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NOTES





SPECIALS

DESIGNATION CODE

Example: **K J 10 - M 30 M B 45 - D P S - V1 - X0000**

1	2	3	4	5	6	7	8	9	10	11	12

1 = Working principle

A	Acoustic		
B	Acceleration sensor		
C	Capacitive		
D	Strain gauge sensor		
H	Hall-effect		
J	Inductive	JR	Inductive ring
		JF	Inductive surface
		JG	Inductive slot
		JD	Metal face
M	Magneto resistive		
N	Inclination sensor		
R	Reed-contact		
W	Angle sensor		

2 = Switching distance / range

3 = Design

D	Ring housing / aperture
G	Cylindrical housing without thread
M	Cylindrical housing with metrical thread
Q	Square housing

4 = Housing diameter / edge length

5 = Housing material

A	Aluminium
E	Stainless steel
K	Plastic
M	Brass, nickel plated
T	PTFE

6 = Installation

B	Shielded
N	Non shielded

7 = Tube length

8 = Operating voltage

AZ	AC alternating current voltage
D	DC direct current voltage
VZ	AC/DC all voltages

9 = Type of output signal

AN	Analog	ANI	Current output
		ANU	Voltage output
CAN	CAN-bus interface		
N	NPN		
NA	Namur		
P	PNP		
Z	Two wire		

10 = Function

A	Changeover
I	Impulse output
Ö	N.C.
S	N.O.
U	Switchable

11 = Type of connection

V1	M8 screw-/snap-in
V2	M12 metal
V2/1	M12 plastic
V3	M5 metal
V4	Amphenol Tuchel
V6	Brad Harrison
V7	Valve connector type A
V8	M8 snap-in only
V9	Torson
V11	AC connector 1/2" UNF
V12	M18 plastic
VE	Euchner connector
RS232	Data interface
PG	Thread joint PG
Mxx	Tread joint metrical

others as requested

12 = Additional marks

AM	Sensing face in centre
FE	Reduction 1 to steel / iron
HT	High temperature
NF	Reduction 1 to nonferrous metal
SF	Weld field immune
T	Enlarged temperature range
W	Angled sensing face / angled cable exit
X	Customized design with detailed description



SPECIALS

CIRCUIT DIAGRAMS

Circuit diagram for	Cable / clamp connection	Connector V1 ... V9
DPS DC PNP N.O.		
DPÖ DC PNP N.C.		
DPA DC PNP changeover		
DPU DC NO/NC switchable		
DNS DC NPN N.O.		
DNÖ DC NPN N.C.		
DNA DC NPN changeover		
DNU DC NO/NC switchable		
NA Namur EN 60947-5-6		
DZS DC two-wire N.O.		
DZÖ DC two-wire N.C.		
AZS/VZS AC/DC two-wire N.O.		
AZÖ/VZÖ AC/DC two-wire N.C.		
Analog		



SPECIALS

INCLINATION SENSORS

Technical data

Inclination sensors detect the absolute deviation from a horizontal plane. This product group includes analog inclination sensors as well as the latest generation with CAN-BUS-connection, digital AC-switching outputs for the direct control of hydraulic valves or one- or two-axe design. By using micro-mechanic elements all inclination sensors are conform to RoHS. The modular design of the housing allows the use of JPT- or M12-connectors as well as fixed cable options as needed.

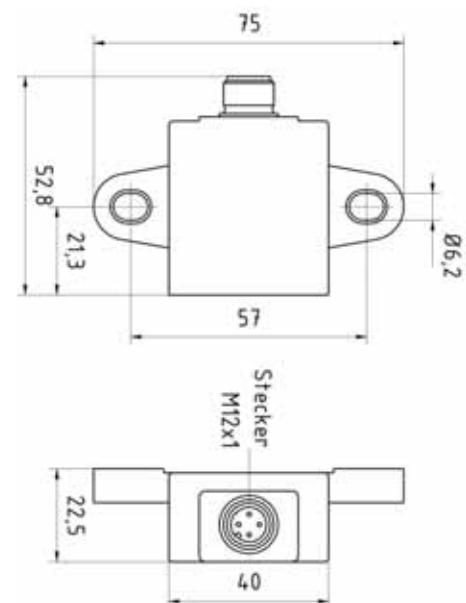


Inclination sensors from Pulsotronic monitor agricultural machines, wind energy plants or industrial trucks. On request we arrange the input and output parameters according to your requirements.

	Type analog voltage	Type analog current
Number of inclination axes	1	1
Mounting	horizontal	horizontal
Operating voltage U_b	10 - 30V DC	10 - 30V DC
Output	voltage 1 - 10V	current 4 - 20mA
Output at 0° / 24V DC	5V +/- 0,1V	12mA +/- 1mA
Output at -90° and $U_b = 24V$	0V	4mA
Output at +90° and $U_b = 24V$	10V	20mA
Max. operating current I_b	≤ 15mA	≤ 35mA
Load resistor R_L	≥ 10kOhm	≥ 10kOhm
Repeat accuracy	5%	5%
Operating temperature T_a	-40°C ... 85°C	-40°C ... 85°C

Selection chart

Article-number	Designation	Inclination	Output function Analog	Connector
0833000066	KN5-Q40KN-ANU-V2	+/- 5°	0-10V DC	M12
0833000107	KN15-Q40KN-ANU-V2	+/- 15°	0-10V DC	M12
0833000500	KN30-Q40KN-ANU-V2	+/- 30°	0-10V DC	M12
0833000075	KN45-Q40KN-ANU-V2	+/- 45°	0-10V DC	M12
0833000501	KN60-Q40KN-ANU-V2	+/- 60°	0-10V DC	M12
0833000502	KN75-Q40KN-ANU-V2	+/- 75°	0-10V DC	M12
0833000095	KN90-Q40KN-ANU-V2	+/- 90°	0-10V DC	M12
0833000087	KN5-Q40KN-ANI-V2	+/- 5°	4-20mA	M12
0833000503	KN15-Q40KN-ANI-V2	+/- 15°	4-20mA	M12
0833000504	KN30-Q40KN-ANI-V2	+/- 30°	4-20mA	M12
0833000067	KN45-Q40KN-ANI-V2	+/- 45°	4-20mA	M12
0833000080	KN60-Q40KN-ANI-V2	+/- 60°	4-20mA	M12
0833000505	KN75-Q40KN-ANI-V2	+/- 75°	4-20mA	M12
0833000076	KN90-Q40KN-ANI-V2	+/- 90°	4-20mA	M12



other inclinations and two-axis types are optional available

all data in mm

p-u-l-s-o-t-r-o-n-i-c Pulsotronic GmbH & Co. KG	Neue Schichtstraße 14b D-09366 Niederdorf	☎ +49 (0) 37296 / 930 - 200 ☎ +49 (0) 37296 / 930 - 280	info@pulsotronic.de www.pulsotronic.de	subject to modifications!
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ACCELERATION SENSOR

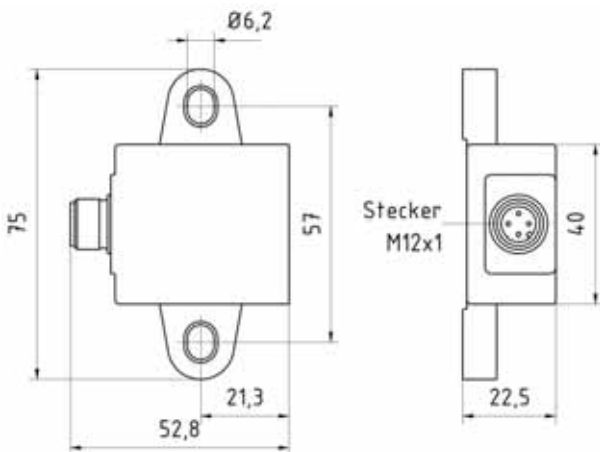
Technical data

Acceleration sensors detect vibrations, seismic activity, inclination in static systems and linear acceleration in machines, buildings and movable goods. On the basis of a micro-electromechanic system (MEMS) this product group includes sensors with analog current- or voltage output, direct BUS-connection or adjustable switching thresholds. The modular design of the housing allows the use of JPT- or M12-connectors as well as fixed cable options as needed.



	Type analog voltage	Type analog current
Acceleration	+/- 1,7g	+/- 1,7g
Mounting	horizontal	horizontal
Operating voltage U_b	12-30V DC	12-30V DC
Output	voltage 1 ... 9V	current 4 ... 20mA
Output at 0g	5V	12mA
Output at -1,7g	1V	4mA
Output at +1,7g	9V	20mA
Operating current I_b	$\leq 15\text{mA}$	$\leq 35\text{mA}$
Threshold frequency	10Hz	10Hz
Load resistor R_L	$\geq 10\text{kOhm}$	$\geq 10\text{kOhm}$
Repeat accuracy	$\leq 5\%$	$\leq 5\%$
Operating temperature T_a	-40°C ... +85°C	-40°C ... +85°C

Dimensions



all data in mm



INDUCTIVE PRESSURE-RESISTANT SENSORS

Technical data

The product range of Pulsotronic includes high pressure-resistant products, which developed and optimised for different applications. With a M12 plug-in connection or optional with M12 Pigtail connector. The maximum switching distance is 2mm. By using a complete closed stainless steel face these sensor types are especially qualified for application in aggressive environmental, in hydraulik devices or in foodstuff industry. Pulsotronic offers pressure-resistant sensors generally with an extended temperature range and up to 500bar pressure resistance. WashDown application and operation areas up to protection of IP68 / IP69K are also suitable. The sensors are available with 14,9mm or 17,9mm frontends and they are sealed with an O-Ring.



Operating voltage U_b	10 - 30 VDC
Voltage drop U_d	< 2,4V
Max. load current I_e	≤ 200 mA
Off-state current I_o	≤ 10 mA
Residual current I_r	≤ 0,01 mA
Max. switching frequency f	≤ 400 Hz
Hysteresis H	≤ 15%
Operating temperature T_a	- 25°C ... + 100°C (only lenght 50mm, 90°C)
Temperature drift	≤ 10%
Reproducibility	≤ 5%
Protection class	IP 68 (IP69K optional)
Protected against polarity/short circuit	Yes/yes
Housing material	Stainless steel
Front cap	Stainless steel

Selection chart

Article-number	Designation	Pressure in bar	Lenght pressure range in mm	Drawing (following page)
08310002400	KJD1,5-M12EB50-DPS-V2	500	14,9	G
08310002401	KJD1,5-M12EB50-DPÖ-V2	500	14,9	G
08310002402	KJD1,5-M12EB50-DPS-V2	500	17,9	H
08310002403	KJD1,5-M12EB50-DPÖ-V2	500	17,9	H
08310001749	KJD1,5-M12EB56-DPS-V2	500	14,9	A
08310002404	KJD1,5-M12EB56-DPÖ-V2	500	14,9	A
08310001746	KJD1,5-M12EB56-DPS-V2	500	17,9	B
08310002405	KJD1,5-M12EB56-DPÖ-V2	500	17,9	B
08310002406	KJD1,5-M12EB69-DPS-V2	500	14,9	E
08310002407	KJD1,5-M12EB69-DPÖ-V2	500	14,9	E
08310002408	KJD1,5-M12EB69-DPS-V2	500	17,9	F
08310002409	KJD1,5-M12EB69-DPÖ-V2	500	17,9	F
08310002410	KJD1,5-M12EB78-DPS-V2	500	14,9	D
08310002411	KJD1,5-M12EB78-DPÖ-V2	500	14,9	D
08310001781	KJD1,5-M12EB78-DPS-V2	500	17,9	C
08310002412	KJD1,5-M12EB78-DPÖ-V2	500	17,9	C

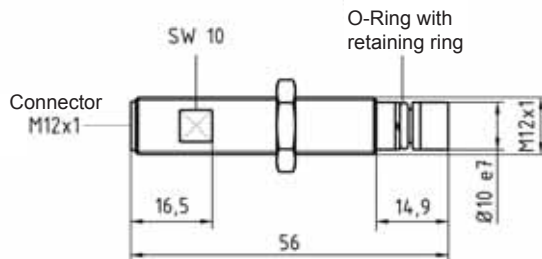


SPECIALS

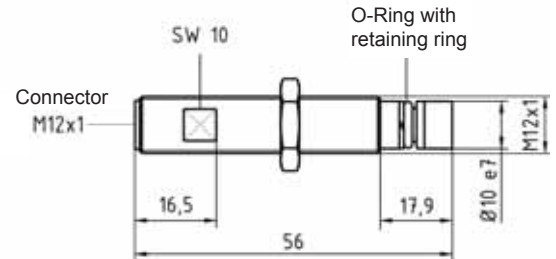
INDUCTIVE PRESSURE-RESISTANT SENSORS

Dimension

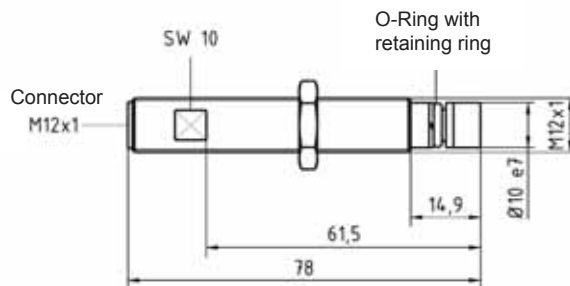
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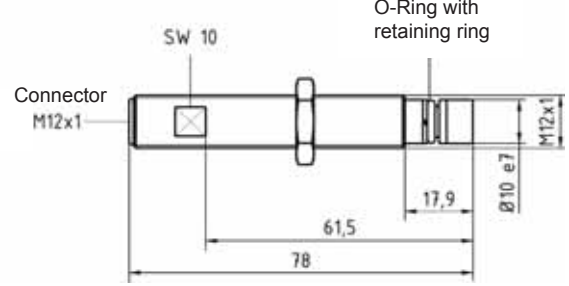
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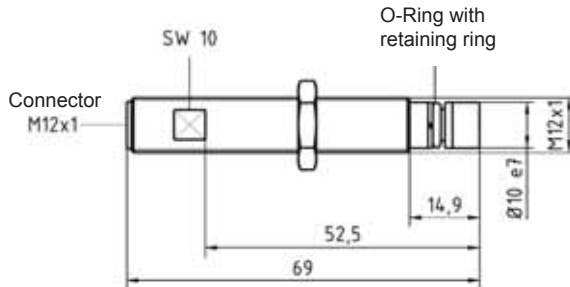
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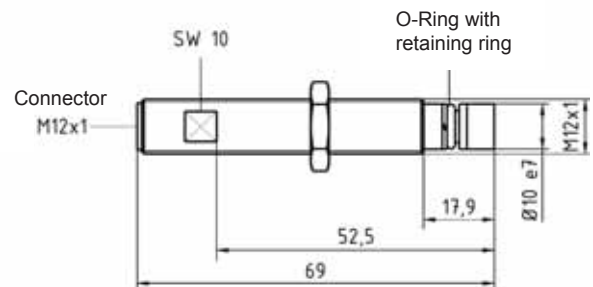
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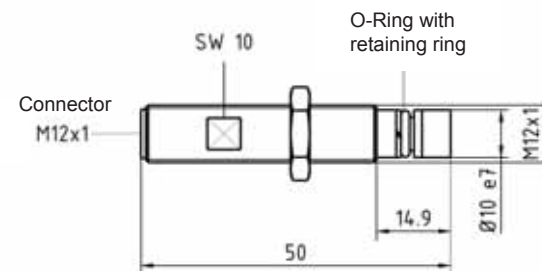
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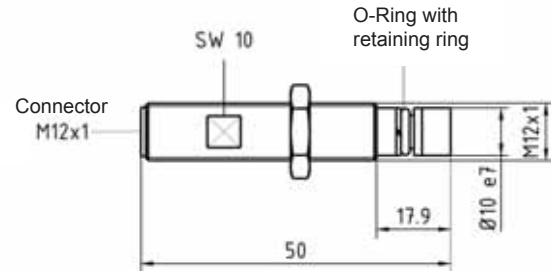
F)



G)



H)



all data in mm



SPECIALS

TUBE SENSOR

Technical data

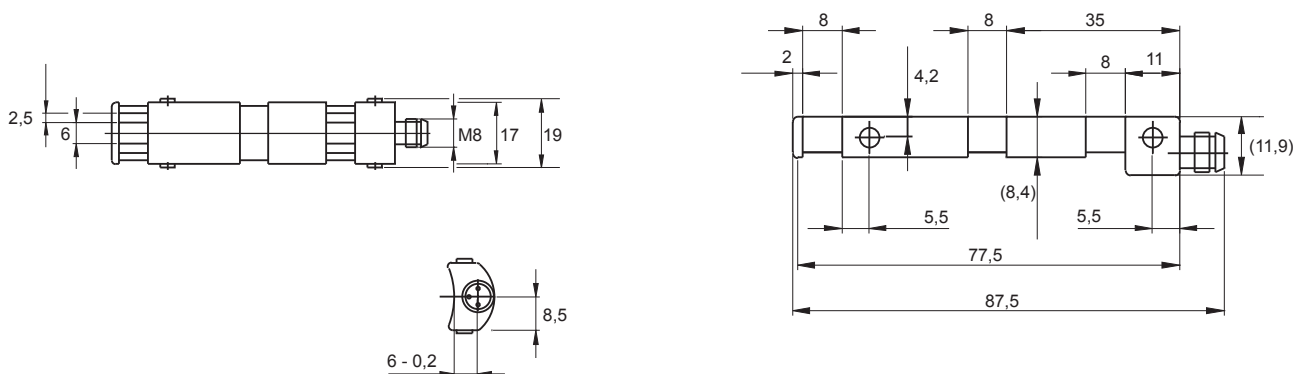
The tube sensor detects moving metallic pieces in hoses or ducts. In contrast to conventional ring sensors the hose sensor can be mounted much easier and faster - the customer saves time and space during installation. The sensors of the new generation work after the principle of dynamic, simultaneously and static. Therefore, we can detect congestion states and smallest components.



Article number	Designation	Function	Termination
0831000903	KJ16-Q16KN-DPS-V1	dynamic 200ms	M8
08310001526	KJ10-Q16KN-DPS-V1-X1028	static 100ms	M8
08310001105	KJ10-Q16KN-DPS-V1	static	M8
08310001891	KJ16-Q16KN-DPS-X0337	static/dynamic 100ms	Pigtail M12

Mounting	non shielded
Operating voltage U_b	10 - 30V DC
Ripple voltage of U_b	$\leq 10\%$
Voltage drop U_d	$\leq 2,4V$
Max. load current I_e	$\leq 200mA$
Off-state current I_o	$\leq 10mA$
Residual current I_r	$\leq 10\mu A$
Max. switching frequency	300Hz
Switching distance	16mm
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 10\%$
Pulse delay	max. 200ms (selectable)
Operating temperature T_a	-25°C ... +70°C
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Status indicator	LED
Housing material	PA 6.6 black
Front cap	-
Termination	connector M8 3-pole (Pigtail M12 on enquiry)

Dimensions



all data in mm

OVERSPEED MONITOR

General data

Overspeed monitors limit electronically the rotor- or gearbox speed upwards and downwards. Sensor-specific they either change the speed limiting via potentiometer or electronically via microcontroller. Delay-times or hysteresis values can be taught-in.



The drawings for this sensors are shown on the following page.

	SJ10-M30...	SJ15-M30...	KJ5-M18...	KJ15-Q40...
Mounting	shielded	non shielded	shielded	shielded
Operating voltage U_b	10 - 30V DC	10 - 30V DC	10 - 36V DC	10 - 30V DC
Ripple voltage of U_b	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$
Max. load current I_e	200mA	200mA	200mA	≤ 400 mA
Off-state current I_o	≤ 30 mA	≤ 30 mA	≤ 30 mA	≤ 30 mA
Residual current I_r	≤ 10 μ A	≤ 10 μ A	≤ 10 μ A	≤ 10 μ A
Response time (adjustable)	0,5 ... 10sec.	0,5 ... 10sec.	-	0,5 ... 10sec.
Hysteresis H	$\leq 15\%$	$\leq 15\%$	0,0% ... 25,5% (programmable)	$\leq 20\%$
Repeatability R	1,0%	1,0%	1,0%	$\leq 5\%$
Operating temperature T_a	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C
Temperature drift	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$	$\leq 10\%$
Status indicator	IP67	IP67	IP67	IP67
Housing material	LED yellow	LED yellow	LED yellow	LED yellow
Front cap	brass, nickel-plated PBT	brass, nickel-plated PBT	brass, nickel-plated PA 6.6	PBT PBT

Selection chart

Article-number	Designation	Output function	Speed range rpm	Switching distance in mm	Termination	Drawing
08343301010	SJ10-M30MB80-DPSI	PNP	120 - 3000	10	2m cable PVC 3 x 0,5mm ²	B
08343301020	SJ10-M30MB80-DPÖI	PNP	120 - 3000	10	2m cable PVC 3 x 0,5mm ²	B
08343301510	SJ15-M30MN80-DPSI	PNP	120 - 3000	15	2m cable PVC 3 x 0,5mm ²	C
08343301520	SJ15-M30MN80-DPÖI	PNP	120 - 3000	15	2m cable PVC 3 x 0,5mm ²	C
08310001089	KJ5-M18MB80-DPI-X0130	PNP	1 - 50000	4	2m cable PVC 4 x 0,34mm ²	A
08317634300	KJ15-Q40KB-DPI	PNP	100 - 3000	15	Clamps up to 2,5mm ²	D

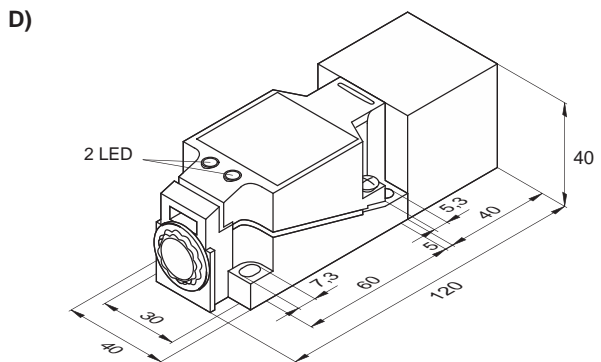
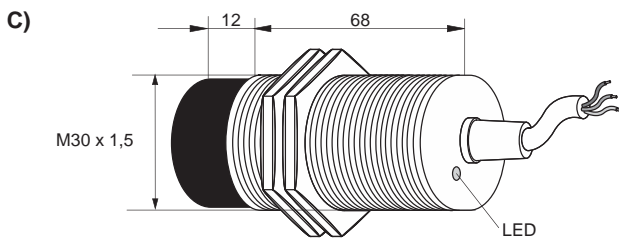
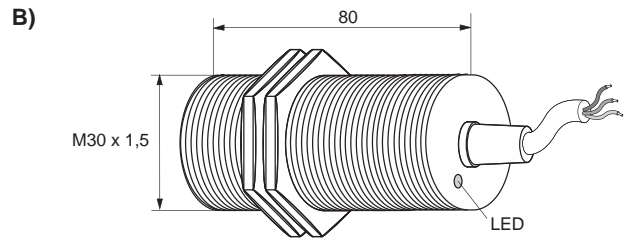
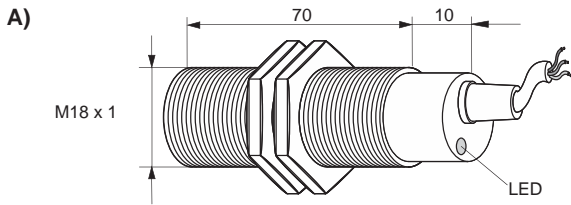
Other cable lengths as requested.



SPECIALS

OVERSPEED MONITOR

Dimensions



all data in mm



SPECIALS

ACOUSTIC SENSOR

Technical data

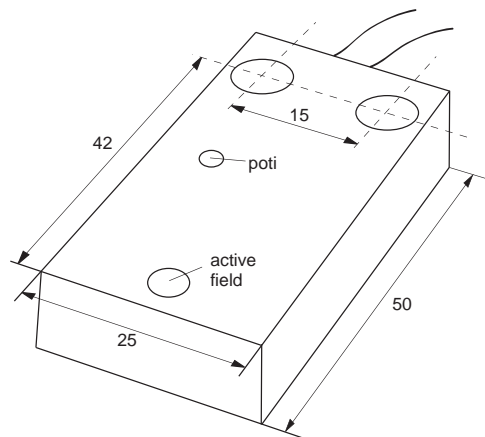
The acoustic sensor detects defined static noise or switch-sounds on machines, devices and plants. Due to protection class IP67, an enlarged operating temperature up to 85°C and an adjustable switching threshold this sensor even is proper for external applications.



Article number	Designation
08340001010	KA1-Q25KB-DPÖ

Mounting	non shielded
Operating voltage U_b	10 - 30V DC
Ripple voltage of U_b	$\leq 10\%$
Voltage drop U_d	$\leq 2,4V$
Output function	PNP N.C.
Response time at output function	120ms
Max. load current I_e	$\leq 16mA$
Off-state current I_o	$\leq 10mA$
Switch sensitivity	adjustable
Fluctuation stress	attenuated against impact sound
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 10\%$
Operating temperature T_a	-25°C ... +85°C
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Housing material	plastic PA 6.6
Termination	2m cable PVC 3 x 0,34mm ² (other cable lengths as requested)

Dimensions



all data in mm



SPECIALS

OPTICAL RINGS

Technical data

Optoelectronic ring sensors help to control the material flow within the transparent tube. Furthermore, the device has the same proven features like the adaptation to optical characteristics of the material feed, adjustable switch shafts as well as dynamic or static output functions. Ring sensors of Pulsotronic operate at temperatures from 0°C till +60°C. The housing material is plastic.

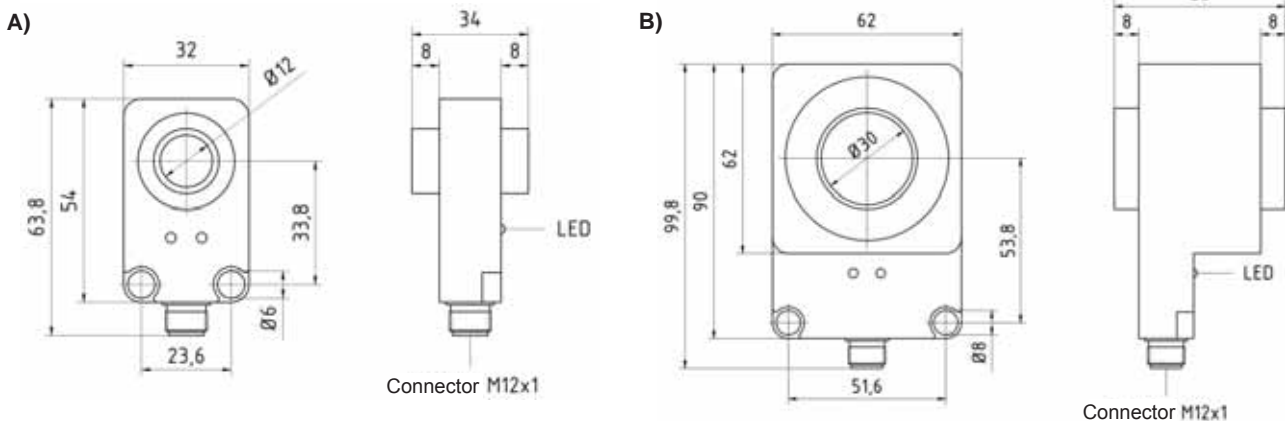
A number of light barriers create a light curtain within the ring and the interruption of the light ray results in a transformation within the integrated amplifier and thereby leads to a switching signal.



Illumination	IR 880 nm
Output	PNP
Switching output	NO
Operating voltage U_b	10 - 30 VDC
Max. load current I_e	200 mA
Acquisition frequency	10 Hz (by impulse-pause ratio 1:1)
Pulse stretching	ca. 50 ms fixed setting
Response time	0,05 ms
Counting pulse	dynamic (< 0,425 s)
Causing clogging	static (> 0,425 s)
Operating temperature T_a	0 ... +60°C
Connection	Connector M12, 4-pole
Adjustment of the sensibility	Optimum value through teachen (Compensation feed tube)
Status indicator	IP 64
Housing material	Plastic

Selection chart

Article-number	Designation	Tube	No-load current	Dynamic control device	Dynamic responsivity	Drawing
08363000500	KOER-D12KB-DPS-V2-IR	12mm	< 50mA	adjustable over Potenziometer		A
08363000600	KOER-D30KB-DPS-V2-IR	30mm	< 20mA		fixed setting	B





METAL FACE SENSORS

General data

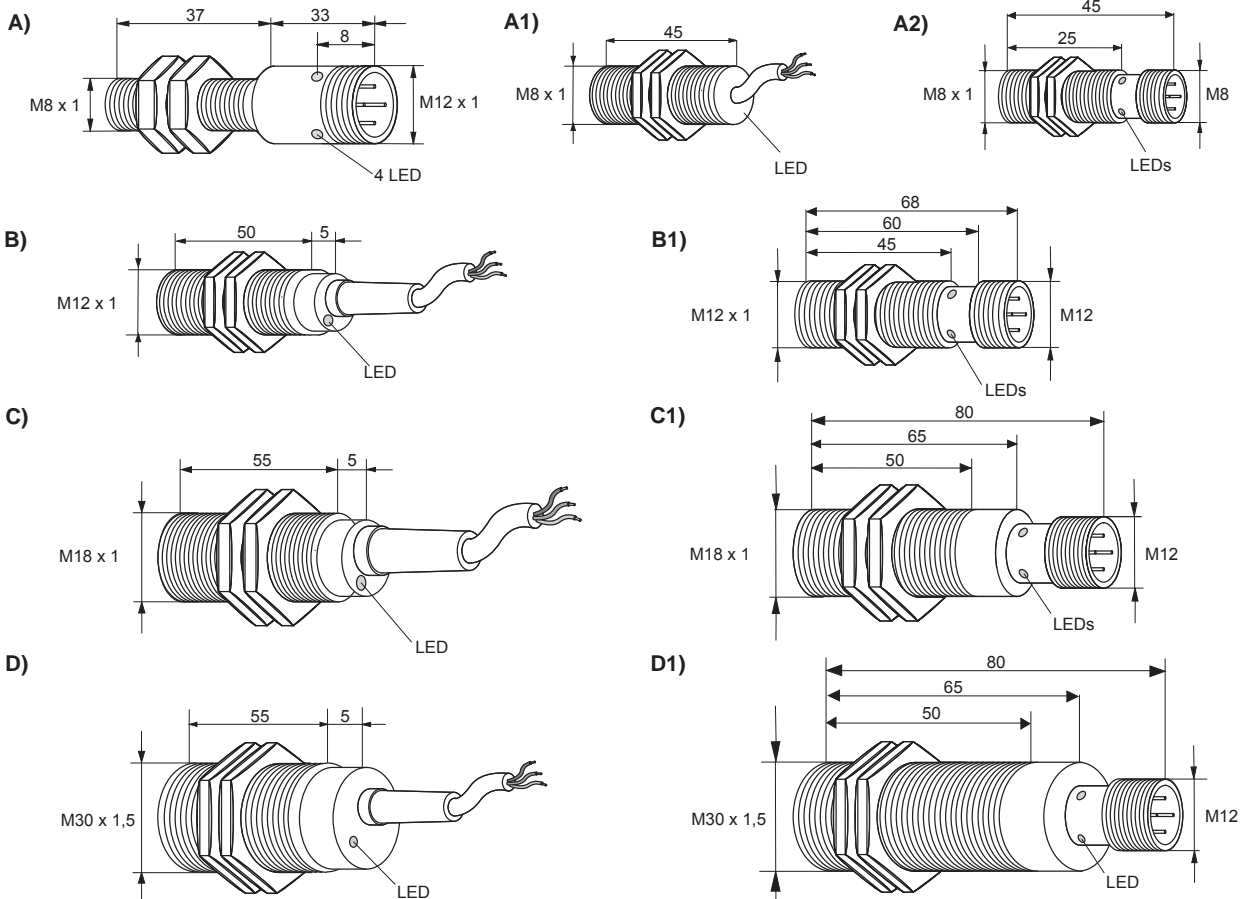
Due to their stainless steel housing metal face sensors are ideal for applications in aggressive media, oils or acids, and in alkaline fluids. The sensor field permeates the stainless steel sensor front and detects ferrous metals in standard switching distances.



Mounting	shielded
Operating voltage U_b	$\leq 10 - 30V$ DC
Ripple voltage of U_b	$\leq 10\%$
Voltage drop U_d	$\leq 1,5V$
Max. load current I_e	200mA
Off-state current I_o	$\leq 10mA$
Residual current I_r	$\leq 10\mu A$
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 1\%$
Operating temperature T_a	$-25^\circ C \dots +70^\circ C$
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Status indicator	LED
Housing material	stainless steel

The selection chart for these sensors is shown on the following page.

Dimensions



all data in mm



SPECIALS

METAL FACE SENSORS

Selection chart

Article number	Designation M8 switching distance 1mm	Output function	Max. switching frequency	Termination	Drawing (previous page)
08310001712	SJD1-M8EB70-DPS-V2	PNP	2000Hz	connector M12 - 4-pole	A
	Designation M8 switching distance 2mm				
08310001738	SJD2-M8EB45-DPS	PNP	2000Hz	2m cable 3x0,14	A1
08310001739	SJD2-M8EB45-DPS-V1	PNP	2000Hz	connector M8 3-pole	A1
	Designation M12 switching distance 2mm				
08313121210	SJD2-M12EB50-DPS	PNP	2000Hz	2m cable PVC 3 x 0,34mm ²	B
08313121220	SJD2-M12EB50-DPÖ	PNP	2000Hz	2m cable PVC 3 x 0,34mm ²	B
08313121230	SJD2-M12EB50-DNS	NPN	2000Hz	2m cable PVC 3 x 0,34mm ²	B
08313121240	SJD2-M12EB50-DNÖ	NPN	2000Hz	2m cable PVC 3 x 0,34mm ²	B
08313121211	SJD2-M12EB68-DPS-V2	PNP	2000Hz	connector M12 4-pole	B1
08313121221	SJD2-M12EB68-DPÖ-V2	PNP	2000Hz	connector M12 4-pole	B1
08313121231	SJD2-M12EB68-DNS-V2	NPN	2000Hz	connector M12 4-pole	B1
08313121241	SJD2-M12EB68-DNÖ-V2	NPN	2000Hz	connector M12 4-pole	B1
	Designation M18 switching distance 5mm				
08313181510	SJD5-M18EB55-DPS	PNP	1000Hz	2m cable PVC 3 x 0,34mm ²	C
08313181520	SJD5-M18EB55-DPÖ	PNP	1000Hz	2m cable PVC 3 x 0,34mm ²	C
08313181530	SJD5-M18EB55-DNS	NPN	1000Hz	2m cable PVC 3 x 0,34mm ²	C
08313181540	SJD5-M18EB55-DNÖ	NPN	1000Hz	2m cable PVC 3 x 0,34mm ²	C
08313181511	SJD5-M18EB76-DPS-V2	PNP	1000Hz	connector M12 4-pole	C1
08313181521	SJD5-M18EB76-DPÖ-V2	PNP	1000Hz	connector M12 4-pole	C1
08313181531	SJD5-M18EB76-DNS-V2	NPN	1000Hz	connector M12 4-pole	C1
08313181541	SJD5-M18EB76-DNÖ-V2	NPN	1000Hz	connector M12 4-pole	C1
	Designation M30 switching distance 10mm				
08313301110	SJD10-M30EB55-DPS	PNP	300Hz	2m cable PVC 3 x 0,5mm ²	D
08313301120	SJD10-M30EB55-DPÖ	PNP	300Hz	2m cable PVC 3 x 0,5mm ²	D
08313301130	SJD10-M30EB55-DNS	NPN	300Hz	2m cable PVC 3 x 0,5mm ²	D
08313301140	SJD10-M30EB55-DNÖ	NPN	300Hz	2m cable PVC 3 x 0,5mm ²	D
08313301111	SJD10-M30EB80-DPS-V2	PNP	300Hz	connector M12 4-pole	D1
08313301121	SJD10-M30EB80-DPÖ-V2	PNP	300Hz	connector M12 4-pole	D1
08313301131	SJD10-M30EB80-DNS-V2	NPN	300Hz	connector M12 4-pole	D1
08313301141	SJD10-M30EB80-DNÖ-V2	NPN	300Hz	connector M12 4-pole	D1

Other cable lengths as requested.



SPECIALS

TEMPERATURE-RESISTANT SENSORS

General data

Sensors for applications that require an enlarged operating temperature range from -40°C ... 100°C. Customized sensors for temperature ranges beyond 100°C as requested.

Operating voltage U_b	10-30V DC
Ripple voltage of U_b	$\leq 10\%$
Voltage drop U_d	$\leq 2,4V$
Output function	PNP- or NPN N.O.
Max. load current I_e	200mA
Off-state current I_o	$\leq 10\mu A$
Residual current I_r	$\leq 10mA$
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 10\%$
Operating temperature T_a	-40°C ... +100°
Temperature drift	$\leq 10\%$
Protection class	IP67
Status indicator	LED yellow
EMV-standard	according to EN 60947-5-2
Housing material	brass, nickel-plated
Front cap	PCP



The drawings for these sensors are shown on the following page.

Selection chart

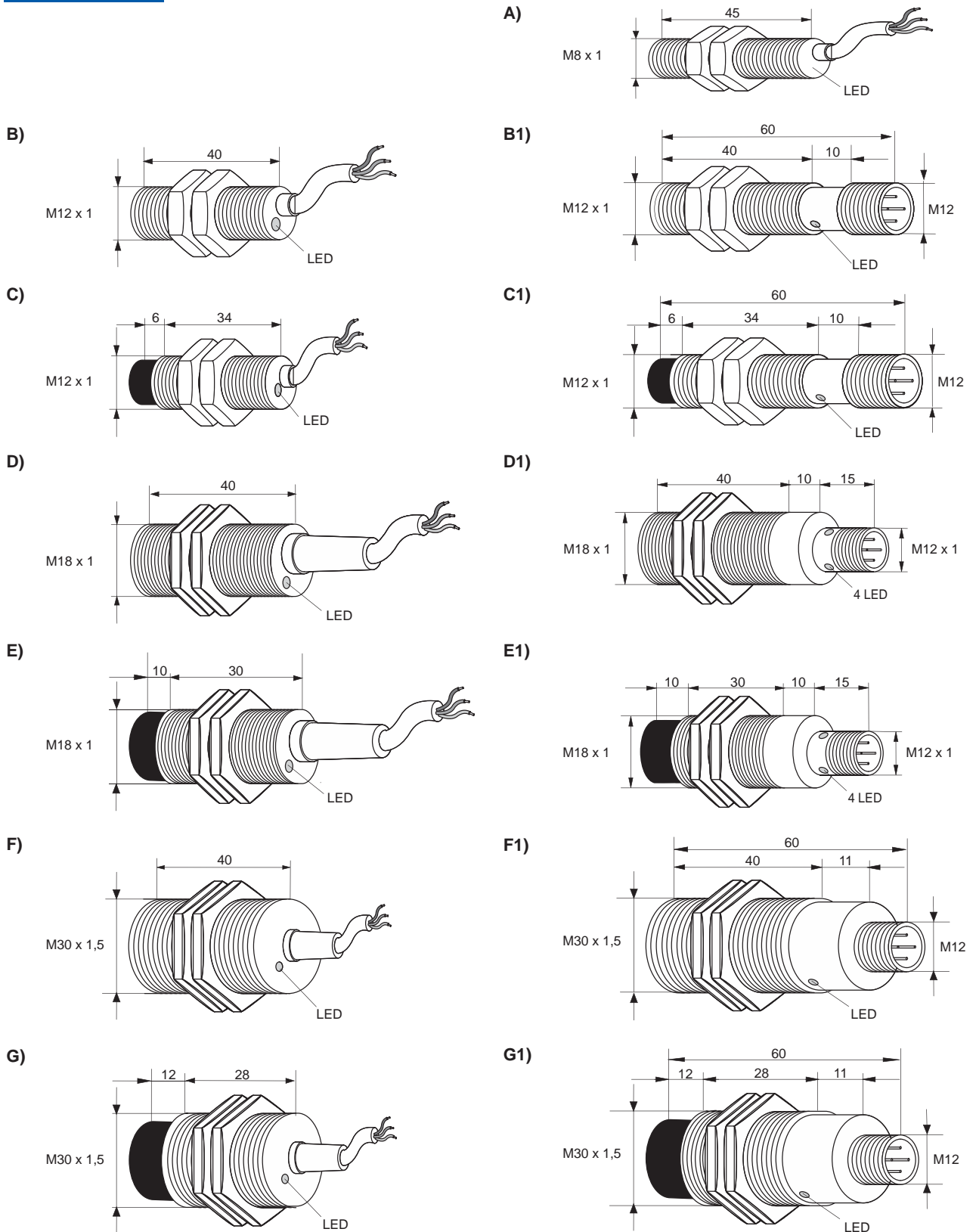
Article number	Designation	Mounting	Max. switching frequency	Switching distance in mm	Termination	Drawing (following page)
08317616010	KJ1,5-M8MB45-DPS-T	shielded	2000Hz	1,5	2m cable PVC 3 x 0,14	A
08317626010	KJ2-M12MB40-DPS-T	shielded	2000Hz	2	2m cable PUR 3 x 0,34	B
08317626065	KJ2-M12MB60-DPS-V2-T	shielded	2000Hz	2	connector M12 4-pole	B1
08317626110	KJ4-M12MN40-DPS-T	non shielded	1000Hz	4	2m cable PUR 3 x 0,34	C
08317626165	KJ4-M12MN60-DPS-V2-T	non shielded	1000Hz	4	connector M12 4-pole	C1
08317646010	KJ5-M18MB40-DPS-T	shielded	1000Hz	5	2m cable PUR 3 x 0,34	D
08317646065	KJ5-M18MB60-DPS-V2-T	shielded	1000Hz	5	connector M12 4-pole	D1
08317646110	KJ8-M18MN40-DPS-T	non shielded	500Hz	8	2m cable PUR 3 x 0,34	E
08317646165	KJ8-M18MN60-DPS-V2-T	non shielded	500Hz	8	connector M12 4-pole	E1
08317666010	KJ10-M30MB40-DPS-T	shielded	500Hz	10	2m cable PUR 3 x 0,34	F
08317666065	KJ10-M30MB60-DPS-V2-T	shielded	500Hz	10	connector M12 4-pole	F1
08317666110	KJ15-M30MN40-DPS-T	non shielded	300Hz	15	2m cable PUR 3 x 0,34	G
08317666165	KJ15-M30MN60-DPS-V2-T	non shielded	300Hz	15	connector M12 4-pole	G1



SPECIALS

HIGHTEMPERATURE-RESISTANT SENSORS

Dimensions



all data in mm



SPECIALS

HIGH TEMPERATURE-RESISTANT SENSORS

GENERAL DATA

Sensors for applications that require an enlarged operating temperature range from -40°C ... 180°C. These sensors are especially used in applications that demand a high dependability in extreme temperatures like in steel mills, blast furnaces and in the food industry.

Operating voltage U_b	10-35V DC
Ripple voltage of U_b	≤ 10%
Voltage drop U_d	≤ 2,0V
Output function	PNP-N.O. (others as request)
Of state current I_o	≤ 10μA
Residual current I	≤ 15mA
Hysteresis H	≤ 15%
Repeatability R	≤ 10%
Temperature drift	≤ 20%
Protection class	IP65
Status indicator	no LED's
EMV-standard	according to EN 60947-5-2
Housing material	V2A
Front cap	Vectra®



Selection chart

Article number	Designation	Mounting	Max. switching frequency	Switching distance in mm	Termination cable	Temp. range	Drawing (following page)
08310001715	KJ2-M8EB60-DPS-HT140-X0240	shielded	600Hz	2	2m Teflon	140	A
08310000959	KJ2-M8EB60-DPS-HT140-X0202	shielded	600Hz	2	2m Silicone	140	A
08310002500	KJ3-M12EB60-DPS-HT150-X0240	shielded	500Hz	3	2m Teflon	150	B
08310000812	KJ3-M12EB60-DPS-HT150-X0202	shielded	500Hz	3	2m Silicone	150	B
08310002501	KJ4-M12EN60-DPS-HT150-X0240	non shielded	500Hz	4	2m Teflon	150	C
08310002502	KJ4-M12EN60-DPS-HT150-X0202	non shielded	500Hz	4	2m Silicone	150	C
08310002503	KJ5-M18EB70-DPS-HT180-X0240	shielded	400Hz	5	2m Teflon	180	D
08310001716	KJ5-M18EB70-DPS-HT180-X0202	shielded	400Hz	5	2m Silicone	180	D
08310002504	KJ8-M18EN80-DPS-HT180-X0240	non shielded	400Hz	8	2m Teflon	180	E
08310001737	KJ8-M18EN80-DPS-HT180-X0202	non shielded	400Hz	8	2m Silicone	180	E
08310001728	KJ10-M30EB70-DPS-HT180-X0240	shielded	200Hz	10	2m Teflon	180	F
08310002505	KJ10-M30EB70-DPS-HT180-X0202	shielded	200Hz	10	2m Silicone	180	F
08310002506	KJ15-M30EN80-DPS-HT180-X0240	non shielded	200Hz	15	2m Teflon	180	G
08310000920	KJ15-M30EN80-DPS-HT180-X0202	non shielded	200Hz	15	2m Silicone	180	G

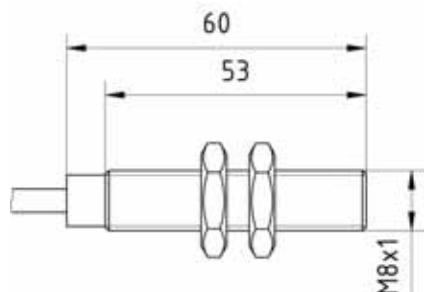


SPECIALS

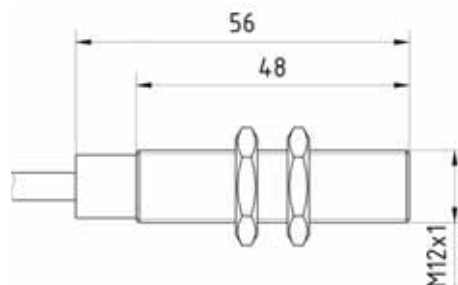
HIGH-TEMPERATURE RESISTANT SENSORS

Dimension

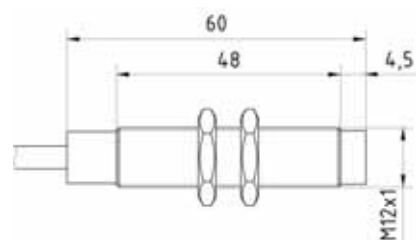
A)



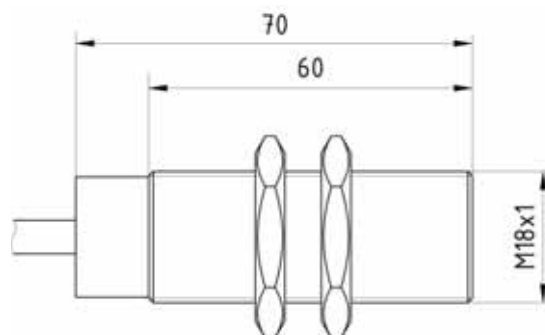
B)



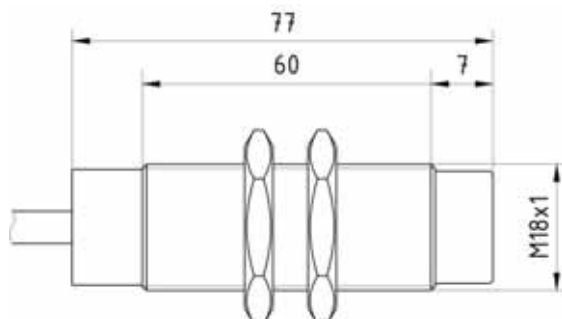
C)



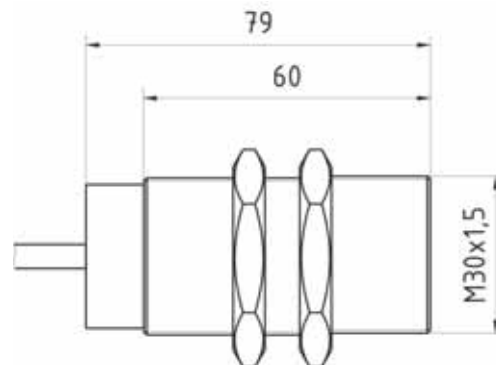
D)



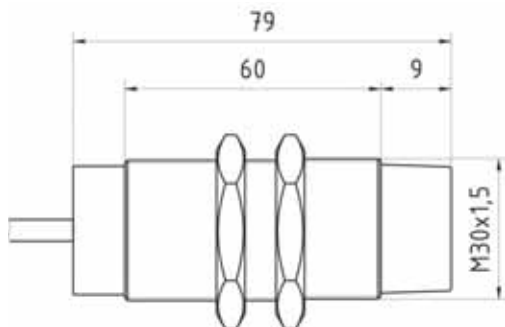
E)



F)



G)



alle Angaben in mm



WELD FIELD IMMUNE SENSORS

General data

By reason of the special protection of the sensor electronics weld field immune sensors are used on or close to welding machines. The housing is teflon-coated and protects against welding beats and spark erosion.

Operating Voltage U_b	10-30V DC
Ripple voltage of U_b	$\leq 10\%$
Voltage drop U_d	$\leq 2,4V$
Output function	PNP N.O.
Max. load current I_e	200mA
Off-state current I_o	$\leq 10mA$
Residual current I_r	$\leq 10\mu A$
Max. switching frequency	15Hz
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 10\%$
Operating temperature T_a	-25°C ... +75°C
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Status indicator	LED yellow
Housing material	shielded: brass, teflon-coated non shielded: brass, nickel-plated
Front cap	shielded: teflon non shielded: PCP



The drawings of these sensors are shown on the following page.

Selection chart

Article number	Designation	Mounting	Switching distance in mm	Termination	Drawing (following page)
08317625840	KJ2-M12MB50-DPS-SF	shielded	2	2m cable PVC 3 x 0,34mm ²	A
08317625845	KJ2-M12MB70-DPS-V2-SF	shielded	2	connector M12 4-pole	A1
08317625900	KJ4-M12MN50-DPS-SF	non shielded	4	2m cable PVC 3 x 0,34mm ²	B
08317625965	KJ4-M12MN70-DPS-V2-SF	non shielded	4	connector M12 4-pole	B1
08317645840	KJ5-M18MB60-DPS-SF	shielded	5	2m cable PVC 3 x 0,34mm ²	C
08317645845	KJ5-M18MB80-DPS-V2-SF	shielded	5	connector M12 4-pole	C1
08317645900	KJ8-M18MN60-DPS-SF	non shielded	8	2m cable PVC3 x 0,34mm ²	D
08317645945	KJ8-M18MN80-DPS-V2-SF	non shielded	8	connector M12 4-pole	D1
08317665840	KJ10-M30MB60-DPS-SF	shielded	10	2m cable PVC 3 x 0,34mm ²	E
08317665845	KJ10-M30MB80-DPS-V2-SF	shielded	10	connector M12 4-pole	E1
08317665940	KJ15-M30MN60-DPS-SF	non shielded	15	2m cable PVC 3 x 0,34mm ²	F
08317665965	KJ15-M30MN80-DPS-V2-SF	non shielded	15	connector M12 4-pole	F1

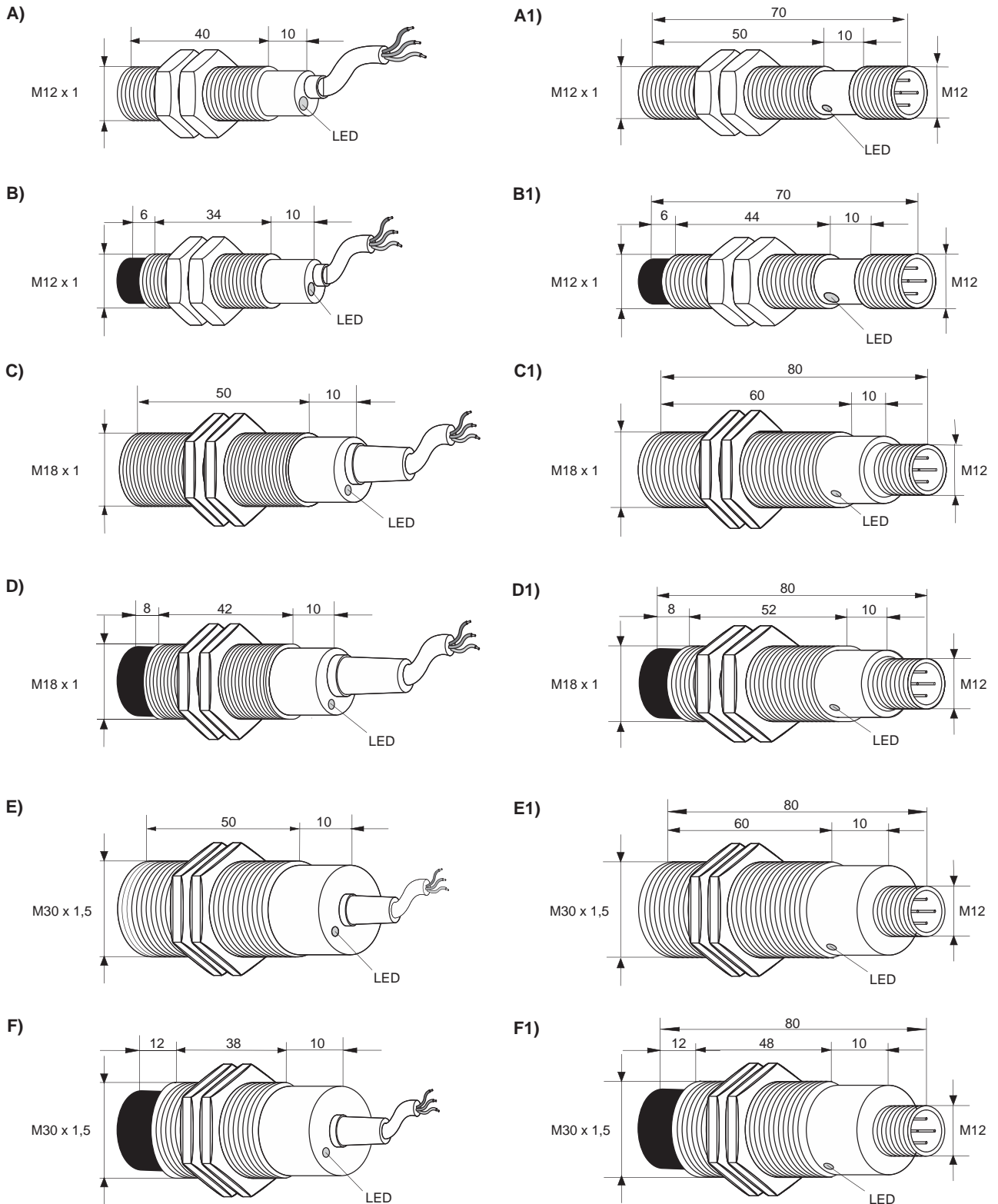
Other cable lengths as requested.



SPECIALS

WELD FIELD IMMUNE SENSORS

Dimensions



all data in mm



SPECIALS

QUAD SENSOR

Technical data

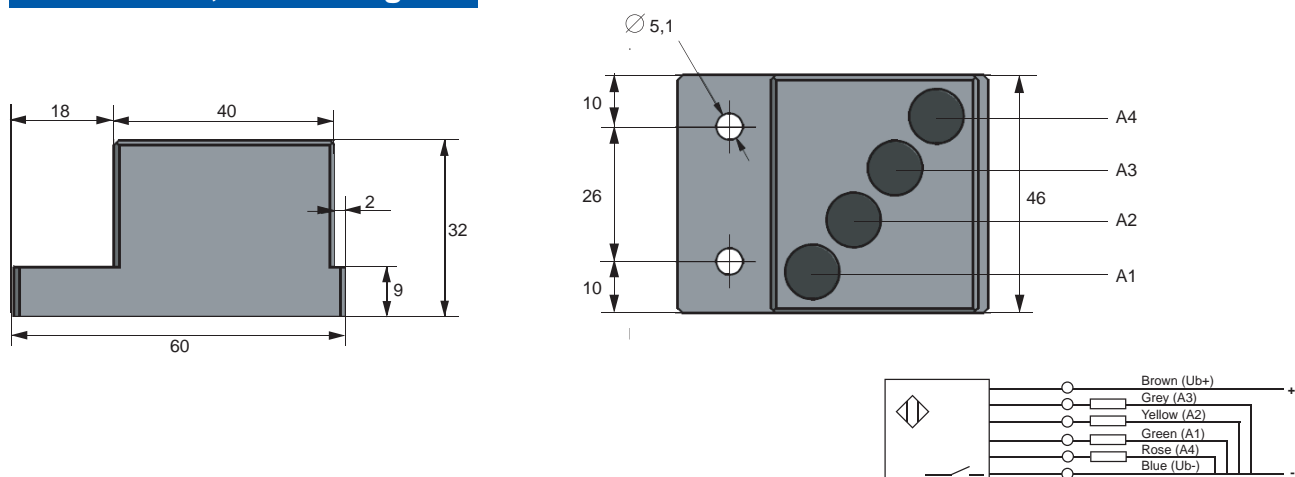
The quad sensor is equipped with four active sensor faces. By coordinated heterodyne frequencies the sensor head detects four targets situated side by side without any interference.



Article number	Designation
08310001877	KJ3-Q40AB-DPS

Mounting	shielded
Operating voltage U_b	10-30V DC
Ripple voltage of U_b	$\leq 10\%$
Voltage drop U_d	$\leq 2,4V$ per output
Output function	4 x PNP N.O.
Max. load current I_e	$\leq 200mA$ per output
Off-state current I_o	$\leq 10mA$ per output
Residual current I_r	$\leq 10\mu A$ per output
Max. switching frequency	1500Hz
Switching distance	3mm
Hysteresis H	$\leq 15\%$
Repeatability R	$\leq 10\%$
Operating temperature T_a	-25°C ... +70°C
Temperature drift	$\leq 10\%$
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Housing material	aluminium, eloxed
Front cap	PA 6.6
Termination	2m cable PVC 6 x 0,14mm ² screened (other cable lengths as requested)

Dimensions, circuit diagram





HALL EFFECT SENSORS

Technical data

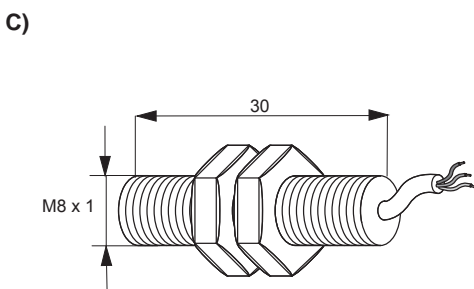
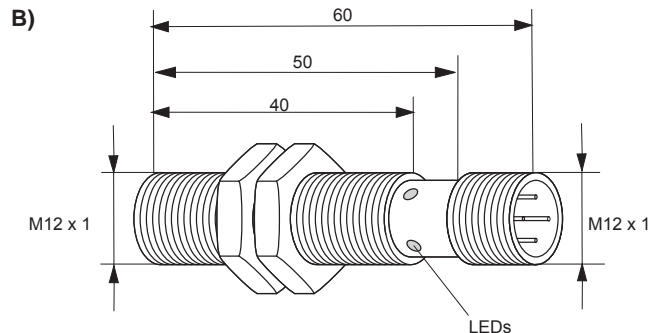
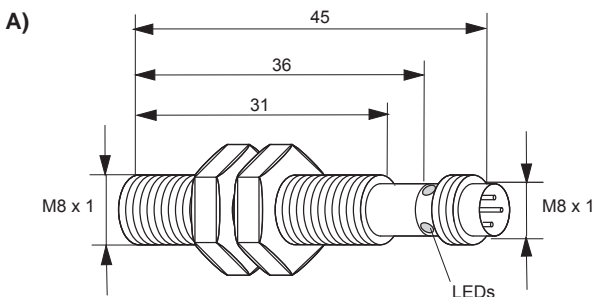
Sensors with hall elements detect magnetic targets for monitoring rotational speed or directions. Hall effect sensors from Pulsotronic detect permanent magnets as well as polarised tapes in extremely fast applications.



Article number	Designation	Drawing
08330000065	KH1-M8EB45-DPÖ-V1	A
08330000070	KHD1-M12MB60-DPS-V2	B
08330000188	KH-M8EB30-DNS	C

	08330000065	08330000070	08330000188
Mounting	shielded	shielded	shielded
Operating voltage U_b	10-30V DC	10 - 35V DC	3,8 - 30V DC
Voltage drop U_d	$\leq 1,0V$	$\leq 2,4V$	$\leq 0,4V$
Max. load current I_e	200mA	200mA	20mA
Off-state current I_o	$\leq 20mA$	$\leq 20mA$	$\leq 10mA$
Switching distance (dynamic)	1,0mm +/-20% at 340 - 450mT	1,0mm at 25mT	depend on switching magnet
Output function	2 x PNP N.C. (south-/northpole)	PNP N.O.	NPN N.O.
Check low voltage switch gear and control	according to EN 60947-5-2	according to EN 60947-5-2	according to EN 60947-5-2
Operating temperature T_a	-40°C ... +80°C	-25°C ... +70°C	-40°C ... +90°C
Temperature drift	$\leq 20\%$	$\leq 20\%$	$\leq 20\%$
Protection class	IP67	IP67	IP67
Status indicator	yellow-red LED	yellow all around LED	any LED
Housing material	stainless steel 1.4305	M12x1x58, brass, nickel-plated	stainless steel 1.4305
Termination	connector M8 4-pole	connector M12 4-pole	2m cable PUR

Dimensions



all data in mm



PICK-UP-SENSORS

General data

Special sensor group for combination with tool safety device or control unit.
High-sensitive pick-up inductors record feeds on punching tools or control throw-offs of punchings.



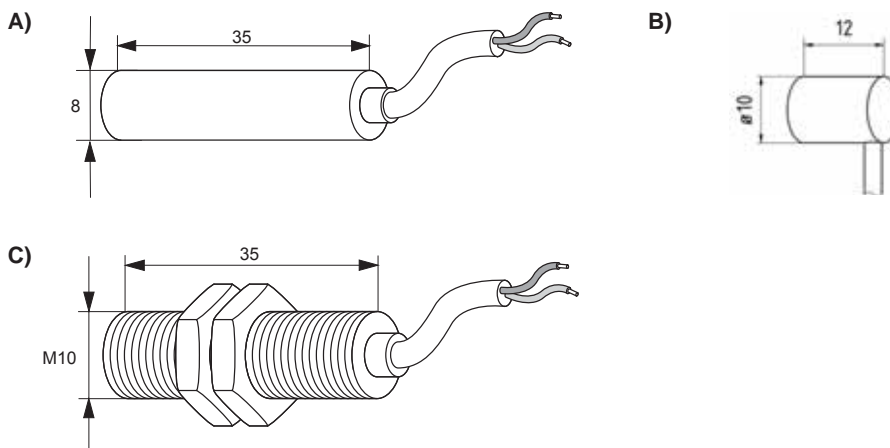
Mounting	shielded
Max. switching frequency	5000Hz
Repeatability R	≤ 0,01mm
Operating temperature T_a	-10°C ... +70°C
Protection class	IP67
Housing material	brass, nickel-plated
Front cap	PA 6.6
Requirement control unit	yes

Selection chart

Article number	Designation	Switching distance	Termination	Hysteresis H	Drawing
08317120000	KJ4-G8MB35	up to 4mm	2m coaxial cable	at S _n = 2,0 < 0,04mm	A
08317120100	KJ4-G8MB35-VK	up to 4mm	2m coaxial cable + connector	at S _n = 2,0 < 0,04mm	A
08317061000	KJ3-G10MB12	up to 3mm	2m coaxial cable	at S _n = 1,5 < 0,05mm	B
08317061100	KJ3-G10MB12-VK	up to 3mm	2m coaxial cable + connector	at S _n = 1,5 < 0,05mm	B
08317130000	KJ4-M10MB35	up to 4mm	2m coaxial cable	at S _n = 2,0 < 0,04mm	C
08317130100	KJ4-M10MB35-VK	up to 4mm	2m coaxial cable + connector	at S _n = 2,0 < 0,04mm	C

Other cable lengths as requested. Adequate control units you will find in our accessories catalogue.

Dimensions



all data in mm

 Pulsotronic GmbH & Co. KG	Neue Schichtstraße 14b D-09366 Niederdorf	☎ +49 (0) 37296 / 930 - 200 ☎ +49 (0) 37296 / 930 - 280	info@pulsotronic.de www.pulsotronic.de	subject to modifications!
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SPECIALS

PRODUCT OVERVIEW

Product	Designation	Article number	Page
Inclination sensors	KN5-Q40KN-ANU-V2	08330000066	5
Inclination sensors	KN15-Q40KN-ANU-V2	08330000107	5
Inclination sensors	KN30-Q40KN-ANU-V2	08330000500	5
Inclination sensors	KN45-Q40KN-ANU-V2	08330000075	5
Inclination sensors	KN60-Q40KN-ANU-V2	08330000501	5
Inclination sensors	KN75-Q40KN-ANU-V2	08330000502	5
Inclination sensors	KN90-Q40KN-ANU-V2	08330000095	5
Inclination sensors	KN5-Q40KN-ANI-V2	08330000087	5
Inclination sensors	KN15-Q40KN-ANI-V2	08330000503	5
Inclination sensors	KN30-Q40KN-ANI-V2	08330000504	5
Inclination sensors	KN45-Q40KN-ANI-V2	08330000067	5
Inclination sensors	KN60-Q40KN-ANI-V2	08330000080	5
Inclination sensors	KN75-Q40KN-ANI-V2	08330000505	5
Inclination sensors	KN90-Q40KN-ANI-V2	08330000076	5
Inductive pressure-resistant	KJD1,5-M12EB50-DPS-V2/500/14,9	08310002400	7
Inductive pressure-resistant	KJD1,5-M12EB50-DPÖ-V2/500/14,9	08310002401	7
Inductive pressure-resistant	KJD1,5-M12EB50-DPS-V2/500/17,9	08310002402	7
Inductive pressure-resistant	KJD1,5-M12EB50-DPÖ-V2/500/17,9	08310002403	7
Inductive pressure-resistant	KJD1,5-M12EB56-DPS-V2/500/14,9	08310001749	7
Inductive pressure-resistant	KJD1,5-M12EB56-DPÖ-V2/500/14,9	08310002404	7
Inductive pressure-resistant	KJD1,5-M12EB56-DPS-V2/500/17,9	08310001746	7
Inductive pressure-resistant	KJD1,5-M12EB56-DPÖ-V2/500/17,9	08310002405	7
Inductive pressure-resistant	KJD1,5-M12EB69-DPS-V2/500/14,9	08310002406	7
Inductive pressure-resistant	KJD1,5-M12EB69-DPÖ-V2/500/14,9	08310002407	7
Inductive pressure-resistant	KJD1,5-M12EB69-DPS-V2/500/17,9	08310002408	7
Inductive pressure-resistant	KJD1,5-M12EB69-DPÖ-V2/500/17,9	08310002409	7
Inductive pressure-resistant	KJD1,5-M12EB78-DPS-V2/500/14,9	08310002410	7
Inductive pressure-resistant	KJD1,5-M12EB78-DPÖ-V2/500/14,9	08310002411	7
Inductive pressure-resistant	KJD1,5-M12EB78-DPS-V2/500/17,9	08310001781	7
Inductive pressure-resistant	KJD1,5-M12EB78-DPÖ-V2/500/17,9	08310002412	7
Tube sensors	KJ16-Q16KN-DPS-V1	08310000903	9
Tube sensors	KJ10-Q16KN-DPS-V1-X1028	08310001526	9
Tube sensors	KJ10-Q16KN-DPS-V1	08310001105	9
Tube sensors	KJ16-Q16KN-DPS-X0337	08310001891	9
Overspeed Monitor	SJ10-M30MB80-DPSI	08343301010	10
Overspeed Monitor	SJ10-M30MB80-DPÖI	08343301020	10
Overspeed Monitor	SJ15-M30MB80-DPSI	08343301510	10
Overspeed Monitor	SJ15-M30MB80-DPÖI	08343301520	10
Overspeed Monitor	KJ5-M18MB80-DPI-X0130	08310001089	10
Overspeed Monitor	KJ15-Q40KB-DPI	08317634300	10
Acoustic sensor	KA1-Q25KB-DPÖ	08340001010	12
Optical ring sensors	KOER-D12KB-DPS-V2-IR	08363000500	13
Optical ring sensors	KOER-D30KB-DPS-V2-IR	08363000600	13
Metal Face Sensors	SJD1-M8EB70-DPS-V2	08310001712	14
Metal Face Sensors	SJD2-M8EB45-DPS	08310001738	14
Metal Face Sensors	SJD2-M8EB45-DPS-V1	08310001739	14
Metal Face Sensors	SJD2-M12EB50-DPS	08313121210	14
Metal Face Sensors	SJD2-M12EB50-DPÖ	03813121220	14
Metal Face Sensors	SJD2-M12EB50-DNS	08313121230	14
Metal Face Sensors	SJD2-M12EB50-DNÖ	08313121240	14
Metal Face Sensors	SJD2-M12EB68-DPS-V2	08313121211	14
Metal Face Sensors	SJD2-M12EB68-DPÖ-V2	08313121221	14



SPECIALS

Product overview

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Metal Face Sensors	SJD2-M12EB68-DPÖ-V2	08313121221	14
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Metal Face Sensors	SJD2-M12EB68-DNÖ-V2	08313121241	14
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Metal Face Sensors	SJD5-M18EB55-DNA	08313181560	14
Metal Face Sensors	SJD5-M18EB80-DPS-V2	08313181511	14
Metal Face Sensors	SJD5-M18EB80-DPÖ-V2	08313181521	14
Metal Face Sensors	SJD5-M18EB80-DNS-V2	08313181531	14
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Metal Face Sensors	SJD10-M30EB55-DPS	08313301110	14
Metal Face Sensors	SJD10-M30EB55-DPÖ	08313301120	14
Metal Face Sensors	SJD10-M30EB55-DNS	08313301130	14
Metal Face Sensors	SJD10-M30EB55-DNÖ	08313301140	14
Metal Face sensors	SJD10-M30EB55-DPA	08313301150	14
Metal Face sensors	SJD10-M30EB55-DNA	08313301160	14
Metal Face sensors	SJD10-M30EB55-DPS-V2	08313301111	14
Metal Face sensors	SJD10-M30EB80-DPÖ-V2	08313301121	14
Metal Face sensors	SJD10-M30EB80-DNS-V2	08313301131	14
Metal Face sensors	SJD10-M30EB80-DNÖ-V2	08313301141	14
Metal Face sensors	SJD10-M30EB80-DPA-V2	08313301151	14
Metal Face sensors	SJD10-M30EB80-DNA-V2	08313301161	14
Temperature-resistant sensors	KJ1,5-M8MB45-DPS-T	08317616010	16
Temperature-resistant sensors	KJ2-M12MB40-DPS-T	08317626010	16
Temperature-resistant sensors	KJ2-M12MB65-DPS-V2-T	08317626065	16
Temperature-resistant sensors	KJ4-M12MN40-DPS-T	08317626110	16
Temperature-resistant sensors	KJ4-M12MN60-DPS-V2-T	08316626165	16
Temperature-resistant sensors	KJ5-M18MB40-DPS-T	08317646010	16
Temperature-resistant sensors	KJ5-M18MB60-DPS-V2-T	08317646065	16
Temperature-resistant sensors	KJ8-M18MN40-DPS-T	08317646110	16
Temperature-resistant sensors	KJ8-M18MN65-DPS-V2-T	08317646165	16
Temperature-resistant sensors	KJ10-M30MB40-DPS-T	08317666010	16
Temperature-resistant sensors	KJ10-M30MB60-DPS-V2-T	08317666065	16
Temperature-resistant sensors	KJ15-M30MN40-DPS-T	08317666110	16
Temperature-resistant sensors	KJ15-M30MN60-DPS-V2-T	08317666165	16
High temperature-resistant sensors	KJ2-M8EB60-DPS-HT140-X0240	08310001715	18
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High temperature-resistant sensors	KJ3-M12EB60-DPS-HT150-X0240	08310002500	18
High temperature-resistant sensors	KJ3-M12EB60-DPS-HT150-X0202	08310000812	18
High temperature-resistant sensors	KJ4-M12EN60-DPS-HT150-X0240	08310002501	18
High temperature-resistant sensors	KJ4-M12EN60-DPS-HT150-X0202	08310002502	18
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SPECIALS

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Hall effect sensors	KHD1-M12MB60-DPS-V2	08330000070	23
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PickUp-Sensors	KJ4-G8MB35	08317120000	24
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NOTES

