	• /					
Thermal error		FSO / 10	K								
in compensated range	0 70										
Permissible temperatures	0	-									
Permissible temperatures	medium			-40	125 °C						
			ronment:		85 °C						
	storage:		i oninioni.		100 °C						
Electrical protection	UUUUUUUUUU_										
Short-circuit protection	perman	ent									
Reverse polarity protection		no damage, but also no function									
Electromagnetic compatibility		-		cording to	EN 6132	6					
Mechanical stability											
Vibration	20 a RM	IS (25	2000 Hz) acco	ordina to [DIN EN 6	0068-2-6				
Shock	500 g / 1						0068-2-2				
Materials					U						
Pressure port	stainles	s steel 1.	4571 (31	6 Ti)							
Housing			4404 (31	,							
Option compact field housing				4); cable	aland M1	2x1.5 bra	ass nicke	el plated (clamping	range 2	8 mm
Seals	none (w			.), cabie	9.4.14			. p.a.c.a (oloniping.		
Diaphragm		,	4542 (17	-4PH)							
Media wetted parts	pressure										
Explosion protection (only f											
Approvals				/ IECEx	IBE 12.00	127¥					
DX19-DMP 335	zone 0:			C T4 Ga	IDE 12.00	217					
	zone 20			IC T 85°C	Da						
Safety technical maximum val				= 660 mV		IF. L;≈0	uН.				
	the supp	bly conne	ctions ha	ive an inne	er capacit	y of max.	27 nF to	the hous	sing		
Permissible temperatures for	in zone			·20 60 °							
environment		1 or high	er: -	20 70 °	С		•				
Connecting cables (by factory	·	pacitanc		signal line/							
	cable in	ductance	: 8	signal line/	shield als	o signal l	ine/signa	l line: 1 μ	H/m		
Miscellaneous											
Current consumption	0	utput curr		max. 25 m							
	signal or		age: I	max. 7 mA	۱						
Weight	approx.	140 g									
Installation position	any										
Operational life		on load o	-								
CE-conformity	EMC Dir										
	Pressure	e Equipm	ent Direc	tive: 2014	/68/EU (r	nodule A) 2				
ATEX Directive	2014/34	· - · ·									

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⁴ different cable types and lengths available, permissible temperature depends on kind of cable



Mechanical connections (dimensions in mm)

	Ordering code DMP 335
DMP 335	
Pressure	
Input [bar]	
6	6 0 0 1
10	
16	
25	
40	4 0 0 2
60	6 0 0 2 1 0 0 3 1 6 0 3 2 5 0 3
100	
160	
250 400	2 5 0 3 4 0 0 3
600	
customer	6 0 0 3 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
Output	
4 20 mA / 2-wire	1
0 10 V / 3-wire	3
intrinsic safety 4 20 mA / 2-wire	E I I I I I I I I I I I I
customer	9 Consult
Accuracy	
0.5 % FSO	5 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Electrical connection	9 consult
male and female plug ISO 4400	1 0 0
male plug Binder series 723 (5-pin)	
cable outlet with PVC cable (IP67) ¹	
cable outlet,	
cable with ventilation tube (IP68) ²	
male plug M12x1 (4-pin) / metal	M 1 0
compact field housing	8 5 0
stainless steel 1.4301 (304)	
customer	9 9 9 consult
Mechanical connection	
G1/2" EN 837 G1/4" EN 837	2 0 0 4 0 0
1/4" NPT	
customer	N 4 0 9 9 9 0 consult
Seals	
without (welded version)	2
customer	2 2 9 2 consult
Special version	
standard	0 0 0 9 9 9 consult
customer	9 9 9 consult

 1 standard: 2 m PVC cable without ventilation tube (permissible temperatur: -5 ... 70 °C) 2 code TR0 = PVC cable, cable with ventilation tube available in different types and lengths

INDUSTRIAL PRESSURE TRANSMITTER



DMP 334

Industrial Pressure Transmitter for High Pressure

Thinfilm Sensor

accuracy according to IEC 60770: 0.35 % FSO

Nominal pressure

from 0 ... 600 bar up to 0 ... 2200 bar

Analogue output

2-wire: 4 ... 20 mA 3-wire: 0 ... 10 V others on request

Special characteristics

- extremely robust and excellent long-term stability
- welded pressure sensor

Optional versions

- IS-version
 Ex ia = intrinsically safe for gases and dusts
- pressure port: M20 x 1.5 or 9/16 UNF
- adjustability of span and offset
- different kinds of electrical connections

The industrial pressure transmitter DMP 334 has been especially designed for use in hydraulic systems up to 2200 bar. The base element of DMP 334 is a thinfilm sensor, which is welded with the pressure port and meets high demands of operational safety and reliability.

These characteristics and the excellent measurement data of DMP 334 as well as distinguished offset stability offer a pressure transmitter with easy handling, reliability and robustness for hydraulic user. The DMP 334 is deliverable with standard HP connections.

Preferred areas of use are



Plant and machine engineering



Commercial vehicles and mobile hydraulics



Input pressure range		· ·			
Nominal pressure gauge	[bar] 600 ¹	1000	1600	2000	2200
Overpressure	[bar] 800	1400	2200	2800	2800
Burst pressure ≥	[bar] 3000	4000	6000	6000	6000
only available with pressure por	t G1/2" EN 837				
Output signal / Supply					
Standard		20 mA / $V_s = 12 3$			
Option IS-protection		20 mA / $V_s = 14 2$			
Option 3-wire	3-wire: 0	$\dots 10 \text{ V}$ / $V_{\text{S}} = 14 \dots 3$	0 V _{DC}		
Performance					
Accuracy ²	≤ ± 0.35 % F				
Permissible load	current 2-wir voltage 3-wir		n) / 0.02 A] Ω		
Influence effects	supply: 0.05	5 % FSO / 10 V		oad: 0.05 % FSO / k	Ω
Long term stability	≤ ± 0.2 % FS	O / year at reference conc	litions		
Response time	< 5 msec				
Adjustability	influence of o	of offset is possible within t characteristic curve and ac	curacy.	the nominal pressure	e range, without an
² accuracy according to IEC 6077			epeatability)		
Thermal effects (Offset and					
Thermal error	≤ ± 0.25 % F		nsated range -20 8		
Permissible temperatures	medium: -40	140 °C electronic	s / environment: -40 .	85 °C stor	age: -40 100 °C
Electrical protection					
Short-circuit protection	permanent				
Reverse polarity protection	no damage,	but also no function			
Electromagnetic compatibility	emission and	immunity according to EN	N 61326		
Mechanical stability					
Vibration	10 g RMS (2	0 2000 Hz) according	to DIN EN 60068-2-0	6	
Shock	100 g / 11 m		to DIN EN 60068-2-2		
Materials					
Pressure port	stainless ste	el 1.4542 (17-4 PH)			
Housing		el 1.4404 (316L)			
Option compact field housing		el 1.4301 (304); cable gla	nd M12x1.5. brass. ni	ickel plated (clampin	o range 2 8 mm
Seals	none (welde	()· U	,,,,	····· [····· [·····	<u></u>
Diaphragm	· · ·	el 1.4542 (17-4 PH)			
Vedia wetted parts	pressure por	(/			
Explosion protection (only					
Approvals		EX 1068 X / IECEX IBE	12 0027X		
DX19-DMP 334	zone 0: I	I 1G Ex ia IIC T4 Ga I 1D Ex ia IIIC T 85°C Da	12.00277		
Safety technical maximum va		$_{i} = 93 \text{ mA}, P_{i} = 660 \text{ mW}, C$	C _i ≈0 nF, L _i ≈0 μH,		
•		onnections have an inner c		⁼ to the housing	
Permissible temperatures for environment	in zone 0: in zone 1 or		vith p _{atm} 0.8 bar up to	1.1 bar	
Connecting cables (by factory	 cable capaci cable inducta 		eld also signal line/sig eld also signal line/sig		
Viscellaneous					
Current consumption	signal output signal output				
Weight	approx. 240				
nstallation position	any				
Operational life	p _N = 600 bar	100 million load cycles	p _N > 600 bar: 10 m	nillion load cycles	
CE-conformity	EMC Directiv	ve: 2014/30/EU	Pressure Equipme	ent Directive: 2014/68	/EU (module A)
ATEX Directive	2014/34/EU				· · ·
Wiring diagrams					
2-wire-system (current)			e-system (current / voltag		
p supply +			supply +		


	Ordering c	code DMP 3	334	
DMP 334				—
Pressure				
Input [bar]	1 4 0			
600 ¹	6 0 0 3			
1000	1 0 0 4			
1600	1 6 0 4			
2000	2 0 0 4			
2200	2 0 0 4 2 2 0 4 9 9 9 9			
customer	9999			consult
Output 4 20 mA / 2-wire		1		
4 20 mA / 2-wire 0 10 V / 3-wire		1		
intrinsic safety 4 20 mA / 2-wire		3 E		
customer		9		consult
Accuracy		5		Consult
0.35 % FSO		3		
customer		9		consult
Electrical connection				
male and female plug ISO 4400		1 0 0		
male plug Binder series 723 (5-pin)		2 0 0 T A 0		
cable outlet with PVC cable (IP67) ²				
male plug M12x1 (4-pin) / metal		M 1 0		
comapct field housing		8 5 0		
stainless steel 1.4301 (304)				
customer		999		consult
Mechanical connection G1/2" EN 837 ³				
M20x1.5 internal thread			2 0 0 D 2 8	
9/16 UNF internal thread			D 2 8 V 0 0 9 9 9	
customer			999	consult
Seals			3 3 3	Consult
without (welded version)			2	
customer			9	consult
Special version			-	
standard (adjustable) ⁴			0	4 1
IS version, cable outlet, field housing			0	0 0
customer			9	9 9 consult

¹ only available with pressure port G1/2" EN 837 ² standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request ³ According to EN 837, the pressure port and the complement, at pressure over 1000 bar must be preferably made of stainless steel with a tensile strength of $R_p > 260$ N/mm² in accordance with DIN 17440. The maximum allowed pressure is 1600 bar!

⁴ not possible in combination with IS-version, compact field housing and cable outlet with PVC cable



DMP 304

Industrial Pressure Transmitter for Ultra High Pressure

accuracy according to IEC 60770: standard: 0.5 % FSO option: 0.25 % FSO

Nominal pressure

from 0 ... 2 000 bar up to 0 ... 6 000 bar

Output signals

2-wire: 4 ... 20 mA 3-wire: 0 ... 10 V

Special characteristics

- adjustability of offset and span via front sided potentiometers
- pressure port 9/16" UNF
- 80 % calibration signal with MIL / Bendix plug

Optional versions

- IS-version: Ex ia
- accuracy according to IEC 60770: 0.25 % FSO
- pressure port M20x1.5 and M16x1.5

The ultra-high-pressure transmitter type DMP 304 has been especially designed for applications with highest demand on precision and reliability. DMP 304 series is based on a compensated strain gauge, bonded onto a hardened stainless steel diaphragm.

Due to the rugged stainless steel housing usage under extreme conditions and in IS-required areas is no problem.

Preferred areas of use are



High pressure hydraulic circuits



Water jet cutting



High pressure applications in chemical and petrochemical industry



Input pressure range

input pressure range					1
Nominal pressure gauge	[bar]	2 000	4 000	5 000	6 000
Overpressure	[bar]	3 000	5 000	6 000	7 000
Burst pressure	[bar]	4 000	8 000	10 000	10 000
Output signal / Supply					
Standard		2-wire: 4 20 mA	/ V _s = 10 30 V _{DC}		
IS-protection			$V_{\rm S} = 10 \dots 28 V_{\rm DC}$		
Option 3-wire			$V_{\rm S} = 10 \dots 20 V_{\rm DC}$		
Performance		5-wire. 0 10 v	vs - 14 30 v _{DC}		
			~~		
Accuracy ¹		standard: ≤ ± 0.50 % F option: ≤ ± 0.25 % F	SO SO (on request)		
Permissible load		current 2-wire: R _{max} = voltage 3-wire: R _{min} =	$[(V_{\rm S} - V_{\rm S min}) / 0.02 \text{ A}] \Omega$ 10 kΩ		
Influence effects		supply: 0.05 % FSO load: 0.05 % FSO	/ 10 V		
Long term stability		≤ ± 0.2 % FSO / year at r	eference conditions		
Response time		< 2.5 msec			
Adjustability			meter is an adjustment of	f the offset possible within	the range of + 5 % of
rajuotability				of characteristic curve and	
¹ accuracy according to IEC 60)770 – limit	•			
Calibration (only with MI			,, oto, oolo, ropoatability)		
· · · ·					
Calibration signal accuracy		≤±0.25 % FSO			A 40.0 m A)
Calibration		· · · · · · · · · · · · · · · · · · ·	g. tor 4 20 mA / 2-wire:	signal = 0.8*16 mA + 4 m	A = 16.8 MA)
Thermal effects (Offset a	nd Span)				
Thermal error		≤ ± 0.2 % FSO / 10 K	in compensated rang	ge -20 85 °C	
Permissible temperature	s				
Permissible temperatures	-	medium:	-40 85 °C		
		electronics / environment storage:			
Electrical protection					
Short-circuit protection		permanent			
Reverse polarity protection		no damage, but also no f	unction		
Electromagnetic compatibility		emission and immunity a			
Mechanical stability					
		10 ~ DMC (20 2000 L	_\		
Vibration		10 g RMS (20 2000 H	2)		
Shock		100 g / 11 msec			
Materials					
Pressure port / diaphragm		stainless steel 1.4548 (17	,		
Housing		stainless steel 1.4301 (30	04)		
Seals (media wetted)		none (welded version)			
Media wetted parts		pressure port, diaphragm	1		
Explosion protection (on	ly for 4.				
Approval DX17-DMP 304	,	IBEXU 09 ATEX 1144 X			
	valu-	zone 0: II 1G Ex ia IIC T4		0	
Safety technical maximum		the supply connections h		max. 27 nF to the housing	
Permissible temperatures t environment	or	zone 1 and higher: -25.			
Connecting cables (by factory)				gnal line/signal line: 160 pl gnal line/signal line: 1 μΗ/r	
Miscellaneous				· · · ·	
Insulation strength / resista	nce	standard: insulation st	rength 100 MΩ @ 35	V	
	ince	IS-version: insulation re	sistance 100 MΩ @ 35)
Current consumption		2-wire signal output curre 3-wire signal output volta	ent: max. 28 mA		
Weight		approx. 260 g			
Operational life		10 million load cycles			
Installation position		any			
CE-conformity		EMC Directive: 2014/30/	FII Prossuro Faui	pment Directive: 2014/68/	FU (module A)
-		1		priorit Directive. 2014/00/	
ATEX Directive		2014/34/EU			



	Ordering code DMP 304
DMP 304	$\Box \Box \Box = \Box =$
Pressure	
gauge Input [bar]	
2 000	
4 000	
5 000	
6 000	
custome	r 9 9 9 9 consult
Output	
4 … 20 mA / 2-wire Intrinsic safety 4 … 20 mA / 2-wire	
0 10 V / 3-wire	
custome	
Accuracy	
standard 0.5 %	5 5
option 0.25 %	
custome	r 9 0 consult
Electrical connection	
Male and female plug ISO 4400	
Male plug Binder series 723 (5-pin)	
Cable outlet with PVC-cable Cable outle	
Male plug M12x1 (4-pin), meta	
MIL-/Bendix (type PT 02 A 10-6 P)	
custome	9 9 9 consult
Mechanical connection	
9/16" UNF internal thread	V 0 0 0 P 0 0 0 D 2 8 0 P 9 9 0
M16x1.5 internal thread	P 0 0
M20x1.5 internal thread	D 2 8
custome	· 9 9 9 consult
Special version	
adjustable custome	
custome	9 9 9 9 consult

¹ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C), optionally cable with ventilation tube ² different cable types and lengths deliverable (permissible temperature depends on kind of cable)



DMK 351

Pressure Transmitter

Ceramic Sensor

accuracy according to IEC 60770: standard: 0.35 % FSO option: 0.25 % FSO

Nominal pressure

from 0 ... 40 mbar up to 0 ... 20 bar

Output signal

2-wire: 4 ... 20 mA 3-wire: 0 ... 10 V others on request

Product characteristics

high media resistance

Optional versions

- IS-version (temperature class T4)
 Ex ia = intrinsically safe for gases and dusts
- IS-version (temperature class T6)
- diaphragm 99.9 % Al₂O₃
- customer specific versions

The pressure transmitter DMK 351 has been specially designed for applications in plant and machine engineering as well as laboratory techniques and is suitable for measuring small system pressure and filling heights.

By using our own-developed capacitive sensor, optionally available as AI_2O_3 99.9%, the DMK 351 offers a high overpressure resistance and a high temperature and media resistance. The pressure transmitter is available in an intrinsically safe version for a use in explosive environments.

Preferred areas of use are



Plant and machine engineering





Preferred used for



Pressure ranges															
Nominal pressure ¹ [bar]	0.04	0.06	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	20
Level [mH ₂ O]	0.04	0.00	1	1.6	2.5	4	6	10	1.0	2.5	4	60	100	160	200
Overpressure [bar]	2	2	4	4	6	6	8	8	15	25	25	35	35	45	45
Permissible vacuum [bar]	-0.).3	0	-0	-	0	15	25	25	-1	- 55	45	45
¹ available in gauge and absolute; nomi				-	om 1 ha		.5					-1			
	nai pies.	suiciai	iges ab	solute li		<i>I</i>									
Output signal / Supply															
Standard	2-wire:		4 20) mA / \	/ _s = 9	. 32 V _D	с								
Option IS-version	2-wire:		4 20) mA / \	/ _s = 14	28 V	DC								
Option 3-wire	3-wire:		0 10	V /\	/ _s = 12.	5 32	V _{DC}								
Performance															
Accuracy ²	standa	rd : ≤ ±	0.35 %	6 FSO				op	tion fo	$r P_N \ge C$).6 bar:	≤ ± 0.2	25 % F	SO	
Permissible load	current	2-wire	R _{max} =	= [(V _S –	V _{Smin})	0.02 A]Ω				R _{min} = 1				
Influence effects	supply						-			5 % FS					
Long term stability				ar at re		condit	ions								
Turn-on time	700 m		,												
Mean measuring rate	5/sec														
Response time	mean	respor	nse tim	e: < 20	0 msec			m	ax. res	ponse	time: 3	80 mse	c		
² accuracy according to IEC 60770 - lim							peatabili			•					
Thermal errors (Offset and Span	ı)														
Tolerance band	≤±0.1	% FS	O / 10	к	in c	ompen	sated r	ange:	-20	80 °C					
Permissible temperatures															
Permissible temperatures	mediur	n [.] -40	125	°C	ele	ctronics	s / envi	ronmei	nt [.] -40	85	°C	sto	rage: -4	0 10	0°0
Electrical protection	meana			•	0.0						-	0.01	uge.		
Short-circuit protection	permai	nent													
Reverse polarity protection	no dan			no fur	oction										
Electromagnetic compatibility	emissi	<u> </u>				to EN 6	1326								
	emissi	Jiranu	mmu	iity acc	orung		1520								
Mechanical stability	10 · D			0011.									0		
Vibration	10 g R	<u> </u>		00 HZ)						•	N EN 6				
Shock	100 g /	1 mse	ec					ac	corain	g to Dii	N EN 6	0068-2	-27		
Materials															
Pressure port	standa					,				PP, PV					
Housing	standa					,				PP, PV					
Option compact field housing	stainle			01 (304); cabl	e gland	M12x ²			· ·	ted (cla	mping	range 2	2 8 r	nm)
Seal	standa								otion: E						
Diaphragm	standa							op	otion: c	eramic	s Al ₂ O ₃	99.9 %	, 0		
Media wetted parts	pressu												-		
³ only with mech. connection G1/2" DIN									nperatu	re -30 °(C and w	ithout IS	S-protec	tion pos	sible
Explosion protection (only for 4					inless	steel v	ersion)							
Approval DX 14-DMK 351	IBExU zone 0 zone 2	: II 0: II	1G Ex 1D Ex	ia IIC 1 ia IIIC	T85 °C			•			a IIC Te	6 Ga			
Safety technical maximum values			_i = 93 r								' nF				
Max. permissible temperature for environment	in zone		l highe	r: -25		С	_{tm} 0.8 k	bar up	to 1.1 k	bar					
Connecting cables (by factory)	for T6: cable c cable i	•		sigr		/ shield		0			e: 160 p e: 1 µH/				
Miscellaneous		nuucid		siyi		SINCIU	ais0 5	ignai ill	ic / sig		µ //				
Installation position	201/														
I	any	outout	ourron	t: max	21 m^			ciar	al outr		age: ma	x 5 m	۸		
Current consumption Weight	signal	•	curren	. max.	∠ i IIIA			sigi			aye. Illa	ал. Э Ш	~		
Operational life	min. 20 100 mi	<u> </u>	ad ovo												
CE-conformity	EMC-d				1										
ATEX Directive	2014/3		. 2014	+/30/EL	,										
	2014/3	+/CU													
Wiring diagram															
2-wire-system (current)	+ s					3-wire	supply	-		ge)	• + Vs				

DMK 351 Technical Data



	Ordering	g cod	le [DM	K (35	1							
DMK 351]-[]	-	-]-			-	-[]-[-[]		
In bar, gauge in bar, absolute 1 in mH2O, gauge Input [mH2O] [bar] 0.4 0.04 0.6 0.06 1.0 0.10 1.6 0.16 2.5 0.25 4.0 0.40 6.0 0.60 10 1.0 16 1.6 25 2.5 40 4.0 60 6.0 100 10 160 16 200 20	0 6 0 1 0 0 1 6 0 2 5 0 4 0 0 6 0 0 1 0 0 1 6 0 2 5 0 4 0 0 1 6 0 2 5 0 4 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0												
Customer Output 4 20 mA / 2-wire	9 9 9	1												consult
0 10 V / 3-wire intrinsic safety T4; 4 20 mA / 2-wire intrinsic safety T6; 4 20 mA / 2-wire customer		3 E E6 9												consult
Accuracy		Ű												oonouit
standard: 0.35 % FSO option for P _N ≥ 0.6 bar: 0.25 % FSO customer			3 2 9											consult
Electrical connection male and female plug ISO 4400 male plug Binder series 723 (5-pin) male plug M12x1 (4-pin) / metal cable outlet with PVC cable (IP67) ² cable outlet, cable outlet, cable with ventilation tube (IP68) ³ compact field housing stainless steel 1.4301 (304)				1 2 M T T	A	0 0 0								
customer				9	9 9	9								consult
Mechanical connection G1/2" DIN 3852 G1/2" EN 837 1/2" NPT G1/2" DIN 3852 open pressure port							1 0 2 0 N 0 H 0	0 0						
Seals FKM	_						9 9		1					consult
EPDM customer Pressure port									3					consult
stainless steel 1.4404 (316L)										1				
PP 4 PVDF ⁴ customer										E B 9				consult
Diaphragm ceramics Al ₂ O ₃ 96%											2			
ceramics Al ₂ O ₃ 99.9 % customer Special version											C 9			consult
standard customer												0 9	0 0 9 9	consult

¹ nominal pressure ranges absolute from 1 bar
 ² standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

³ code TR0 = PVC cable, cable with ventilation tube available in different types and lengths
 ⁴ PP / PVDF possible only with G1/2" DIN 3852 open pressure port, P_N ≤ 10 bar, min. permissible temperature -30 °C and without explosion protection



DMK 331

Industrial Pressure Transmitter

Ceramic Sensor

accuracy according to IEC 60770: 0.5 % FSO

Nominal pressure

from 0 ... 400 mbar up to 0 ... 600 bar

Output signals

2-wire: 4 ... 20 mA 3-wire: 0 ... 20 mA / 0 ... 10 V others on request

Special characteristics

- pressure port G 1/2" flush for pasty and polluted media
- pressure port G 1/2" open port PVDF for aggressive media
- oxygen application

Optional versions

- IS-version
 Ex ia = intrinsically safe for gases and dusts
- SIL 2 according to IEC 61508 / IEC 61511
- customer specific versions

The industrial pressure transmitter DMK 331 with ceramic sensor has been especially designed for pasty, polluted or aggressive media and for oxygen applications at low pressure range.

As with all industrial pressure transmitters made by BD|SENSORS, you may choose between various electrical and mechanical connections also on DMK 331.

Preferred areas of use are



Plant and machine engineering

Energy industry



Environmental engineering (water - sewage - recycling)



Medical technology



Nominal pressure gauge		-10	0.4	0.6	1		2,5 4	6	10	16	25	40	60	100	160	250	400	600
Nominal pressure abs.	[bar]	-	-	0.6	1		2,5 4	6	10	16	25	40	60	100	160	250	400	600
Overpressure	[bar]		1	2	2		4 10	10	20	40			100		400	400	600	800
Burst pressure ≥	[bar]		2	4	4		7,5 12	18	30	50				300		750	1000	110
Vacuum resistance							sistance				P ₁	√<1b	oar: o	n requ	est			
¹ PVDF pressure port possible t	for non	ninal pres	ssure r	anges	up to (50 bar												
Output signal / Supply																		
Standard		2-wire	: 4.	20 n	ηA /	V _s = 8	32 V _C	с			SI	L-vers	sion: \	/ _s = 1	4 2	28 V _{DC}		
Option IS-protection		2-wire	: 4.	20 n	ηA /	V _s = 10	28 V _C	с			SI	L-vers	sion: \	/ _s = 1	4 2	28 VDC		
Options 3-wire		3-wire	: 0.	20 n	ηA /	V _s = 14	30 V _c	с										
			0.	10 V	' /	V _s = 14	30 V _D	С										
Performance																		
Accuracy ²		≤ ± 0.5	5 % F	SO														
Permissible load		curren	t 2-wi	re: F	R _{max} =	: [(V _s –)	V _{S min}) / (.02 A1	Ω		cu	rrent	3-wire	: R _{ma}	_v = 24	-0 Ω		
		1				10 kΩ	- 5 mm/	1										
Influence effects		supply									loa	ad: 0	05 %	FSO	/ kΩ			
Long term stability							ice cond	itions					00 /0					
Response time		2-wire									3-	wire:	< 3 m	isec				
² accuracy according to IEC 60	770 – 1	1				nearity h	vsteresis	reneat	ahility)				- • 11					
Thermal effects (Offset an								repeat	ionity)									
Thermal error	ia she	an)/Pe ≤±0.2				aluies												
					υĸ													
in compensated range		-25			25.00						10 0					10		
Permissible temperatures ³		mediu				el	ectronic	s / env	ironme	ent: -4	ŧ0 ξ	35 °C		stora	ige: -	40 '	100 °C	
³ for pressure port of PVDF the	minim	um temp	erature	e is -30	°C													
Electrical protection																		
Short-circuit protection		perma																
Reverse polarity protection						functio												
Electromagnetic compatibil	ity	emissi	on an	d imm	unity	accordi	ng to EN	61326	6									
Mechanical stability																		
Vibration		10 g R	MS (2	25 2	000 I	Hz) a	ccording	to DI	N EN 6	80068	-2-6							
Shock		500 g					ccording	to DI	N EN 6	60068	-2-27							
Materials		·																
Pressure port							4 (316 L h nomin		sure r	ande	un to é	30 bar	·· PV	DF		others	on req	uest
Housing		stainle								ungo		50 50		51			onroq	4001
							able glar	d M12	x1.5	brass	nicke	l plate	ed (cla	ampin	a rand	ie 2	8 mm)
Option compact field housing	าต	stainle					abre grai					pierce		<u>, , , , , , , , , , , , , , , , , , , </u>			on reg	
Option compact field housir Seals	ng	standa	ard: F		for P	⊾≤ 160	bar)											
Seals	ng	standa option:	ard:F E	PDM (_N ≤ 160	bar)											
Seals Diaphragm	ng	standa option: ceram	ard:F E icAl ₂	PDM (D₃ 96 [°]	%													
Seals Diaphragm Media wetted parts		standa option ceram pressu	ard: F : E ic Al ₂ 0 ure po	PDM (D₃ 96 [°] rt, sea	% Is, di	_N ≤ 160 aphragn												
Seals Diaphragm Media wetted parts Explosion protection (onl		standa option ceram pressu 4 20	ard: F : E ic Al ₂ 0 ure po mA / :	PDM(D₃ 96 [∩] rt, sea 2-wire	% Is, dia •)	aphragn	1	12 001	07¥									
Seals Diaphragm Media wetted parts		standa option ceram pressu 4 20 IBExU	ard: F : E ic Al ₂ (ure po mA / 10 A ess ste	PDM (D₃ 96 [/] rt, sea 2-wire TEX 1 eel pre	% ls, dia) 068 λ ssure	aphragn (/ IE(e port: z		1G Ex	ia IIC							T 85°(T 85°(
Seals Diaphragm Media wetted parts Explosion protection (only Approval		standa option: ceram pressu 4 20 IBExU stainle plastic U _i = 28	ard: F : E ic Al ₂ (ure po mA / 2 10 A ess ste press 3 V _{DC} ,	PDM ($D_3 96$ ' rt, sea 2-wire TEX 1 sel pre sure po $I_i = 93$	% Is, dia 068 / ssure ort: 3 mA, tions	aphragn (/ IEC e port: z P _i = 660 have ar	CEx IBE one 0: II one 1: II O mW, C n inner c	1G E> 2G E> i ≈ 0 nl apacity	tia IIC tia IIC =, L _i ≈ v of ma	: T4 G 0 µH, ax. 27	<u>b zo</u> nF to	one 21	1: 2	D Ex i				
Seals Diaphragm Media wetted parts Explosion protection (onl Approval DX19-DMK 331 Safety technical maximum	y for 4	standa option: ceram pressu 4 20 IBExU stainle plastic U _i = 28 the su in zone in zone	ard: F : E ic Al ₂ (ure po mA / : 10 A ess ste press 3 V _{DC} , pply c e 0: e 1 or	PDM ($D_3 96$ ' rt, sea 2-wire TEX 1 sel pre sure po $I_i = 93$ sonnec highe	% Is, dia 068 > 068 > ssure ort: 3 mA, tions -20 r: -20	aphragn (/ IEC e port: z P _i = 660 have ar) 60 °) 70 °	CEx IBE one 0: II one 1: II 0 mW, C n inner c C with p C	1G E× <u>2G E×</u> $i \approx 0 nl apacity atm 0.8$	tia IIC tia IIC =, L _i ≈ r of ma bar up	T4 G 0 μH, ax. 27 o to 1.	b zo nF to 1 bar	the h	1: II 2 ousin	D Ex i				
Seals Diaphragm Media wetted parts Explosion protection (onl Approval DX19-DMK 331 Safety technical maximum values Permissible temperatures for	y for 4	standa option: ceram pressu 4 20 IBExU stainle plastic U _i = 28 the su in zone in zone cable o	ard: F E $C Al_2(I)$ $C Al_2(I)$ C A	PDM ($D_3 96$ ° rt, sea 2-wire TEX 1 eel pre sure po $I_i = 93$ connec highe itance	% Is, dia 068 2 ssure ort: 3 mA, tions -20 r: -20 : sig	aphragn (/ IEC port: z P _i = 660 have ar) 60 °) 70 °	DEX IBE one 0: II one 1: II 0 mW, C 1 inner c C with p C ishield al	1G Ex 2G Ex $_i \approx 0$ nl apacity $_{atm} 0.8$ so sign	tia IIC tia IIC =, L _i ≈ v of ma bar up	: T4 G 0 μH, ax. 27 o to 1. e/signa	<u>b zo</u> nF to 1 bar al line	the he	1: II 2 ousin pF/m	D Ex i				
Seals Diaphragm Media wetted parts Explosion protection (onl Approval DX19-DMK 331 Safety technical maximum values Permissible temperatures for environment	y for 4	standa option: ceram pressu 4 20 IBExU stainle plastic U _i = 28 the su in zone in zone	ard: F E $C Al_2(I)$ $C Al_2(I)$ C A	PDM ($D_3 96$ ° rt, sea 2-wire TEX 1 eel pre sure po $I_i = 93$ connec highe itance	% Is, dia 068 2 ssure ort: 3 mA, tions -20 r: -20 : sig	aphragn (/ IEC port: z P _i = 660 have ar) 60 °) 70 °	CEx IBE one 0: II one 1: II 0 mW, C n inner c C with p C	1G Ex 2G Ex $_i \approx 0$ nl apacity $_{atm} 0.8$ so sign	tia IIC tia IIC =, L _i ≈ v of ma bar up	: T4 G 0 μH, ax. 27 o to 1. e/signa	<u>b zo</u> nF to 1 bar al line	the he	1: II 2 ousin pF/m	D Ex i				
Seals Diaphragm Media wetted parts Explosion protection (onl Approval DX19-DMK 331 Safety technical maximum values Permissible temperatures for environment Connecting cables (by factory)	y for 4	standa option: ceram pressu 4 20 IBExU stainle plastic U _i = 28 the su in zone in zone cable o	ard: F E $C Al_2(I)$ $C Al_2(I)$ C A	PDM ($D_3 96$ ° rt, sea 2-wire TEX 1 eel pre sure po $I_i = 93$ connec highe itance	% Is, dia 068 2 ssure ort: 3 mA, tions -20 r: -20 : sig	aphragn (/ IEC port: z P _i = 660 have ar) 60 °) 70 °	DEX IBE one 0: II one 1: II 0 mW, C 1 inner c C with p C ishield al	1G Ex 2G Ex $_i \approx 0$ nl apacity $_{atm} 0.8$ so sign	tia IIC tia IIC =, L _i ≈ v of ma bar up	: T4 G 0 μH, ax. 27 o to 1. e/signa	<u>b zo</u> nF to 1 bar al line	the he	1: II 2 ousin pF/m	D Ex i				
Seals Diaphragm Media wetted parts Explosion protection (onl Approval DX19-DMK 331 Safety technical maximum values Permissible temperatures for environment Connecting cables (by factory) Miscellaneous	y for 4	standa option: ceram pressu 4 20 IBExU stainle plastic U _i = 28 the su in zone cable o cable i	ard: F $E = E_{12}$ $E = E_$	PDM ($D_3 96$ ° rt, sea 2-wire TEX 1 eel pre sure pre sure pre l _i = 93 onnec highe itance:	% Is, dia 068 > ssure ort: 3 mA, tions -20 r: -20 : sig	aphragn (/ IEC port: z P _i = 660 have ar) 60°) 70° nal line/ nal line/	CEx IBE one 0: II one 1: II 0 mW, C 0 inner c C with p C c shield al	1G Ex 2G Ex $_i \approx 0$ nl apacity $_{atm} 0.8$ so sign	tia IIC tia IIC =, L _i ≈ v of ma bar up	: T4 G 0 μH, ax. 27 o to 1. e/signa	<u>b zo</u> nF to 1 bar al line	the he	1: II 2 ousin pF/m	D Ex i				
Seals Diaphragm Media wetted parts Explosion protection (onl Approval DX19-DMK 331 Safety technical maximum values Permissible temperatures for environment Connecting cables (by factory)	y for 4	standa option: ceram pressu 4 20 IBExU stainle plastic U _i = 28 the su in zone cable of	ard: F ic Al ₂ (ure po mA / 10 A ² ss ste press V_{DC} , pply c e 0: e 1 or capace induct ding to ≤ 25 t	PDM ($D_3 96$ ° rt, sea 2-wire TEX 1 eel pre sure pre sure pre l _i = 93 connect highe itance: ance: DIEC (D_{DA}	% Is, dia 068 > ssure ort: 3 mA, tions -20 r: -20 : sig sig sig	aphragn (/ IEC port: z P _i = 660 have ar) 60°) 70° nal line/ nal line/ () IEC 6 n FKM	CEx IBE one 0: II one 1: II 0 mW, C 0 inner c C with p C c shield al	1G Ex 2G Ex i ≈ 0 nl apacity atm 0.8 so sign so sign	a ia IIC a ia IIC a ia IIC a IIC a IIC a IIC bar up nal line nal line M-app	: T4 G 0 μH, ax. 27 o to 1. e/signa	b zo nF to 1 bar al line al line	the he	1: II 2 ousin pF/m	D Ex i				
Seals Diaphragm Media wetted parts Explosion protection (onl Approval DX19-DMK 331 Safety technical maximum values Permissible temperatures for environment Connecting cables (by factory) Miscellaneous Option SIL2 version ⁴ Option oxygen application	y for 4	standa option: ceram pressu 4 20 IBExU stainle plastic U _i = 28 the su in zone cable of	ard: F E ic Al ₂ (c ure po mA / 10 A ² sss state presss 3 V _{DC} , pply c e 0: e 1 or capace induct ding tc sssible	PDM ($D_3 96$ or $D_3 96$ or I_1 , sea 2-wire 7EX 1 sel pre- sure pro- li = 93 connect highe itance: 1EC 6 par: O- maxin	% Is, dia 0068 > ssure ort: mA, tions -2(C r: -2(C sig sig 01508 ring in num v	aphragn (/ IEC port: z P _i = 660 have ar) 60°) 70° nal line/ nal line/ (nal line))	DEx IBE one 0: II one 1: II D mW, C D mW, C D mW, C C with p C Shield al Ishield al Ishield al IShield al ISHI Vi 567 (v re 25 ba	1G Ex 2G Ex i ≈ 0 nl apacity atm 0.8 so sigu so sigu vith BA	a ia IIC a ia IIC , L _i ≈ v of ma bar up nal line nal line M-app ° C	CT4 G 0 μH, ax. 27 o to 1. e/signa	b zo nF to 1 bar al line al line);	the h the h : 160 μ : 1μΗ/	1: II 2 ousing pF/m m	D Ex i				
Seals Diaphragm Media wetted parts Explosion protection (onl Approval DX19-DMK 331 Safety technical maximum values Permissible temperatures for environment Connecting cables (by factory) Miscellaneous Option SIL2 version ⁴ Option oxygen application Current consumption	y for 4	standa option: ceram pressu 4 20 IBExU stainle plastic U _i = 28 the sul in zone cable of cable of cable of cable of cable of cable of cable of cable of cable of cable of cable of cable of cable of cable of	ard: F E ic Al ₂ (ure po mA / : 10 A A ss stee press 3 V _{DC} , pply c e 0: e 1 or ccapace induct ding tcc ssible output	PDM (D_3 96 'rt, seaa 2-wire TEX 1 2-wire DEX 1 2-wire DEX 1 2-wire DEX 1 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-wire 2-w	% Is, dia 0068 > ssure ort: mA, tions -2(C r: -2(C sig sig 01508 ring in num v	aphragn (/ IEC port: z P _i = 660 have ar) 60°) 70° nal line/ nal line/ () IEC 6 n FKM	DEx IBE one 0: II one 1: II D mW, C D mW, C D mW, C C with p C Shield al Ishield al Ishield al IShield al ISHI Vi 567 (v re 25 ba	1G Ex 2G Ex i ≈ 0 nl apacity atm 0.8 so sigu so sigu vith BA	a ia IIC a ia IIC a ia IIC a IIC a IIC a IIC bar up nal line nal line M-app	CT4 G 0 μH, ax. 27 o to 1. e/signa	b zo nF to 1 bar al line al line);	the h the h : 160 μ : 1μΗ/	1: II 2 ousing pF/m m	D Ex i				
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⁷ different cable types and lengths available, permissible temperature depends on kind of cable



		Orderi	ng c	cod	e D	Mk	(3)	31						
DMK 331		-]-[-	- 🗆		-]-[]-[]-[]-[]
Pressure gauge	2 5 0 2 5 1													
absolute Input [bar] 0.4	2 5 1	4 0 0 0												
0.4 0.6 1.0		6 0 0 0												
1.6 2.5		1 6 0 1 2 5 0 1												
4.0 6.0		4 0 0 1 6 0 0 1 1 0 0 2												
10 16		1 6 0 2												
25 40 60		2 5 0 2 4 0 0 2 6 0 0 2												
100 160		1003												
250 400		1 6 0 3 2 5 0 3 4 0 0 3												
600 -1 0		6 0 0 3 X 1 0 2												
Output		9999												consult
4 20 mA / 2-wire 0 20 mA / 3-wire 0 10 V / 3-wire			1 2 3											
intrinsic safety 4 20 mA / 2-wire SIL2 4 20 mA / 2-wire			5 E 1S											
SIL2 with intrinsic safety 4 20 mA / 2-wire			ES											
Accuracy Customer			9											consult
0.5 % FSO customer Electrical connection	_		_	5 9										consult
male and female plug ISO 4400 male plug Binder series 723 (5-pin)						0 0 0 0								
cable outlet with PVC cable (IP67) cable outlet,					T T	A 0								
cable with air tube (IP68) a male plug M12x1 (4-pin) / metal	2					1 0								
compact field housing stainless steel 1.4301 (304)						5 0								
Customer Mechanical connection G1/2" DIN 3852					9	99	- 1	0.0						consult
G1/2" DIN 3852 G1/2" EN 837 G1/4" DIN 3852							1 2 3	0 0						
G1/4" EN 837 G1/2" DIN 3852 with							4	00						
semi-flush sensor G1/2" DIN 3852 open pressure port	ł						H	0 0 0 0 0 0 0 0 1 0 0 1 4 0 9 9						
1/2" NPT 1/4" NPT							N	00						
Customer Seals		_					9	99						consult
FKM EPDM customer	;								1 3 9					consult
Pressure port stainless steel 1.4404 (316L)									5	1				Consult
PVDF customer	;									B 9				consult
Diaphragm ceramics Al ₂ O ₃ 96%											2			
Special version											9			consult
standard oxygen application customer												0	0 0 0 7 9 9	oonsult
	aissible tompo											9	1918	consult

¹ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request

² code TR0 = PVC cable, cable with ventilation tube available in different types and lengths

³ metric threads and others on request

⁴ possible for nominal pressure ranges P_N ≤ 25 bar; absolute pressure ranges on request ⁵ possible for nominal pressure range P_N ≤ 160 bar ⁶ PVDF only with G1/2" DIN 3852 open pressure port (up to 60 bar), minimum permissible temperature is -30 °C

⁷ oxygen application with FKM-seal up to 25 bar possible



DMP 457

Pressure Transmitter for Shipbuilding and Offshore

Stainless Steel Sensor

accuracy according to IEC 60770: standard: 0.35 % FSO option: 0.25 % FSO

Nominal pressure

from 0 ... 100 mbar up to 0 ... 600 bar

Output signals

2-wire: 4 ... 20 mA others on request

Special characteristics

- LR-certificate (Lloyd's Register)
- DNV-GL Type Approval (Det Norske Veritas - Germanischer Lloyd)
- ABS-certificate (American Bureau of Shipping)
- CCS-certificate (China Classification Society)
- flush pressure port
 G 1/2" from 100 mbar
- excellent thermal behaviour

Optional versions

- IS-version
 Ex ia = intrinsically safe for gases and dusts
- welded pressure port

The pressure transmitter DMP 457 has been especially designed for rough conditions occurring especially in shipbuilding and offshore applications. All gaseous and liquid media, which are compatible with stainless steel 1.4404 (316L) respectively can be used.

Sensor element is a piezoresistive stainless steel sensor with high accuracy and excellent long-term stability. In order to meet the special requirements for shipbuilding and offshore applications extensive tests had to be passed to get the Lloyd's Register (LR), Det Norske Veritas - Germanischer Lloyd (DNV-GL) and China Classification Society (CCS) approvals.

Preferred areas of use are



Diesel engines, drives Compressors, pumps Boiler Hydraulic and pneumatic



Fuel and oil

control systems



Input pressure range ¹												
Nominal pressure gauge	[bar]	-1 0	0.10	0.16	0.25	0.40	0.60) 1	1.6	2.5	4	6
Nominal pressure abs.	[bar]	-	-	-	-	0.40	0.60		1.6	2.5	4	6
Level gauge / abs.	[mH ₂ O]	-	1	1.6	2.5	4	6	10		25	40	60
Overpressure	[bar]	5	0.5	1	1	2	5	5	10	10	20	40
Burst pressure ≥	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5		15	25	50
Nominal pressure gauge	[bar]	10	16	25	40	6	0	100	160	250	400	600
Nominal pressure abs.	[bar]	10	16	25	40		0	100	160	250	400	600
Level gauge / abs.	[mH ₂ O]	100	160	250	40	-	-	-	-	200	-	000
Overpressure		40	80	80	10		10	600	600	1000	1000	1000
•	[bar]	50	120	120	210		20	1000	1000	1250	1000	- 1000
Burst pressure >	[bar]	1	-				20				-	-
Vacuum resistance ¹ from 60 bar: measurement s	starte with		ar: unlimite	a vacuu	mresista	nce		$p_N < 10$	ar: on requ	Jest		
nom oo bar. measurement s		ambient pre	33010									
Output signal / Supply												
Standard		2-wire:	4 20 n	nA/	Vs = 8	. 32 V _{DC}						
Option IS-version		2-wire:	4 20 n	nA/	V _s = 10	. 28 V _{DC}						
Performance												
Accuracy ²		standard	: nominal	pressure	e < 0.4 ba	r: ≤±0.5	5 % FS	SO				
			nominal	pressure	e ≥ 0.4 ba	r: ≤±0.3	35 % FS	50				
		option:	nominal	pressure	e ≥ 0.4 ba	r: ≤±0.2	25 % FS	SO				
Permissible load		$R_{max} = [()$	V _S – V _{S min}) / 0.02 A	Ω[
Influence effects		supply:	0.05 % F									
		load:	0.05 % F	-SO / kΩ								
Long term stability		≤±0.1 %	6 FSO / ye	ear by ret	ference c	onditions						
Response time		< 10 mse										
² accuracy according to IEC 6	60770 – lim	nit point adju	ıstment (no	n-linearity	, hysteresi	s, repeata	bility)					
Thermal effects (Offset a	and Spar	n) / Permi	ssible ten	nperatur	es							
Nominal pressure p _N	[bar]		-1	0			< 0.	4			≥ 0.40	
Tolerance band	[% FSO]		≤±0.7	75			≤±	1		4	≤±0.75	
in compensated range	[°C]		-20	85			0 7	70		-:	20 85	
Permissible temperatures		medium:			-40 12							
			cs / enviro	nment:	-40 8							
		storage:			-40 10	0°°C						
Electrical protection												
Short-circuit protection		permane	-									
Reverse polarity protection			ge, but als									
Electromagnetic compatib	oility		and imm	unity acc	ording to							
		- EN 6				.		.0				
		- DNV	GL (Det N	IORSKE V	eritas • G	ermanisc	ner Lio	ya)				
Mechanical stability						<u> </u>						
Vibration		4 g (acco	ording to D	NV•GL:	class B, o	curve 2 /	basis: I	EC 6006	8-2-6)			
Materials												
Pressure port		stainless	steel 1.44		,							
Housing		standard			inless ste		•	,				
			eld housing						ble gland			
Cable sheath		TPE -U			me-resist				sed resista	ance again	st oil and	gasoline
Seals (media wetted)		standard	:	FK	0	and out,	554 11		.,,			
		option:	-		Ided vers	ion ³				0	thers on re	auest
Diaphragm			steel 1.44									1
Media wetted parts			port, seal		,							
³ welded version only with pre	essure port		,	/ /	0	l pressure	ranges	$p_N \leq 40 \ ba$	ar			
Category of the environ				,		,						
Lloyd's Register (LR)		FMV1 F	MV2, EM	V3. FMV	4				numbe	er of certifi	cate: 13/2	0055
Det Norske Veritas		temperat		,	•	D				er of certifi		
Germanischer Lloyd (DN\	/•GL)	humidity				B			numbe			
		vibration				B						
				mootibili	it.	в В						
		election	agnetic co	mpalipili	ιy.	D						
		enclosur	<u>.</u>	•		D						

Explosion protection			
Approvals	IBExU 10 ATEX 1068 X / IEC	Ex IBE 12.0027X	
DX19-DMP 457	zone 0: II 1G Ex ja IIB T4 Ga		
	zone 20: II 1D Ex ia IIIC T 85°		
Safety technical maximum values	U _i = 28 V, I _i = 93 mA, P _i = 660 m ³	W, L _i ≈ 0 μH	
-	with field housing: $C_i = 105 \text{ nF}$:	
	with cable outlet: C _i = 84.7 n	F	
	with ISO 4400: C _i = 62.2 n	F	
	the supply connections have an i	nner capacity of max. 90 nF (140 ı	nF with field housing)
	to the housing		
Permissible temperatures for		C with p _{atm} 0.8 bar up to 1.1 bar	
environment	in zone 1 or higher: -20 70 °C		00 F/
Connecting cables (by factory)		shield also signal line/signal line: 1	
	cable inductance: signal line/	shield also signal line/signal line: 1	μπ/Π
Miscellaneous	05		
Current consumption	max. 25 mA		
Weight	approx. 140 g (with ISO 4400)		
Installation position	any ⁴ 100 million load cycles		
Operational life	EMC Directive: 2014/30/EU		
CE-conformity	Pressure Equipment Directive: 2	$14/68/EU (module A)^5$	
ATEX Directive	2014/34/EU		
	│ 2014/34/⊑0 in a vertical position with the pressure co	propertion down. If this position is shown	red on installation there can be direct
Pressure transmitters are calibrated deviations in the zero point for press		meetion down. It this position is chang	yea on motanation there can be slight
	s with maximum permissible overpressu	re > 200 bar	
Wiring diagram			
2-wire-system (current)			
supply +	a +		
	0 1		
	/-		
	Vs		
	Vs		
	vs -		
	Vs •		
supply -	Vs •		
supply -	Vs - ISO 4400	field housing	
Pin configuration	• -	field housing (clamp section: 2.5 mm ²)	
Pin configuration	• -		cable colours
Pin configuration	• -		cable colours (IEC 60757)
Pin configuration	ISO 4400		
Pin configuration	ISO 4400		
Pin configuration	ISO 4400	(clamp section: 2.5 mm ²)	
Pin configuration Electrical connection	• - ISO 4400 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(clamp section: 2.5 mm ²)	(IEC 60757)
Pin configuration Electrical connection Supply +	• - ISO 4400 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown)
Pin configuration Electrical connection Supply + Supply – Shield	• - ISO 4400 1 3 (Control of the second a control of t	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white)
Pin configuration Electrical connection Supply – Supply – Shield	• - ISO 4400 1 3 (Control of the second a control of t	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown)
Pin configuration Electrical connection Supply – Supply – Shield	ISO 4400	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply – Supply – Shield	ISO 4400	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown)
Pin configuration Electrical connection Supply + Supply - Shield Electrical connections ⁶ (dimens	ISO 4400	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply – Shield Electrical connections ⁶ (dimens	ISO 4400	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply – Shield Electrical connections ⁶ (dimens	ISO 4400	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply – Shield Electrical connections ⁶ (dimens	ISO 4400	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply – Shield Electrical connections ⁶ (dimens	ISO 4400	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply - Shield Electrical connections ⁶ (dimens	ISO 4400	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply - Shield Electrical connections ⁶ (dimens	ISO 4400	(clamp section: 2.5 mm ²)	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply - Shield Electrical connections ⁶ (dimens	ISO 4400	(clamp section: 2.5 mm ²) ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply - Shield Electrical connections ⁶ (dimens	■ - ISO 4400 1 2 ground pin () sable Ø 5 mm	(clamp section: 2.5 mm²) ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply – Shield Electrical connections ⁶ (dimens	■ - ISO 4400 1 2 ground pin () sable Ø 5 mm	(clamp section: 2.5 mm ²) ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply - Shield Electrical connections ⁶ (dimens	ISO 4400	(clamp section: 2.5 mm²) ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply - Shield Electrical connections ⁶ (dimens	able ⊘ able ⊘ able ∞ able	(clamp section: 2.5 mm ²) ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)
Pin configuration Electrical connection Supply + Supply – Shield Electrical connections ⁶ (dimens	■ - ISO 4400 1 2 ground pin () sable Ø 5 mm	(clamp section: 2.5 mm ²) ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	(IEC 60757) WH (white) BN (brown) GNYE (green-yellow)



	Ordering code DMP 457	
DMP 457		
Pressure in bar, gauge 1 in bar, absolute 2 in mH ₂ O, gauge 1 in mH ₂ O, gauge 1 in mH ₂ O, basolute 2 Input [mH ₂ O] 1.0 0.10 2.5 0.25 4.0 0.40 6.0 0.60 10 1.0 16 1.6 2.5 2.5 4.0 0.40 6.0 0.60 10 1.0 16 1.6 25 2.5 40 4.0 60 6.0 100 10 160 16 250 25 400 400	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$\begin{array}{c} 100\\ 160\\ 250\\ 400\\ 600\\ -1 \dots 0\\ customer\\ \hline \\ \hline \\ Output\\ \hline \\ 4 \dots 20 \text{ mA / 2-wire}\\ intrinsic safety 4 \dots 20 \text{ mA / 2-wire}\\ customer\\ \hline \\ \hline \\ \hline \\ \hline \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \hline \\ \hline \\ \hline \\ \hline \hline \\ \hline \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \hline \\ \hline \hline \hline \hline \\ \hline \hline \hline \hline \hline \\ \hline \hline \hline \hline \hline \hline \hline \hline \\ \hline \hline$	1 0 0 3 1 6 0 3 2 5 0 3 4 0 0 3 6 0 0 3 X 1 0 2 9 9 9 9	consult
standard for p _N < 0,4 bar: 0.50 % FSO option for p _N ≥ 0,4 bar: 0.25 % FSO customer Electrical connection male and female plug ISO 4400 ³ (for cable Ø 46 mm) male and female plug ISO 4400 GL ^{3,4} (for cable Ø 1014 mm) male and female plug ISO 4400 GL ^{3,4} (for cable Ø 4511 mm) cable outlet (TPE-U-cable) ⁵ field housing stainless steel (316L) submersible version (1.4404 / 316L) with TPE-U-cable ⁵ customer	G 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	consult
Mechanical connection G1/2" DIN 3852 G1/2" EN 837 G1/4" DIN 3852 G1/4" DIN 3852 G1/4" EN 837 G1/4" DIN 3852 G1/4" EN 837 G 1/2" DIN 3852 with 6 flush sensor G1/2" DIN 3852 open pressure port 6 1/2" NPT 1/2" NPT 1/4" NPT customer Seals	1 0 0 1 0 0 2 0 0 0 1 1 0 3 0 0 1 <td>consult</td>	consult
Customer Special version standard customer ¹ from 60 bar: measurement starts with ambient pressure ² absolute pressure possible from 0.4 bar	9 9 0 0 9 0 0 9 9 9	consult consult

² absolute pressure possible from 0.4 bar

 $^{\rm 3}$ Shielded cable has to be used! Cable versions are delivered with shielded cable.

⁴ female plug is GL-approbated

⁵ cable with integrated air tube for atmospheric pressure reference; different lengths deliverable

⁶ possible up to 40 bar ⁷ welded version only with pressure ports according to EN 837; possible with pressure ranges $p_N \le 40$ bar



DMK 458

Pressure Transmitter for Marine and Offshore

Ceramic Sensor

accuracy according to IEC 60770: standard: 0.25 % FSO option: 0.1 % FSO

Nominal pressure

from 0 ... 40 mbar up to 0 ... 20 bar

Output signals

2-wire: 4 ... 20 mA others on request

Product characteristics

- LR-certificate (Lloyd's Register)
- DNV-GL Approval (Det Norske Veritas
 Germanischer Lloyd)
- ABS-certificate (American Bureau of Shipping)
- CCS-certificate (China Classification Society)
- high overpressure resistance
- excellent long term stability

Optional versions

- IS-version
 Ex ia= intrinsically safe for gases
- diaphragm Al₂O₃ 99.9 %
- ▶ pressure port CuNiFe

The pressure transmitter DMK 458 has been developed for marine and offshore applications. In addition to thread connections, different flush versions are available, which are especially suitable for pasty, viscous, and polluted media.

Due to the capacitive ceramic sensor developed by BD|SENSORS, which is optionally available in Al_2O_3 99.9 %, the DMK 458 shows an outstanding accuracy as well as a high overload and temperature resistance.

Preferred areas of use are



Monitoring of pressure during loading and unloading processes



Monitoring of a ship's position and draught

Use in anti-heeling systems



Level measurement in ballast and storage tanks



Pressure ranges	
Nominal pressure ¹ [bar	0.04 0.06 0.1 0.16 0.25 0.4 0.6 1 1.6 2.5 4 6 10 16 20
Level [mH ₂ O	0.4 0.6 1 1.6 2.5 4 6 10 16 25 40 60 100 160 200
Overpressure [bar	
Permissible vacuum [bar	
	inal pressure ranges absolute from 1 bar
Output signal / Supply	
Standard	2-wire: 4 20 mA / $V_S = 9 32 V_{DC}$ $V_{S rated} = 24 V_{DC}$
Option IS-version	2-wire: 4 20 mA / V _S = 14 28 V _{DC} V _{S rated} = 24 V _{DC}
Performance	
Accuracy ²	standard: $\leq \pm 0.25$ % FSO option for P _N ≥ 0.6 bar ³ : $\leq \pm 0.1$ % FSO
Permissible load	$R_{max} = \left[\left(V_{S} - V_{S \min} \right) / 0.02 \text{ A} \right] \Omega$
Long term stability	≤ ± 0.1 % FSO / year at reference conditions
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ
Turn-on time	700 msec
Mean response time	<pre>< 200 msec</pre> mean measuring rate 5/sec
Max. response time	380 msec
² accuracy according to IEC 60770 – III ³ Under the influence of disturbance bu	mit point adjustment (non-linearity, hysteresis, repeatability) ırst according to EN 61000-4-4 (2004) +2 kV accuracy decreases on ≤ ± 0.25 % FSO.
Thermal effects	$\frac{1}{2} = \frac{1}{2} = \frac{1}$
Thermal error	≤ ± 0.1 % FSO / 10 K in compensated range -20 80 °C
Permissible temperatures	
Permissible temperatures	medium: -40 125°C electronics / environment: -25 85°C storage: -40 100°C
•	medium40 120 C Electronics / environment20 60 C Storage40 100 C
Electrical protection	normanant
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to
Mashanian tabilit	- EN 61326 - DNV•GL (Det Norske Veritas • Germanischer Lloyd)
Mechanical stability	
Vibration	4 g (according to DNV•GL: Class B, curve 2 / basis: IEC 60068-2-6)
Materials	
Pressure port	standard: stainless steel 1.4404 (316 L)
L	option for inch thread G1/2" open pressure port (not possible with field housing): CuNi10Fe1Mn
Housing	stainless steel 1.4404 (316 L)
Housing Option field housing	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L)
	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland:
	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated
Option field housing	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request
Option field housing Cable sheath	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline,
Option field housing Cable sheath for option cable outlet	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil)
Option field housing Cable sheath for option cable outlet Seals (media wetted)	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request
Option field housing Cable sheath for option cable outlet	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 %
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 %
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 %
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas •	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR)	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B humidity: B enclosure: D
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL)	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B humidity: B enclosure: D electromagnetic compatibility: B B
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B humidity: B enclosure: D electromagnetic compatibility: B B
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B humidity: B enclosure: D electromagnetic compatibility: B 458)
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: brass, nickel plated gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B humidity: B enclosure: D electromagnetic compatibility: B B
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B humidity: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B humidity: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B humidity: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U _i = 28 V; I _i = 93 mA; P _i = 660 mW; L _i = 0 µH
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm EMV1, EMV2, EMV3 ⁴ , EMV4 number of certificate: 13/20055 temperature: D vibration: B humidity: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U _i = 28 V; I _i = 93 mA; P _i = 660 mW; L _i = 0 µH Field housing: C _i = 52.3 nF; 90.2 nF opposite GND C _i = 52.3 nF; 90.2 nF opposite GND
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm EMV1, EMV2, EMV3 ⁴ , EMV4 number of certificate: 13/20055 temperature: D vibration: B number of certificate: TAA00001GR humidity: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U _i = 28 V; I _i = 93 mA; P _i = 660 mW; L _i = 0 µH field housing: C _i = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm others on request EMV1, EMV2, EMV3 ⁴ , EMV4 number of certificate: 13/20055 temperature: D vibration: B number of certificate: TAA00001GR humidity: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U _i = 28 V; I _i = 93 mA; P _i = 660 mW; L _i = 0 µH field housing: C _i = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cab
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm EMV1, EMV2, EMV3 ⁴ , EMV4 number of certificate: 13/20055 temperature: D vibration: B number of certificate: TAA00001GR humidity: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U _i = 28 V; I _i = 93 mA; P _i = 660 mW; L _i = 0 µH field housing: C _i = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment Permissible temperatures for	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE_U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U _i = 28 V; I _i = 93 mA; P _i = 660 mW; L _i = 0 µH field housing: C _i = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND in zone 0: -20 60 °C with p _{atm} 0.8 bar up to 1.1 bar zone 1 and higher: -25 70 °C
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment Permissible temperatures for medium	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm others on request EMV1, EMV2, EMV3 ⁴ , EMV4 number of certificate: 13/20055 temperature: D vibration: B number of certificate: TAA00001GR humidity: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U _i = 28 V; I _i = 93 mA; P _i = 660 mW; L _i = 0 µH field housing: C _i = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cab
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment Permissible temperatures for medium Miscellaneous	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE_U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U _i = 28 V; I _i = 93 mA; P _i = 660 mW; L _i = 0 µH field housing: C _i = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND in zone 0: -20 60 °C with p _{atm} 0.8 bar up to 1.1 bar zone 1 and higher: -25 70 °C
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment Permissible temperatures for medium	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE_U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U _i = 28 V; I _i = 93 mA; P _i = 660 mW; L _i = 0 µH field housing: C _i = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND in zone 0: -20 60 °C with p _{atm} 0.8 bar up to 1.1 bar zone 1 and higher: -25 70 °C
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment Permissible temperatures for medium Miscellaneous	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B number of certificate: TAA00001GR humidity: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga Ui, = 28 V; Ii, = 93 mA; Pi, = 660 mW; Li, = 0 µH Field housing: field housing: Ci = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: Ci = 105 nF; 140 nF opposite GND Iso 2 60 °C with patm 0.8 bar up to 1.1 bar zone 1 and higher:25 70 °C -40 85 °C -40 85 °C
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment Permissible temperatures for medium Miscellaneous Ingress protection	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B number of certificate: TAA00001GR humidity: B enclosure: B electromagnetic compatibility: B d458) IBExU 07 ATEX 1180 X gauge: field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: ISO 4400, M12x1, cable outlet: cue 0: II 1G Ex ia IIB T4 Ga U, = 28 V; I, = 93 mA; P, = 660 mW; L, = 0 µH field housing: Ci = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: Ci = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: Ci = 105 nF; 140 nF opposite GND in zone 0: -20 60 °C with patm 0.8 barup to 1.1 bar zone 1
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment Permissible temperatures for medium Miscellaneous Ingress protection Installation position	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absOlute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B number of certificate: TAA00001GR humidity: B enclosure: electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U, = 28 V; I, = 93 mA; Pi = 660 mW; Li = 0 µH field housing: field housing: Ci = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: Ci = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: Ci = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: Ci = 105 nF; 140 nF opposite GND <t< td=""></t<>
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment Permissible temperatures for medium Miscellaneous Ingress protection Installation position Current consumption Weight	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absOlute, sealed gauge: polyamide (with integrated pressure reference); others on request TFE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm others on request EMV1, EMV2, EMV3 ⁴ , EMV4 number of certificate: 13/20055 temperature: D vibration: B number of certificate: TAA00001GR humidity: B enclosure: D electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U, = 28 V; I, = 93 mA; P_i = 660 mW; L = 0 µH field housing: C _i = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: C _i = 105 nF; 140 nF opposite GND in zone 0: <
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment Permissible temperatures for medium Miscellaneous Ingress protection Installation position Current consumption Weight Operational life	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TPE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B number of certificate: TAA00001GR humidity: B electromagnetic compatibility: B 458) IBEXU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga Ly = 28 V; I = 93 mA; P ₁ = 660 mV; L = 0 µH field housing: C = 52.3 nF; 90.2 nF opposite GND LSO 4400, M12x1, cable outlet: C = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: C = 105 nF; 140 nF opposite GND Iso 4400, M12x1, cable outlet: C = 105 nF; 140 nF opposite GND in zone 0: -20 60 °C with patm 0.8 bar up to 1.1 bar zone 1 and higher:
Option field housing Cable sheath for option cable outlet Seals (media wetted) Diaphragm Media wetted parts Category of the environment Lloyd's Register (LR) Det Norske Veritas • Germanischer Lloyd (DNV•GL) ⁴ not valid for IS-version (DX14A-DMK Explosion protection Approval DX14A-DMK 458 Safety technical maximum values Permissible temperatures for environment Permissible temperatures for medium Miscellaneous Ingress protection Installation position Current consumption Weight	stainless steel 1.4404 (316 L) stainless steel 1.4404 (316 L) cable gland: absolute, sealed gauge: polyamide (with integrated pressure reference); others on request TFE -U (flame-resistant, halogen free, increased resistance against oil and gasoline, resistant against salt, sea water, heavy oil) FKM others on request standard: ceramics Al ₂ O ₃ 96 % option: ceramics Al ₂ O ₃ 99.9 % pressure port, seals, diaphragm number of certificate: 13/20055 temperature: D vibration: B number of certificate: TAA00001GR humidity: B electromagnetic compatibility: B 458) IBExU 07 ATEX 1180 X field housing zone 0: II 1G Ex ia IIC T4 Ga ISO 4400, M12x1, cable outlet: zone 0: II 1G Ex ia IIB T4 Ga U ₁ = 28 V; I ₁ = 93 mA; P ₁ = 660 mW; L ₁ = 0 µH field housing: C = 52.3 nF; 90.2 nF opposite GND ISO 4400, M12x1, cable outlet: C = 105 nF; 140 nF opposite GND ISO 4400, M12x1, cable outlet: C = 105 nF; 140 nF opposite GND in zone 0: -20 60 °C with p _{atm} 0.8 bar up to 1.1 bar zone 1 and high

DMK 458 Technical Data



Mechanical connections (dimensions mm / in) inch thread SW41 SW41 SW41 SW41 ۲ İ Ż - 20 [0.79] 116.01 23 10.911 17 [0.67] 17 [0.67] - 12 [0.47] +G1/2"+ 3 [0.12]---1/2" NPT 14 [0.55]-+G1/2" - G1/2"-G1/2" 3852 open port G1/2" 3852 G1/2" EN 837 1/2" NPT flange 95,2 [3.75] 59,5 [2.34]--97 [3.81]-M20x1.5 for cable Ø 5 ... 14 mm 64 [2.52]-SW50 Ĺ 25,9 [1.02] SW50 n x Ød nx Ød ł 11 ł 1 ł Øg øg Øk dk ØD ØDflange with field housing flange with plug version and cable outlet

			dimensions in	mm		
size		DIN	2501		ANS	SI
size	DN25/PN40	DN40/PN40	DN50/PN40	DN80/PN16	2"/150 lbs	3"/150 lbs
b	18	18	20	20	19.1	23.9
d	14	18	18	18	19.1	19.1
D	115	150	165	200	152.4	190.5
f	2	3	3	3	2	2
g	68	88	102	138	91.9	127
k	85	110	125	160	120.7	152.4
n	4	4	4	8	4	4
p _N [bar]	≤ 40	≤ 40	≤ 40	≤ 16	≤ 10	≤ 10

	Ordering code DMK 458	
DMK 458		
Pressure		
in bar, gauge	5 9 A	
in bar, absolute ¹ in mH₂O, gauge	5 9 B	
in mH ₂ O, absolute ¹	5 9 C 5 9 D	consult
Input [mH₂O] [bar]		
0.4 0.04 0.6 0.06		
1.0 0.1	0 6 0 0 1 1 0 0 0	
1.6 0.16		
2.5 0.25	2 5 0 0	
4.0 0.40 6.0 0.60		
10 1.0		
16 1.6	1 6 0 1	
25 2.5	2 5 0 1	
40 4.0 60 6.0	4 0 0 1 6 0 0 1	
100 10		
160 16		
200 20	1 6 0 2 2 0 0 2 9 9 9 9	
Output	9 9 9 9	consult
4 20 mA / 2-wire	1	
intrinsic safety 4 20 mA / 2-wire	E	
Accuracy	9	consult
standard: 0.25 % FSO	2	
option for $p_N \ge 0.6$ bar: 0.1 % FSO	1	
Customer Electrical connection	9	consult
male and female plug ISO 4400 2	C 1 0	
(for cable Ø 4 6 mm)	G 1 0	
male and female plug ISO 4400 GL $_2$ (for cable Ø 10 14 mm)	G 0 0	
male and female plug ISO 4400 GL ₂		
(for cable Ø 4.5 11 mm)	G 0 1	
male plug M12x1 (4-pin) /	M 1 0	
metal version cable outlet with TPE-U-cable		
(with ventilation tube)	T R 3	
field housing stainless steel 1.4404 (316L)	8 8 0 9 9 9	
Customer Mechanical connection	9 9 9 9	consult
G 1/2" DIN 3852	1 0 0	
G 1/2" EN 837	2 0 0	
1/2" NPT	N 0 0	
G1/2" DIN 3852 open pressure port flange DN 25 / PN 40 (DIN 2501)	H 0 0 F 2 0 F 2 2 F 2 3 F 2 3 F 1 4	
flange DN 40 / PN 40 (DIN 2501)	F 2 2	
flange DN 50 / PN 40 (DIN 2501)	F 2 3	
flange DN 80 / PN 16 (DIN 2501) ³ flange DN 2" / 150 lbs (ANSI B 16.5) ³	F 1 4 F 3 2	
flange DN 3" / 150 lbs (ANSI B 16.5) ³	F 3 3	
customer	9 9 9	consult
Seals FKM	1	
andere	9	consult
Pressure port		
stainless steel 1.4404 (316L) copper-nickel-alloy (CuNi10Fe1Mn) ⁴	8	000011
copper-nickel-alloy (CUNITUFETMI)	К 9	consult consult
Diaphragm		
ceramics Al ₂ O ₃ 96 %	2	
ceramics Al ₂ O ₃ 99.9 % customer	C 9	consult
Special version	9	Consult
standard		0 0 0
customer		9 9 9 consult

¹ nominal pressure ranges absolute from 1 bar

¹ nominal pressure ranges absolute nomination in task ² female plug is GL-approbated ³ DN80/P_N16 possible for nominal pressure ranges $P_N \le 16$ bar; 2"/150 lbs and 3"/150 lbs possible for nominal pressure ranges $P_N \le 10$ bar ⁴ CuNi10Fe1Mn only in combination with G 1/2" open pressure port (code H00); not possible with field housing (code 880)



DMK 456

Pressure Transmitter with **Stainless Steel Field Housing**

Special application: Marine and Offshore

accuracy according to IEC 60770: standard: 0.25 % FSO option: 0.1 % FSO

Nominal pressure

from 0 ... 40 mbar up to 0 ... 20 bar

Output signals

2-wire: 4 ... 20 mA others on request

Product characteristics

- LR-certificate (Lloyd's Register)
- DNV-GL Approval (Det Norske ► Veritas - Germanischer Lloyd)
- ABS-certificate (American Bureau of Shipping)
- CCS-certificate (China Classification Society)
- stainless steel field housing ►
- IS-version (temperature class T6) Ex ia = intrinsically safe for gases
- high overpressure resistance

Optional versions

- diaphragm Al₂O₃ 99.9 %
- different inch threads and flush versions

The pressure transmitter DMK 456 has been developed for measuring the pressure in systems and the level in tanks and is certificated for shipbuilding and offshore applications.

Due robust stainless steel field housing and the possibility to use the device in intrinsic safe areas (temperature class T6) enable to measure the pressure of aggressive gases and fluids under extreme operating conditions. The basis for the DMK 456 is a capacitive ceramic sensor element designed by BD|SENSORS, which offers a high overload resistance and medium compatibility.

Preferred areas of use are



Monitoring of the pressure during loading and unloading processes Monitoring of a ship's position and draught



Level measurement in ballast and storage tanks



Monitoring of the internal pressure in liquid gas cargo tanks



Pressure ranges	
Nominal pressure ¹	[bar] 0.04 0.06 0.1 0.16 0.25 0.4 0.6 1 1.6 2.5 4 6 10 16 2
	H ₂ O] 0.4 0.6 1 1.6 2.5 4 6 10 16 25 40 60 100 160 2
Permissible overpressure	[bar] 2 2 4 4 6 6 8 8 15 25 25 35 35 45 4
Permissible vacuum	[bar] -0.2 -0.3 -0.5 -1
¹ available in gauge and absolu	nominal pressure ranges absolute from 1 bar
<u></u>	
Output signal / Supply	
Standard	IS-version 4 20 mA / 2-wire $V_{S} = 14 28 V_{DC}$ $V_{S rated} = 24 V_{DC}$
Performance	
Accuracy ²	standard: ≤ ± 0.25 % FSO
	option for $P_N \ge 0.6$ bar ³ : $\le \pm 0.1$ % FSO
Permissible load	$R_{max} = [(V_S - V_{S min}) / 0.02 A] \Omega$
Long term stability	$\leq \pm 0.1 \%$ FSO / year at reference conditions
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ
Turn-on time	700 msec
Mean response time	< 200 msec mean measuring rate 5/sec
Max. response time	380 msec
	0 – limit point adjustment (non-linearity, hysteresis, repeatability)
	e burst according to EN 61000-4-4 (2004) +2 kV accuracy decreased to ≤ ± 0.25 % FSO
Thermal effects / Permiss	
Thermal error	≤ ± 0.1 % FSO / 10 K in compensated range -20 80 °C medium: -25 125 °C
Permissible temperatures	medium: -25 125 °C electronics / environment: -25 85 °C
	storage: -40 100 °C
Electrical protection	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibili	emission and immunity according to - EN 61326
	- DNV•GL (Det Norske Veritas • Germanischer Lloyd)
Mechanical stability	
Vibration	4 g (according to DNV•GL: class B, curve 2 / basis: IEC 60068-2-6)
Materials	
Pressure port	stainless steel 1.4404 (316 L)
Housing	stainless steel 1.4404 (316 L)
Cable gland	brass, nickel plated others on request
Seals	FKM others on request
Diaphragm	standard: ceramics Al_2O_3 96 %
Madia wattad aanta	option: ceramics Al ₂ O ₃ 99.9 %
Media wetted parts	pressure port, seals, diaphragm
Category of the environm	
Lloyd's Register (LR)	EMV1, EMV2, EMV4 number of certificate: 13/20055
Det Norske Veritas •	temperature: D number of certificate: TAA00001GR
Germanischer Lloyd	humidity: B
(DNV•GL)	vibration: B
	electromagnetic compatibility: B
	enclosure: D
Explosion protection	
Approval DX14A-DMK 456	IBExU07ATEX1180 X
	zone 0: II 1G Ex ia IIC T6 Ga
Safety techn. maximum val	s U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i = 52.3 nF, L _i = 0 μH,
Salety techni. maximum vai	the supply connections have an inner capacity of max. 90.2 nF opposite the enclosure
-	
Permissible temperatures for	
Permissible temperatures for environment	-20 60 °C
Permissible temperatures for	
Permissible temperatures for environment Miscellaneous	
Permissible temperatures for environment Miscellaneous Ingress protection	-20 60 °C
Permissible temperatures for environment Miscellaneous Ingress protection Installation position	-20 60 °C
Permissible temperatures for environment	-20 60 °C
Permissible temperatures for environment Miscellaneous Ingress protection Installation position Current consumption	-20 60 °C IP 67 any max. 21 mA min. 400 g (depending on housing and mechanical connection)
Permissible temperatures for environment Miscellaneous Ingress protection Installation position Current consumption Weight	-20 60 °C IP 67 any max. 21 mA

DMK 456 Technical Data



	Ordering code DMK 456	
DMK 456		
Duessing		
Pressure in bar, gauge in bar, absolute ¹ in mH ₂ O, gauge in mH ₂ O, absolute ¹	5 9 5 5 9 6 5 9 6 5 9 7 5 9 8 6	
Input [mH ₂ O] [bar]		
0.4 0.04 0.6 0.06		
1.0 0.10		
1.6 0.16		
2.5 0.25 4.0 0.40	2 5 0 0 4 0 0 0	
6.0 0.60		
10 1.0		
16 1.6		
25 2.5 40 4.0	2 5 0 1 4 0 0 1	
60 6.0	6 0 0 1	
100 10	1 0 0 2	
160 16		
200 20 customer	1 0 2 1 6 0 2 0 0 9 9 9	
Output		
intrinsic safety 4 20 mA / 2-wire	E	
customer	9	
Accuracy standard 0.25 % FSO	2	
option for $P_N \ge 0.6$ bar: 0.10 % FSO	1	
customer	9	_
Electrical connection field housing stainless steel 1.4404 (316L)	8 8 0	
customer	8 8 0 9 9 9	
Mechanical connection		
G1/2" DIN 3852 G1/2" EN 837	1 0 0 2 0 0	
1/2" NPT	N 0 0	
flange DN 25 / PN 40 (DIN 2501)	F 2 0	
flange DN 50 / PN 40 (DIN 2501) flange DN 80 / PN 16 (DIN 2501) ²	F 2 3 F 1 4	
flange DN 2" / 150 lbs (ANSI B16.5) ²	F 1 4 F 3 2	
flange DN 3" / 150 lbs (ANSI B16.5) ²	F 3 3	
customer	9 9 9	
Seals FKM	1	
customer	9	
Pressure port		
stainless steel 1.4404 (316L) customer	9	
Diaphragm	9	
ceramics Al ₂ O ₃ 96 %	2	
ceramics Al ₂ O ₃ 99,9 %	С	
customer Special version	9	
standard	0 0 0	
customer	9 9 9	

¹ nominal pressure ranges absolute from 1 bar ² DN80/PN16 possible for nominal pressure ranges $p_N \le 16$ bar; 2"/150 lbs and 3"/150 lbs possible for nominal pressure ranges $p_N \le 10$ bar

³⁸ INDUSTRIAL PRESSURE TRANSMITTER



DMK 457

Pressure Transmitter for Shipbuilding and Offshore

Ceramic Sensor

accuracy according to IEC 60770: 0.5 % FSO

Nominal pressure

from 0 ... 400 mbar up to 0 ... 600 bar

Output signals

2-wire: 4 ... 20 mA others on request

Special characteristics

- LR-certificate (Lloyd's Register)
- DNV-GL Approval (Det Norske Veritas - Germanischer Lloyd)
- ABS-certificate (American Bureau of Shipping)
- CCS-certificate (China Classification Society)
- pressure port in CuNiFe (sea water resistant)
- oxygen application

Optional versions

 IS-version
 Ex ia = intrinsically safe for gases and dusts The pressure transmitter DMK 457 with ceramic sensor has been designed for typical applications in shipbuilding and offshore constructions as alternative to our pressure transmitter DMP 457 with piezoresistive stainless steel sensor.

In combination with the copper-nickel-alloy the DMK 457 is suitable for seawater, e.g. level measurement in ballast tanks, etc.

Preferred areas of use are

Drives



Compressors



Boiler Pneumatic control systems



Fuel and oil



Water and sea water



Input pressure range																		
Nominal pressure gauge	[bar]	-1 0	0.4	0.6	1	1.6	2.5	4 6	10	16	25	40	60	100	160	250	400	600
Nominal pressure abs.	[bar]	-		0.6	1	1.6	2.5	4 6	_	16	25	40	60	100	160	250	400	600
•	mH ₂ O]	-	-	6	10	16	25	40 60	_	160	250	400	600	-	-		-	-
Overpressure	[bar]	4	1	2	2	4	4	10 10		40	40	100	100	200	400	400	600	800
Burst pressure ≥	[bar]	7	2	4	4	5	5	12 12		50	50	120	120			500	650	880
Vacuum resistance	[~~.]	p _N ≥ 1 t		-		-	-											
		$p_N < 1 t$				louun		otanoo										
Output signal / Supply																		
Standard		2-wire:	4	20) mA	/ V _S :	= 8.	32 V _D)									
Option IS-version		2-wire:	4	20) mA	/ V _S :	= 10 .	28 V _D)									
Performance																		
Accuracy ¹		IEC 60	770:	≤±0	.5 %	FSO												
Permissible load		R _{max} =	[(V _s –	V _{S mi}	n) / 0	.02 A	Ω [
Influence effects		supply:																
		load:	0.0	5 % F	FSO	/ kΩ												
Long term stability		≤ ± 0.3	% FS	O / ye	ear a	t refe	rence	e conditi	ons									
Response time		< 10 m	sec															
¹ accuracy according to IEC 607	'70 – lim	it point ad	justme	ent (no	on-line	earity,	hyster	resis, rep	eatabilit	()								
Thermal effects (Offset an	d Span) / Perm	issibl	le ter	nper	ature	s											
Thermal error		≤ ± 0.2	% FS	SO / 1	10 K		in c	ompens	ated ra	nge: -:	25 8	35 °C						
Permissible temperatures		mediur	n:					125 °										
		electronics / environment: -40 85 °C																
		storage	e:				-40	100 °	С									
Electrical protection																		
Short-circuit protection		perma	nent															
Reverse polarity protection		no dan	nage,	but a	lso r	io fun	iction											
Electromagnetic compatibilit	ty	emissi	on and	d imn	nunit	у асс	ording	g to										
		- EN 6						-										
		- DNV	GL (L	et No	orske	e veri	tas • (German	scher I	loyd)								
Mechanical stability		1																
Vibration		4 g (ac	cordir	ng to	DNV	•GL:	class	B, curve	e 2 / ba	sis: IE	C 600	68-2-	6)					
Materials																		
Pressure port		Standa				stainless steel 1.4404 (316L)												
		option	2.														inical	
		connection G1/2" DIN 3852, G1/2" EN 837, G1/2" open port,																
																-,		
						G1/	4" DI	N 3852,	G1/4" E	EN 837	7		~1M~	(not u	•			
Housing		atanda				G1/ - in	4" DII comb	N 3852, Dination	G1/4" E with ho	EN 837 using	7		e1Mn	(not w	•		using)	-
Housing		standa				G1/ - in stai	4" DII comb nless	N 3852, bination steel 1.4	G1/4" E with ho 1404 (3	EN 837 using 16L)	, in Cul	Ni10Fe			/ith fie	ld hou		-
Housing		standa option				G1/ - in stai CuN	4" DII comb nless Ni10F	N 3852, bination steel 1.4 e1Mn (s	G1/4" E with ho 1404 (3 ea wate	EN 837 using 16L)	, in Cul	Ni10Fe			/ith fie	ld hou		-
Housing		option	2:			G1/ - in stai CuN port	4" DII comb nless Ni10Fo in Cu	N 3852, pination steel 1.4 e1Mn (s iNi10Fe	G1/4" E with ho 1404 (3 ea wate 1Mn -	EN 837 using 16L) er resis	in Cul stant)	Ni10Fo	ombina	ation v	vith fie	eld hou ressur	e	
		option option	²: field h	nousir	ng:	G1/ - in stai CuN port	4" DII comb nless Ni10Fo in Cu nless	N 3852, bination steel 1.4 e1Mn (s iNi10Fe steel 1.4	G1/4" E with hc 1404 (3 ea wate 1Mn - 1404 (3	EN 837 using 16L) er resis	in Cul stant) with c	Ni10Fo - in co able g	ombina Iland (ation v CuNi ²	vith fie vith pr 10Fe1	eld hou ressur Mn no	e ot poss	sible)
Housing Cable sheath		option	²: field h	nousir	ng:	G1/ - in stai CuN port stai (flar	4" DII comb nless Ni10Fo in Cu nless ne-res	N 3852, bination steel 1.4 e1Mn (s INi10Fe steel 1. sistant,	G1/4" E with ho 1404 (3 ea wate 1Mn - 1404 (3 naloger	EN 837 using 16L) er resis 16L); 16L);	in Cul stant) <u>with c</u> increa	Ni10Fo - in co able g	ombina Iland (esista	ation v CuNi ²	vith fie vith pr 10Fe1	eld hou ressur Mn no	e ot poss	sible)
Cable sheath		option option TPE -L	²: field h J	iousir	ng:	G1/ - in stai CuN port stai (flar resi	4" DII comb nless Ni10Fe in Cu nless me-res stant	N 3852, bination steel 1.4 e1Mn (s iNi10Fe steel 1.4	G1/4" E with ho 1404 (3 ea wate 1Mn - 1404 (3 naloger	EN 837 using 16L) er resis 16L); 16L);	in Cul stant) <u>with c</u> increa	Ni10Fo - in co able g	ombina Iland (esista	ation v CuNi ²	vith fie vith pr 10Fe1	eld hou ressur Mn no	e ot poss	sible)
		option option TPE -L standa	²: field h J rd:	nousir	ng:	G1/ - in stai CuN port stai (flar resi FKN	4" DII comb nless li10Fe in Cu nless me-re stant	N 3852, pination steel 1.4 e1Mn (s INi10Fe steel 1. sistant, against	G1/4" E with ho 4404 (3 ea wate 1Mn - 4404 (3 haloger salt, se	EN 837 using 16L) er resis 16L); 1 free, a wate	in Cul stant) <u>with c</u> increa	Ni10Fo - in co able g	ombina Iland (esista	ation v CuNi ²	vith fie vith pr 10Fe1 gainst	eld hou ressur <u>Mn no</u> oil an	e ot poss id gas	sible) oline,
Cable sheath Seals (media wetted)		option option TPE -L standa option:	²: field h J rd:			G1/ - in stai CuN port stai (flar resi FKN	4" DII comb nless li10Fe in Cu nless me-re stant	N 3852, bination steel 1.4 e1Mn (s INi10Fe steel 1. sistant,	G1/4" E with ho 4404 (3 ea wate 1Mn - 4404 (3 haloger salt, se	EN 837 using 16L) er resis 16L); 1 free, a wate	in Cul stant) <u>with c</u> increa	Ni10Fo - in co able g	ombina Iland (esista	ation v CuNi ²	vith fie vith pr 10Fe1 gainst	eld hou ressur <u>Mn no</u> oil an	e ot poss	sible) oline,
Cable sheath Seals (media wetted) Diaphragm		option option TPE -L standa option: cerami	² : field h J rd: c Al ₂ C	D ₃ 96	%	G1/ - in stai CuN port stai (flar resi FKN FFk	4" DII comb nless Ni10Fo in Cu nless ne-res stant A (M (or	N 3852, pination steel 1.4 e1Mn (s INi10Fe steel 1. sistant, against	G1/4" E with ho 4404 (3 ea wate 1Mn - 4404 (3 haloger salt, se	EN 837 using 16L) er resis 16L); 1 free, a wate	in Cul stant) <u>with c</u> increa	Ni10Fo - in co able g	ombina Iland (esista	ation v CuNi ²	vith fie vith pr 10Fe1 gainst	eld hou ressur <u>Mn no</u> oil an	e ot poss id gas	sible) oline,
Cable sheath Seals (media wetted) Diaphragm Media wetted parts		option option TPE -L standa option:	² : field h J rd: c Al ₂ C	D ₃ 96	%	G1/ - in stai CuN port stai (flar resi FKN FFk	4" DII comb nless Ni10Fo in Cu nless ne-res stant A (M (or	N 3852, pination steel 1.4 e1Mn (s INi10Fe steel 1. sistant, against	G1/4" E with ho 4404 (3 ea wate 1Mn - 4404 (3 haloger salt, se	EN 837 using 16L) er resis 16L); 1 free, a wate	in Cul stant) <u>with c</u> increa	Ni10Fo - in co able g	ombina Iland (esista	ation v CuNi ²	vith fie vith pr 10Fe1 gainst	eld hou ressur <u>Mn no</u> oil an	e ot poss id gas	sible) oline,
Cable sheath Seals (media wetted) Diaphragm Media wetted parts ² <i>IS-version on request</i>		option option TPE -L standa option: cerami	² : field h J rd: c Al ₂ C	D ₃ 96	%	G1/ - in stai CuN port stai (flar resi FKN FFk	4" DII comb nless Ni10Fo in Cu nless ne-res stant A (M (or	N 3852, pination steel 1.4 e1Mn (s INi10Fe steel 1. sistant, against	G1/4" E with ho 4404 (3 ea wate 1Mn - 4404 (3 haloger salt, se	EN 837 using 16L) er resis 16L); 1 free, a wate	in Cul stant) <u>with c</u> increa	Ni10Fo - in co able g	ombina Iland (esista	ation v CuNi ²	vith fie vith pr 10Fe1 gainst	eld hou ressur <u>Mn no</u> oil an	e ot poss id gas	sible) oline,
Cable sheath Seals (media wetted) Diaphragm Media wetted parts ² IS-version on request Category of the environme		option option TPE -L standa option: cerami pressu	² : field h J rd: c Al ₂ C re por)₃ 96 t, sea	% als, c	G1/ - in stai CuN port stai (flar resi FKN FFk	4" DII comb nless Ni10Fo in Cu nless me-re- stant A (M (or ragm	N 3852, pination steel 1.4 e1Mn (s INi10Fe steel 1. sistant, against	G1/4" E with ho 4404 (3 ea wate 1Mn - 4404 (3 haloger salt, se	EN 837 using 16L) er resis 16L); 1 free, a wate	in Cul stant) <u>with c</u> increa	Ni10Fe - in cc able g ased r avy oil	ombina Iland (esista)	ation v CuNi [*] nce ag	vith fie vith pr 10Fe1 gainst oth	Id hour ressur Mn no oil an	e ot poss d gas n requ	sible) oline,
Cable sheath Seals (media wetted) Diaphragm Media wetted parts ² IS-version on request Category of the environme Lloyd's Register (LR) ³		option option TPE -L standa option: cerami pressu EMV1,	² : J rd: c Al ₂ C re por	0₃ 96 t, sea 2, EN	% als, c	G1/ - in stai CuN port stai (flar resi FKN FFk	4" DII comb nless Ni10Fo in Cu nless me-re- stant A (M (or ragm	N 3852, pination steel 1.4 e1Mn (s INi10Fe steel 1. sistant, against	G1/4" F with hc 4404 (3 ea wate 1Mn - 4404 (3 naloger salt, se √ ≤ 100	EN 837 using 16L) er resis 16L); n free, a wate bar)	in Cul stant) <u>with c</u> increa	Ni10Fe - in cc able g ased r avy oil	ombina Iland (esista) mber o	ation v CuNi [^] nce ag	vith fie vith pr 10Fe1 gainst oth	Mn no oil an	e d gas n requ	sible) oline, est
Cable sheath Seals (media wetted) Diaphragm Media wetted parts ² <i>IS-version on request</i> Category of the environme Lloyd's Register (LR) ³ Det Norske Veritas •		option option TPE -L standa option: cerami pressu EMV1, temper	² : field h J rd: c Al ₂ C re por EMV: rature:	0₃ 96 t, sea 2, EN	% als, c	G1/ - in stai CuN port stai (flar resi FKN FFk	4" DII comb nless Ni10Fo in Cu nless me-re- stant A (M (or ragm	N 3852, pination steel 1.4 e1Mn (s INi10Fe steel 1. sistant, against	G1/4" F with hc 4404 (3 ea wate 1Mn - 4404 (3 naloger salt, se √ ≤ 100	EN 837 using 16L) er resis (16L); n free, a wate bar)	in Cul stant) <u>with c</u> increa	Ni10Fe - in cc able g ased r avy oil	ombina Iland (esista) mber o	ation v CuNi [^] nce ag	vith fie vith pr 10Fe1 gainst oth	Mn no oil an	e ot poss d gas n requ	sible) oline, est
Cable sheath Seals (media wetted) Diaphragm Media wetted parts ² IS-version on request Category of the environme Lloyd's Register (LR) ³		option option TPE -L standa option: cerami pressu EMV1, temper humidi	² : field h J rd: c Al ₂ C re por EMV: rature: ty:	0₃ 96 t, sea 2, EN	% als, c	G1/ - in stai CuN port stai (flar resi FKN FFk	4" DII comb nless Ni10Fo in Cu nless me-re- stant A (M (or ragm	N 3852, pination steel 1.4 e1Mn (s INi10Fe steel 1. sistant, against	G1/4" F with hc 4404 (3 ea wate 1Mn - 4404 (3 naloger salt, se √ ≤ 100	EN 837 using 16L) er resis (16L); n free, a wate bar)	in Cul stant) <u>with c</u> increa	Ni10Fe - in cc able g ased r avy oil	ombina Iland (esista) mber o	ation v CuNi [^] nce ag	vith fie vith pr 10Fe1 gainst oth	Mn no oil an hers o	e d gas n requ	sible) oline, est
Cable sheath Seals (media wetted) Diaphragm Media wetted parts ² <i>IS-version on request</i> Category of the environme Lloyd's Register (LR) ³ Det Norske Veritas •		option option TPE -L standa option: cerami pressu EMV1, temper humidi vibratic	² : field h J rd: c Al ₂ C re por EMV: rature: ty: on:)₃ 96 t, sea 2, EN	% als, c 1V3,	G1// - in stai CuN port stai (flar resi (flar FKN FFK	4" DIN comb nless Ni10Ft i n Cu nless me-re stant A (M (or ragm 4	N 3852, pination steel 1.4 e1Mn (s INi10Fe steel 1. sistant, against	G1/4" E with hc I404 (3 ea wate 1Mn - 1404 (3 naloger salt, se √ ≤ 100	EN 837 using 16L) er resis 16L); n free, a wate bar)	in Cul stant) <u>with c</u> increa	Ni10Fe - in cc able g ased r avy oil	ombina Iland (esista) mber o	ation v CuNi [^] nce ag	vith fie vith pr 10Fe1 gainst oth	Mn no oil an hers o	e d gas n requ	sible) oline, est
Cable sheath Seals (media wetted) Diaphragm Media wetted parts ² <i>IS-version on request</i> Category of the environme Lloyd's Register (LR) ³ Det Norske Veritas •		option option TPE -L standa option: cerami pressu EMV1, temper humidi	² : field h J rd: <u>c Al₂C re por EMV: ature: ty: on: magn</u>)₃ 96 t, sea 2, EN	% als, c 1V3,	G1// - in stai CuN port stai (flar resi (flar FKN FFK	4" DIN comb nless Ni10Ft i n Cu nless me-re stant A (M (or ragm 4	N 3852, pination steel 1.4 e1Mn (s INi10Fe steel 1. sistant, against	G1/4" F with hc 4404 (3 ea wate 1Mn - 4404 (3 naloger salt, se √ ≤ 100	EN 837 using 16L) er resis 16L); n free, a wate bar)	in Cul stant) <u>with c</u> increa	Ni10Fe - in cc able g ased r avy oil	ombina Iland (esista) mber o	ation v CuNi [^] nce ag	vith fie vith pr 10Fe1 gainst oth	Mn no oil an hers o	e d gas n requ	sible) oline, est

Explosion protection										
Approvals	IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X									
DX19-DMK 457	zone 0: II 1G Ex ia IIB T4 Ga									
	zone 20: II 1D Ex ia IIIC T 85°C Da									
Safety technical maximum val-	$U_i = 28 \text{ V}, I_i = 93 \text{ mA}, P_i = 660 \text{ mW}, L_i \approx 0 \mu\text{H}$									
ues	with field housing: $C_i = 105 \text{ nF}$									
	with cable outlet: $C_i = 84.7 \text{ nF}$									
	with ISO 4400: C _i = 62.2 nF									
	the supply connections have an inner capacity of max. 90 nF (140 nF with field housing) to the housing									
Permissible temperatures for	in zone 0: $-20 \dots 60 \text{ °C}$ with $p_{atm} 0.8$ bar up to 1.1 bar									
environment	in zone 1 or higher: -20 70 °C									
Connecting cables	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m									
(by factory)	cable inductance: signal line/shield also signal line/signal line: 1µH/m									
Miscellaneous										
Option oxygen application	for $p_N \leq 25$ bar: O-ring in FKM Vi 567 (with BAM-approval)									
	permissible maximum values are 25 bar/150° C									
Current consumption	max. 25 mA									
Weight	approx. 140 g (with ISO 4400)									
Installation position	any									
Operational life	100 million load cycles									
CE-conformity	EMC Directive: 2014/30/EU									
	Pressure Equipment Directive: 2014/68/EU (module A) ⁴									
ATEX-directive	2014/34/EU									
⁴ This directive is only valid for devices	s with maximum permissible overpressure > 200 bar									
Wiring diagram										
2-wire-system (current)										
p supply +	↔ +									
	Vs									
supply –	• –									
L										
Pin configuration										
Electrical connection	ISO 4400 field housing									
	(clamp section: 2.5 mm ²)									
	cable colours									
	3 ((1-0)) GND (IEC 60757)									
	2 V _{S+} V _{S-} S+ GND									

VS+

VS-

GND

WH (white) BN (brown)

GNYE (green-yellow)

Supply + Supply –

Shield

1 2

ground pin

⊕



	Ordering code DMK 457	
DMK 457]-[]]]
Pressure in bar, gauge in bar, absolute in mH ₂ O, gauge in mH ₂ O, absolute in mH ₂ O, absolute Input [mH ₂ O] 4 0.4 6 0.6 10 1.0 16 1.6 25 2.5 40 4.0 60 6.0 100 10 160 16 250 25 400 40 600 60 100 10 160 16 250 25 400 40 600 60 1000 100 160 250	5 9 0	
August Au	1 0 0 3 4 0 0 3 6 0 0 3 X 1 0 2 9 9 9 1 E 9 9	consu
0.5 % FSO customer Electrical connection male and female plug ISO 4400 (for cable Ø 46 mm) male and female plug ISO 4400 GL 1.4 (for cable Ø 1014 mm) male and female plug ISO 4400 GL 1.4 (for cable Ø 4.511 mm) cable outlet (TPE-U-cable) ³ field housing stainless steel submersible version (1.4404 / 316L) with TPE-U-cable ³ submersible version (CuNIFe) with TPE-U-cable ³ customer	5 y x	consu
Mechanical connection G1/2" DIN 3852 G1/2" EN 837 G1/4" DIN 3852 G1/4" EN 837 G1/2" DIN 3852 open pressure port 4 1/2" NPT 1/4" NPT customer Seals	1 0 0 2 0 0 3 0 0 4 0 0 H 0 0 N 0 0 N 4 0 9 9 9	consu
FKM ⁵ Customer Pressure port stainless steel 1.4404 (316L) copper-nickel-alloy (CuNi10Fe1Mn) ⁶ customer Diaphragm ceramics Al ₂ O ₃ 96% customer	1 7 9 1 K 9 2 9	consu
Special version standard oxygen application 7 customer		0 0 0 0 0 7 9 9 9 0 const

¹ Shielded cable has to be used! Cable versions are delivered with shielded cable.
 ² female plug is GL-approbated
 ³ cable with integrated air tube for atmospheric pressure reference; different lengths deliverable
 ⁴ only for P_N ≤ 40 bar possible

⁶ only for P_N 3 +0 bar possible
 ⁶ only for P_N 5 100 bar possible
 ⁶ optionally for nominal pressure ranges up to 400 bar and mechanical connections G1/2" DIN 3852, G1/2" EN 837, G1/2" open port, G1/4" DIN 3852, G1/4" EN837 in combination with housing in CuNi10Fe1Mn (not with field housing)

 $^{\rm 7}\,$ oxygen application with FKM seal possible up to 25 bar

OEM PRESSURE TRANSMITTER



18.600 G

OEM Pressure Transmitter Pneumatics

Applications

- compressed air network
- general mechanical engineering

Characteristics

- silicon sensor without media isolation
- accuracy 0.5 % FSO according to IEC 60770
- nominal pressure ranges from
 0 ... 100 mbar up to 0 ... 6 bar

Technical Data

Input pressure range															
Nominal pressure gauge	[bar]	-1 0	0,1	0,25	0,4	0,6	1	1,6	2,5	4	6				
Overpressure	[bar]	3	0,5	1	1	3	3	6	10	10	20				
Burst pressure	[bar]	5	1,5	3	3	3	7,5	7,5	15	25	25				
Output signal / Supply															
Standard		2-wire:		4	20 mA		/ V _S = 832 V _{DC}								
Options		3-wire: 3-wire rat	·												
Performance															
Accuracy ¹		≤±0.5 %	FSO												
Permissible load		2-wire:	R _{max} = [(V	s – V _{S min}) /	0.02 A] Ω	3-י	wire: R _{min}	= 10 kΩ							
Influence effects		supply:	0.05 % FS	SO / 10 V		loa	ad: 0.05	5 % FSO / k	íΩ						
Response time		2-wire:	≤ 10 msec	0		3-י	wire: ≤ 3	msec							
Long term stability		≤±0,2 %	FSO / yea	ar at referer	ice conditio	ons									
Measuring rate		1 kHz													
¹ accuracy according to IEC 6	0770 – lim	it point adju	stment (non-	linearity, hys	teresis, repe	eatability)									
Thermal effects (Offset a	and Spar	ı)													
Nominal pressure P _N	[bar]		-1 0)		5	≤ 0.4			> 0.4					
Tolerance band [% FSO]		≤±1			-	≤±1	≤ ± 0.75							
in compensated range	[°C]				0 70					-20 85					
Permissible temperature	s														
Permissible temperatures		medium:	edium: -25 125 °C electronics / environment: -25 85 °C						st	orage: -40 .	85 °C				
Electrical protection															
Short-circuit protection permanent															
Reverse polarity protection no damage, but also no function						i									
Electromagnetic compatib	ility	emission	and immur	nity accordi	ng to EN 6	1326									
Mechanical stability															
Vibration		10 g, 25	Hz 2 kH:	Z	accord	ing to DIN	EN 60068-	2-6							
Shock		100 g / 1	1 msec		accord	ing to DIN	EN 60068-	2-27							



144 18.600 G Technical Data


	Ordering code 18.600 G
18.600 G	
Input [bar] 0.10 0.25 0.40 0.60 1.0 1.6 2.5 4.0 6.0 -10 customer	1 0
Pressure gauge	R
4 20 mA / 2-wire 0 10 V / 3-wire 10 90% of V _S / 3-wire ratiometric customer	1 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Accuracy 0.5 % FSO customer	
Electrical connection male and female plug ISO 4400 male plug M12x1 (4-pin), metal cable outlet with PVC-cable ¹ customer	1 0 0 M 2 0 1 T M 0 9 9 9
Mechanical connection G1/4" DIN 3852 G1/4" EN 837 1/4" NPT customer	3 0 0 4 0 0 N 4 0 9 9 9
Seals FKM customer Special version	1 9
standard customer	0 0 0 9 9 9

 1 standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 \ldots 70 $^{\circ}\text{C})$



18.601 G

OEM Pressure Transmitter Low Pressure

Applications

► general industrial applications

Characteristics

- ► piezoresistive stainless steel sensor
- ► accuracy 0.5 % FSO according to IEC 60770
- nominal pressure ranges from 0 ... 100 mbar up to 0 ... 6 bar

Input pressure range										
Nominal pressure gauge [bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6
Overpressure [bar]	1	1	1	1	3	3	6	10	10	21
Burst pressure ≥ [bar]	1.5	1.5	1.5	1.5	5	5	10	17.5	17.5	35
Vacuum resistance	unlimited									
Output signal / Supply										
Standard	2-wire:		4 20 r	nA	1	V _s = 8	32 V _{DC}			
Options 3-wire	3-wire: 3-wire rat	iometric:	0 10 \ 10 90 %		 	$V_{\rm S} = 14$ $V_{\rm S} = 2.7$				
Performance										
Accuracy ¹		mbar: ≤± nbar: ≤±		1						
Permissible load		$R_{max} = [(V_s)$		0.02 A] Ω		3-wire:	R _{min} = 10 k	Ω		
Influence effects	supply:	0.05 % FS	O / 10 V			load:	0.05 % FS	Ο / kΩ		
Response time	2-wire:	≤ 10 msec				3-wire:	≤ 3 msec			
Long term stability	≤ ± 0,2 %	FSO / year	r at referen	ce conditio	ns					
Measuring rate	1 kHz									
¹ accuracy according to IEC 60770 – lir	nit point adjus	stment (non-l	inearity, hys	teresis, repe	atability)					
Thermal effects (offset and spar) / Permiss	sible tempe	eratures							
Thermal error	≤ ± 0.3 %	FSO / 10 k	<	in comper	nsated ran	ge 0 70 '	°C			
Permissible temperatures	medium:	-25 125	°C	electronic	s / environ	ment: -25 .	85 °C	stora	ge: -40 8	35 °C
Electrical protection										
Short-circuit protection	permaner	nt		3-wire rat	iometric: n	one				
Reverse polarity protection	no damag	ge, but also	no functio	n						
Electromagnetic compatibility	emission	and immun	ity accordi	ng to EN 6'	1326					
Mechanical stability										
Vibration	10 g, 25 l	Hz 2 kHz	2	according	to DIN EN	1 60068-2-6	3			
Shock	100 g / 1	msec		according	to DIN EN	00068-2-2	27			



18.601 G Technical Data



147

	Ordering code 18.601 G		
18.601 G -	• • • • • • • • • • • • • • • • • • • •		
Input [bar]			
0.10 0.16	1 0 0 0 1 6 0 0		
0.25			
0.40	4 0 0 0		
0.60	6 0 0 0		
1.0	1 0 0 1		
1.6			
2.5 4.0	2 5 0 1 4 0 0 1		
6.0			
customer	9 9 9 9		consult
Pressure			
gauge	R		
Output			
4 … 20 mA / 2-wire 0 … 10 V / 3-wire			
10 90% of V_s / 3-wire ratiometric	3		
customer	8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		consult
Accuracy			Contourt
$P_N > 160 \text{ mbar:} \leq \pm 0.5 \% \text{ FSO}$	5		
$P_N \le 160 \text{ mbar}$: $\le \pm 1 \% \text{ FSO}$	8		
customer	9		consult
Electrical connection			
male and female plug ISO 4400 male plug M12x1 (4-pin), metal			
cable outlet with 2 m PVC cable ¹			
customer	T M 0 9 9 9		consult
Mechanical connection			
G1/4" DIN 3852	3 0 0		
G1/4" EN 837	4 0 0		
1/4" NPT	N 4 0		
G1/2" EN 837 customer	2 0 0 9 9 9		consult
Seals	3 9 9 9		consuit
FKM	1		
customer	9		consult
Special version			
standard		0 0 0	
customer		999	consult

 1 standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 \dots 70 $^{\circ}C)$



26.600 G

OEM Pressure Transmitter Standard

Applications

- mechanical and plant engineering
- general industrial applications

Characteristics

- ▶ ceramic sensor
- accuracy 0.5 % FSO according to IEC 60770
- nominal pressure ranges from
 0 ... 1 bar up to 0 ... 400 bar
- ► option: oil and grease free version



Technical Data

Input pressure range																
Nominal pressure gauge	[bar]	-10 ¹	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250	400
Nominal pressure abs.	[bar]	-	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250	400
Overpressure	[bar]	3	3	5	5	12	12	20	50	50	120	120	200	400	400	650
Burst pressure ≥	[bar]	4	4	7	7.5	15	18	30	70	75	150	180	300	500	750	1000
Vacuum resistance unlimited																
¹ for this pressure range accur	¹ for this pressure range accuracy is ≤ 1 % FSO IEC 60770															

Output signal / Supply

Output signal / Supply				
Standard	2-wire: 4 20 r	nA /	V _S = 8 32 V _{DC}	
Options	3-wire: 0 10	/ /	V _s = 14 30 V _{DC}	
	3-wire ratiometric: 10 90 °	% of V _s /	$V_{\rm S} = 2.7 \dots 5 V_{\rm DC}$	
Performance				
Accuracy ²	≤ ± 0.5 % FSO		for p_N -10 bar: \leq 1 % FSO	
Permissible load	2-wire: $R_{max} = [(V_S - V_{S min}) / 0.0]$	2 A] Ω	3-wire: R_{min} = 10 k Ω	
Influence effects	supply: 0.05 % FSO / 10 V		load: 0.05 % FSO / kΩ	
Response time	2-wire: ≤ 10 msec		3-wire: ≤ 3 msec	
Long term stability	$\leq \pm 0.3$ % FSO / year at reference	e conditions		
Measuring rate	1 kHz			
² accuracy according to IEC 60770 – lin	mit point adjustment (non-linearity, hyst	eresis, repeatability)		
Thermal effects (Offset and Spa	n) / Permissible temperatures			
Thermal error	≤ ± 0.3 % FSO / 10 K	in compensated r	range: -25 85 °C	
Permissible temperatures	medium: -25 125 °C	electronics / envi	ronment: -25 85 °C	storage: -40 85 °C
Electrical protection				
Short-circuit protection	permanent	3-wire ratiometric	:: none	
Reverse polarity protection	no damage, but also no function			
Electromagnetic protection	emission and immunity accordin	g to EN 61326		
Mechanical stability				
Vibration	10 g, 25 Hz 2 kHz	according to DIN	EN 60068-2-6	
Shock	500 g / 1 msec	according to DIN	EN 60068-2-27	



	Ordering code 26.600 G
26.600 G	
Input [bar]	
1.0	1 0 0 1 1 6 0 1 2 5 0 1
1.6 2.5	1 6 0 1 2 5 0 1
2.5	
6.0	
10	
16	1 6 0 2
25	2 5 0 2 4 0 0 2
40 60	4 0 0 2 6 0 0 2
100	
160	
250	
400	4 0 0 3
-1 0	
Pressure	9999 consult
gauge	R
absolute	
Output	
4 20 mA / 2-wire	
0 10 V / 3-wire 10 90% of V _s / 3-wire ratiometric	
customer	
Accuracy	S Consult
0.5 % FSO	
P _N : -10 bar 1.0 % FSO	
customer	9 9 consult
Electrical connection male and female plug ISO 4400	
male and female plug Nicro	
male plug M12x1 (4-pin), metal	
cable outlet with PVC cable	
customer	9 9 9 consult
Mechanical connection G1/4" DIN 3852	
G1/4" DIN 3852 G1/4" EN 837	
1/4" NPT	N 4 0
G1/2" EN 837	2 0 0 9 9 9 consult
customer	9 9 9 consult
Seal	
FKM EPDM	
customer	
Special version	
standard	
oxygen application	
oil and grease free	
customer	9 9 9 consult

 1 standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C) 2 oxygen application with FKM seal up to 25 bar possible



30.600 G

OEM Pressure Transmitter Low Cost

Applications

- ▶ mechanical and plant engineering
- ► general industrial applications

Characteristics

- ▶ ceramic sensor
- ► accuracy 1 % FSO according to IEC 60770
- nominal pressure ranges from 0 ... 1.6 bar up to 0 ... 250 bar

Input pressure range												
Nominal pressure gauge [bar] 1.6	2.5	4	6	10	16	25	40	60	100	160	250
Overpressure [bar] 5	5	12	12	20	50	50	120	120	200	400	400
Burst pressure ≥ [bar] 7	7.5	15	18	30	70	75	150	180	300	500	750
Vacuum resistance	unlimite	d										
Output signal / Supply												
Standard	2-wire:		4	20 mA	۹	/	V _s =	8 32 V	рс			
Options	3-wire:		0	10 V		/	V _S = 1	I4 30 V	DC			
-	3-wire ra	atiometric	: 10	90 %	of Vs	1	V _S = 2	2.7 5 V	DC			
Performance												
Accuracy ¹	≤±1%	FSO										
Permissible load	2-wire:	R _{max} =	[(V _S – V _{S r}	_{min}) / 0.02	A] Ω		3-wire	: R _m	_{in} = 10 kΩ	2		
Influence effects	supply:	0.05 %	FSO / 10) V			load:	0.0	5 % FSO	/ kΩ		
Response time	2-wire:	≤ 10 m	sec				3-wire	e: ≤3	msec			
Long term stability	≤±0.3	% FSO / y	/ear at ref	ference c	onditions							
Measuring rate	1 kHz											
¹ accuracy according to IEC 60770 - 1	imit point ad	justment (n	on-linearity	y, hysteres	sis, repeata	bility)						
Thermal effects (Offset and Sp	an) / Perm	issible te	mperatu	res								
Thermal error	≤ ± 0.5 °	% FSO / 1	I0 K (typ.)) ir	o compens	sated rang	ge -25	. 85 °C				
Permissible temperatures	medium	: -25 12	25 °C	е	lectronics	/ environ	- ment: -25	85 °C		storage	: -40 8	5 °C
Electrical protection												
Short-circuit protection	perman	ent		3	-wire ratio	metric: no	one					
Reverse polarity protection	no dama	no damage, but also no function										
Electromagnetic protection	emissio	n and imn	nunity acc	cording to	EN 6132	6						
Mechanical stability			·									
Vibration	10 g, 25	Hz 2 I	кНz	а	ccording f	O DIN EN	60068-2	-6				
Shock	500 g /	1 msec		а	ccording f	O DIN FN	1 60068-2	-27				





	Ordering code 30.600 G
30.600 G	
Input [bar]	
1.6 2.5	1 6 0 1 2 5 0 1
4.0	2 5 0 1 4 0 0 1
6.0	
10	
16	
25 40	2 5 0 2 4 0 0 2
60	
100	
160	
250	2 5 0 3 9 9 9 9 c consult
Pressure	9 9 9 9 9 consult
gauge	R
Output	
4 20 mA / 2-wire	1
0 10 V / 3-wire 10 90% of V _S / 3-wire ratiometric	3
customer	R Image: Second sec
Accuracy	
1.0 % FSO	8
customer	9 Consult
Electrical connection	
male and female plug ISO 4400 male and female plug Micro	
male plug M12x1 (4-pin), metal	
cable outlet with PVC cable	M 2 0 1 T M 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
customer	9 9 9 consult
Mechanical connection G1/4" DIN 3852	
G1/4" DIN 3852 1/4" NPT	3 0 0 N 4 0
customer	N 4 0 9 9 9 Consult
Seal	
FKM	
customer	9 consult
Special version standard	0 0 0
customer	0 0 0 9 9 9 consult

 1 standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 \dots 70 $^{\circ}C)$



17.609 G

OEM Pressure Transmitter

Application

► refrigeration

Characteristics

- stainless steel sensor, welded
- accuracy 0.5 % FSO according to IEC 60770
- nominal pressure ranges from
 0 ... 6 bar up to 0 ... 60 bar
 - -1 ... 6 bar up to -1 ... 60 bar

Pressure ranges								
Nominal pressure gauge	[bar]	6	10	16	25	40	60	
Overpressure	[bar]	12	20	32	50	80	120	
Burst pressure ≥	[bar]	30	50	80	125	200	300	
Vacuum resistance		unlimited						
Vacuum ranges								
Nominal pressure gauge	[bar]	-1 6	-1 10	-1 16	-1 25	-1 40	-1 60	
Overpressure	[bar]	12	20	32	50	80	120	
Burst pressure	[bar]	30	50	80	125	200	300	
Output signal / Supply								
Standard		2-wire:	4 20 mA	/ V _S =	8 32 V _{DC}			
Options		3-wire: 0 10 V / $V_s = 14 \dots 30 V_{DC}$ 3-wire ratiometric: 10 90 % of V_s / $V_s = 2.7 \dots 5 V_{DC}$						
Performance				<u> </u>				
Accuracy ¹		≤±0.5 % FSO						
Permissible load		2-wire: R _{max} = [(V _S – V _{S min}) / 0.02	A] Ω 3-wi	re: R _{min} = 10 kΩ			
Influence effects		supply: 0.05 %	FSO / 10 V	load	0.05 % FSO /	kΩ		
Response time		2-wire: ≤ 10 ms	ec	3-wii	re: ≤ 3 msec			
Long term stability		≤ ± 0.3 % FSO / y	ear at reference co	onditions				
Measuring rate		1 kHz						
¹ accuracy according to IEC 607	70 — lir	nit point adjustment (i	non-linearity, hysteres	sis, repeatability)				
Thermal effects (Offset and	d Spa	n) / Permissible te	emperatures					
Thermal error		≤ ± 0.3 % FSO / 1	0 K ir	n compensated ran	ge 0 70 °C			
Permissible temperatures		medium: -40 12	25 °C e	lectronics / environ	ment: -40 85 °C	stora	ge: -40 85 °C	
Electrical protection								
Short-circuit protection		permanent	3	-wire ratiometric: n	one			
Reverse polarity protection		no damage, but a	lso no function					
Electromagnetic protection		emission and imm	nunity according to	EN 61326				



Mechanical stability			
Vibration	20 g, 25 Hz 2 kHz	according to DIN EN 60068-2-6	
Shock	500 g / 1 msec	according to DIN EN 60068-2-27	
Materials			
Pressure port	stainless steel 1.4571 (316Ti)		
Housing	stainless steel 1.4301 (304)		
Seal of sensor	none (welded)		
Diaphragm	stainless steel 1.4542 (630)		
Media wetted parts	pressure port, diaphragm		
Miscellaneous			
Mechanical connection	7/16"-20 UNF		
Weight	approx. 120 g		
Current consumption	2-wire: max. 25 mA	3-wire ratiometric: typ. 3 mA	
	3-wire voltage: max. 7 mA (sho	ort circuit current: max. 20 mA)	
Operational life	100 million load cycles		
CE-conformity	EMC Directive: 2014/30/EU		

Wiring diagrams



3-wire-system (voltage)



Pin configuration

J				
Electrical connection	ISO 4400	Micro (contact distance 9.4 mm)	M12x1 (4-pin), metal	cable colours (IEC 60757)
Supply +	1	1	1	WH (white)
Supply –	2	2	2	BN (brown)
Signal + (for 3-wire)	3	3	3	GN (green)
Shield	ground pin 🕀	ground pin 🕀	4	GNYE (green-yellow)

Dimensions (in mm)



	Ordering code 17.609 G	
17.609 G		
Input [bar] 6	6 0 0 1	
10		
16	1 6 0 2	
25	2 5 0 2 4 0 0 2	
40 60		
-1 6	V 6 0 2	
-1 10	V 0 0 2 V 1 0 3	
-1 16	V 1 6 3	
-1 25	V 2 5 3	
-1 40		
-1 60 customer	V 6 0 3 9 9 9 9	oonoult
Pressure		consult
gauge	R	
Output		
4 20 mA / 2-wire	1	
0 10 V / 3-wire	3	
10 90% of V_S / 3-wire ratiometric	R	
Accuracy 0.5 % FSO	5	
customer	5 5 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	consult
Electrical connection		Contourt
male and female plug ISO 4400	1 0 0	
male and female plug Micro	C 1 0	
male plug M12x1 (4-pin), metal	M 2 0 1 1 1 T M 0 1 1 1	
cable outlet with PVC-cable customer	9999	consult
Mechanical connection / Seal	5 5 5	consult
7/16"-20 UNF	U 0 0 2	
customer	9 9 9 9	consult
Special version		
standard	0 0 0	
customer	9 9 9	consult

 1 standard: 2 m PVC cable without ventilation tube (permissible temperatur: -5 \ldots 70 $^{\circ}C)$



17.600 G

OEM Pressure Transmitter Heavy Duty

Applications:

- mobile hydraulic
- presses
- general mechanical engineering
- oxygen application

Characteristics:

- stainless steel sensor, welded accuracy 0.5 % FSO
- according to IEC 60770
- nominal pressure ranges from 0 ... 6 bar up to 0 ... 600 bar

Input pressure range												
Noniral pressure gauge	[122]	Б	10	16	25	40		100	160	250	40	600
Dverpressure (static)	[1530]	12	20	32	50		120	200	370	500	800	1.200
Bunt pressure 2	[122]	30	50	80	125	200	300	500		1400	2000	3000
Vacuum resistance		unintied										

Output signal / Supply						
Standard	2-ale: 420 mA / Vg = 832 Vgs					
Opliens	3-adres 0 10 V / Vg = 14 30 Vgg 3-adre radiometric: 10997% of Vg / Vg = 2.7 5 Vgg					
Performance						
Accuracy ¹	\$±0.5% F3O					
Permissible load	2-ede: R _{max} = [(V ₀ - V ₀ min)/0.02A]Ω 3-ede: R _{max} = 10 kΩ					
iniuence effects	supply: 0.05 % F3O / 10 V Issue: 0.05 % F3O / ISD					
Response time	2-aire: < 10 mes: 3-arite: < 3 mes:					
Long iem stabiliy	s±0.3 % FSO / year at relevence conditions					
Viewarka, cale	182					
¹ accuracy accurating to ISC 00778 – And point adjustment (non-includy, hydrosols, repeatability)						
Thermal effects (Offset and Sp	an) / Permissible temperatures					
Themal ever	5±0.3% FSO/10 K in compensated range 0 _ 70°C					
Permissible temperatures	medium: +40 _ 125 °C electronics / environment _40 65 °C slorage: +40 65 °C					
Electrical protection	Electrical protection					
Stat-cicul pulction	permanent 3-wire raliametric name					
Reverse potently protection	re damage, but also no function					
Electronoguetic protection	entation and immunity according to EN 61325					
Mechanical stability						
Vibration	20 g, 25 Hz 2 MHz according to DNN EN 60068-2-6					
Stock	500 g / 1 miles according to DIN EN 60060-2-27					



17.600 G Technical Data



	Ordering co	de 17.600 G		
17.6 0 0 G	-[]]]-[]-[]-	◘-┯┳-┳	-444	
Input (bar)				
6	6 0 0 1 1 D D 2 1 6 0 2 2 5 D 2			
10	1002			
	2502			
40	4 0 0 2 6 D D 2			
60	5 D D 2			
100	1003			
160	1 0 0 3 1 6 D 3 2 5 0 3 4 D D 3			
250	2 5 0 3	1 111 111 1		
+LL 600	6003			
006	6 0 0 3 9 9 9 9			- C
Pressure	-1-1-1-1			
gauge	R			
Output				
4 20 mA / 2-wire	1			
III 10 V / 3-mire 10 90% of Vs / 3-wire ratiometric	3 R			
Acouracy	RI			
0.5 % F80		5 1 1 1 1		
and the second se		5		
Electrical connection				
male and female plug ISO 4400		100		
maie and terraic ping billoo		518		
male plug M12x1 (4-pin), metal cable suffet sith PVC-cable ?		M 2 0		
customer		1 0 0 C 1 0 M 2 0 T M 0 9 9 9	cons	thus
Mechanical connection / Seal		212121	cons	
G1/4" DIN 3852 /		3 0 0 P		
on pressure port: FKM				
B147 EN 837 / alfaul		<u> </u>		
1/4" NPT / without B12" EN 837 / million		N 4 D 2		
customer		4 0 0 2 N 4 0 2 2 0 0 2 9 9 9 9	cons	the
Special version		2 2 2 3 3 3		
standard			0 0 0 0 7 0 0 8 9 9 9	
anger application 2			0 0 7	
oil and grease free			0 0 8	
			9 9 9 000	

¹ sindert 200 PrC alie officient ² nel perificatio 400° ER 200 lister tele (particulto impresien: -0 70 °C)



17.620 G

Compact OEM Pressure Transmitter Heavy Duty

Applications:

- mobile hydraulic, presses
- general mechanical engineering

Characteristics:

- ▶ stainless steel sensor, welded
- nominal pressure ranges from
 0 ... 16 bar up to 0 ... 1000 bar
- accuracy according to IEC 60770: 0.5 % FSO



Input pressure range											
Nominal pressure gauge	[bar]	16	25	40	60	100	160	250	400	600	1000 ¹
Overpressure (static)	[bar]	50	50	80	120	200	320	500	800	1200	1500
Burst pressure ≥	[bar]	125	125	200	300	500	800	1250	2000	2000	3000
¹ only for static pressures											

Output signal / Supply						
2-wire	4 20 mA	Vs = 10 30 Vpc				
3-wire ratiometric	10 90% of V _S	$V_{\rm S} = 2.7 \dots 5 V_{\rm DC}$				
Performance	<u> </u>					
Accuracy ²	≤ ± 0.5 % FSO					
Permissible load	2 wire: $R_{max} = [(V_S - V_{S min}) / 0.$	02 A] Ω 3 wire: R _{min} = 10 kΩ				
Influence effects	supply: 0.05 % FSO / 10 V	load: 0.05 % FSO / kΩ				
Response time	typ. 2 msec					
Long term stability	≤ ± 0.2 % FSO / year at refere	nce conditions				
Measuring rate	1 kHz					
² accuracy according to IEC 60770 – lin	nit point adjustment (non-linearity, h	rsteresis, repeatability)				
Thermal effects (Offset and Spa	n) / Permissible temperatures					
Thermal error	≤ ± 0.2 % FSO / 10 K	in compensated range -20 80 °C				
Permissible temperatures	medium:	-40 125 °C				
	electronics / environment:	-40 85 °C				
	storage:	-40 85 °C				
Electrical protection						
Short-circuit protection	2-wire: permanent	3-wire ratiometric: none				
Reverse polarity protection	no damage, but also no function					
Electromagnetic protection	emission and immunity according to EN 61326					
Mechanical stability						
Vibration	20 g, 25 Hz 2 kHz	according to DIN EN 60068-2-6				
Shock	500 g / 1 msec	according to DIN EN 60068-2-27				

¹⁶² 17.620 G Technical Data



	Ordering code 17.620 G
17.620 G	
Input [bar] 16 25 40 60 100 160 250 400 600 100 160 160 160 160 160 1	1 6 0 2 2 5 0 2 4 0 0 2 6 0 2 1 0 0 2 5 0 1 0 0 1 0 0 2 5 0 3 1 6 4 0 0 3 1 6 4 0 0 3 1 6 6 0 3 4 0 0 3 1 6 6 0 3 6 0 3 6 0 3
1000 customer	1 0 0 4 9 9 9 9 0 consult
Pressure	R
Output	
4 20 mA / 2-wire	1
10 90% of Vs / 3-wire ratiometric	
customer	9 consult
Accuracy	
0.5 % FSO IEC	5
customer	9 consult
Electrical connection	
male plug M12x1 (4-pin), metal	M 1 3
male plug Micro (contact distance 9.4 mm)	C B 0 consult 9 9 9
Customer Mechanical connection / Seal	9 9 9 consult
G1/4" DIN 3852 /	
on pressure port: FKM	3 0 0 P
1/4" NPT / without	N 4 0 2
R1/4" / without	R 4 0 2
customer	9 9 9 9 9 consult
Special version	
standard	0 0 0
customer	9 9 9 consult

COMPETENCE

Industrial pressure measurement technology from 0.1 mbar up to 6000 bar

- > pressure transmitters, electronic pressure switches or hydrostatic level probes
- > OEM or high-end products
- > standard products or customized solutions

BD|SENSORS has the right pressure measuring device at the right price.

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Tel.: 0086 / 21 / 51600190 Fax: 0086 / 21 / 33600610

www.bdsensors-china.com info@bdsensors-china.com

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