TABLE OF CONTENTS

Designation code

Circuit diagrams

Sensors

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

NOTES

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	Metalface
M	Magnetoresistive		
N	Inclination sensor		
R	Reed-contact		
W	Angle sensor		

2 = Switching distance / range

3 = Design

D	Ring housing
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 = Termination

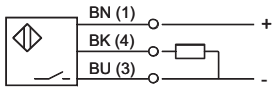
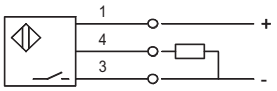
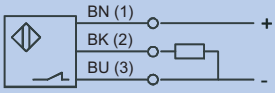
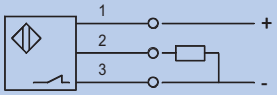
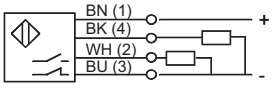
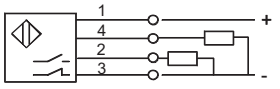
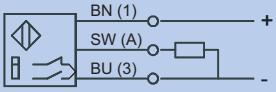
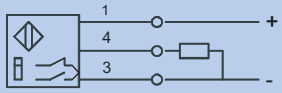
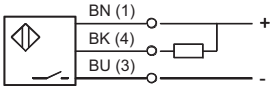
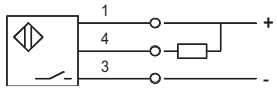
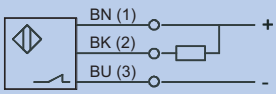
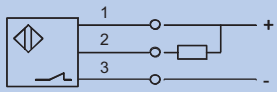
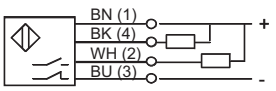
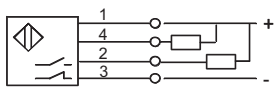
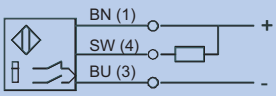
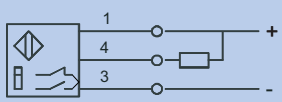
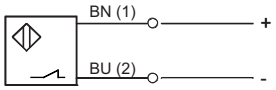
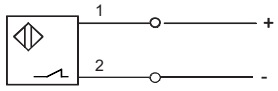
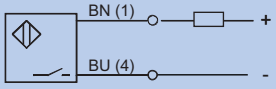
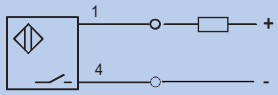
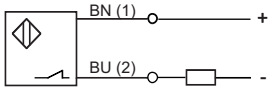
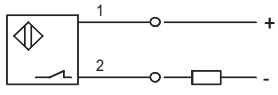
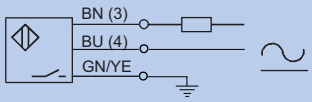
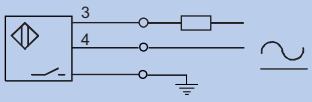
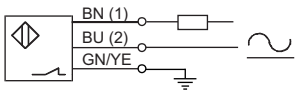
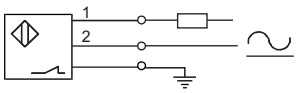
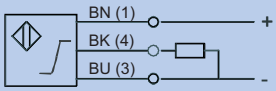
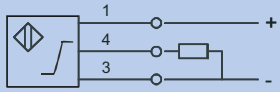
V1	M8 screw-/snap-in
V2	M12 metal
V2/1	M12 plastic
V3	M5 metal
V4	Amphenol Tuchel
V6	Brad Harrison
V7	Valve connector type A
V8	M8 snap-in only
V9	Torson
V10	Valve connector type C
V11	AC connector 1/2" UNF
V12	M18 plastic
VE	Euchner connector
RS232	Data interface
PG	Thread joint PG
Mxx	Thread joint 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 detailled description

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		

CYLINDER AC

General data

Operating voltage U_b	20 ... 250V AC
Voltage frequency	50/60Hz
Voltage drop U_d	≤ 5V
Min. load current I_{emin}	5mA
Residual current I_r	≤ 2mA
Peak current	2A (20ms / 1Hz)
Max. switching frequency f	15Hz
Hysteresis H	≤ 15%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Repeat accuracy R	≤ 5%
Protection class	IP67
Switching state	LED
EMV-standard	according to EN60947-5-2
Housing material	brass, nickel-plated
Front cap	PCP
Connection	2m cable PVC 3 x 0,5mm²

Other cable lengths as requested.

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

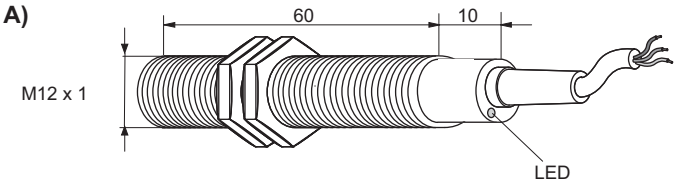
Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Max. load current	Drawing (next page)
08317240500	**KJ2-M12MB70-AZS**	shielded	AC	2	300mA	A
08317240400	**KJ2-M12MB70-AZÖ**	shielded	AC	2	300mA	A
08317240700	**KJ4-M12MN70-AZS**	non shielded	AC	4	300mA	B
08317240900	**KJ4-M12MN70-AZÖ**	non shielded	AC	4	300mA	B
08317211200	**KJ5-M18MB60-AZS**	shielded	AC	5	300mA	C
08317211300	**KJ5-M18MB60-AZÖ**	shielded	AC	5	300mA	C
08317211500	**KJ10-M18MN60-AZS**	non shielded	AC	10	300mA	D
08317211700	**KJ10-M18MN60-AZÖ**	non shielded	AC	10	300mA	D
08317162600	**KJ10-M30MB60-AZS**	shielded	AC	10	300mA	E
08317162100	**KJ10-M30MB60-AZÖ**	shielded	AC	10	300mA	E
08317162700	**KJ15-M30MN60-AZS**	non shielded	AC	15	300mA	F
08317162300	**KJ15-M30MN60-AZÖ**	non shielded	AC	15	300mA	F

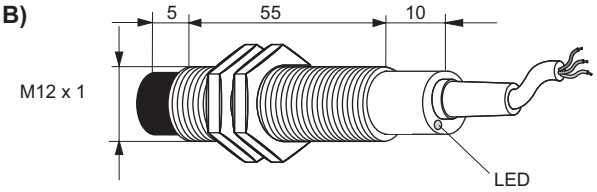
CYLINDER AC

Dimensions

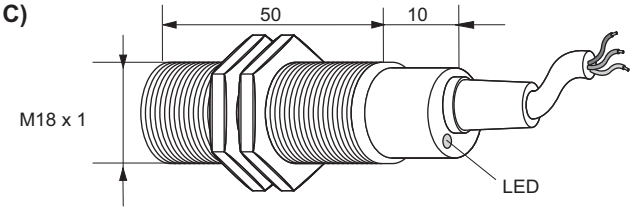
A)



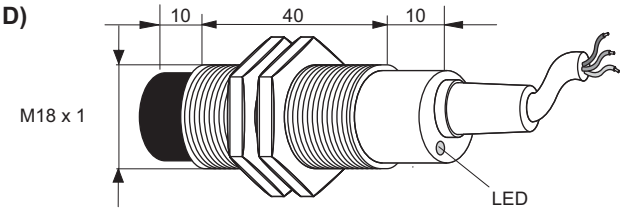
B)



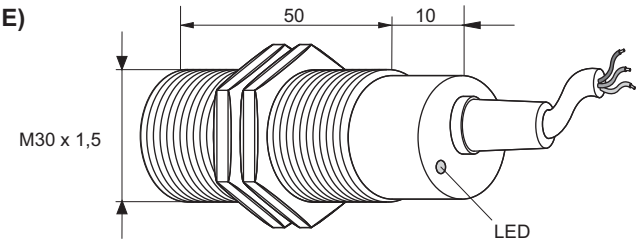
C)



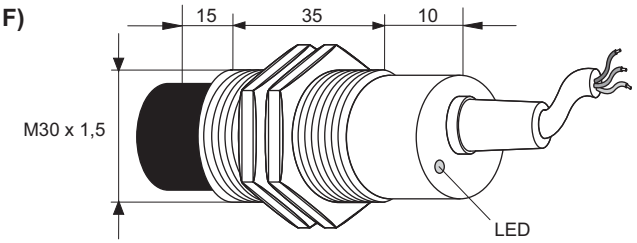
D)



E)



F)



all data in mm

CYLINDER AC/DC

General data

Operating voltage U_b	20 ... 250V AC/DC
Voltage frequency	50/60Hz
Voltage drop U_d	≤ 5V
Min. load current I_{emin}	2mA
Max. load current I_e	350mA (M12 300mA)
Residual current I_r	≤ 1,7mA
Peak current	2A (20ms/1Hz)
Max. switching frequency f	30Hz
Hysteresis H	≤ 15%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Repeat accuracy R	≤ 5%
Protection class	IP67
Switching state	LED
EMV-standard	according to EN60947-5-2
Housing material	brass, nickel-plated
Front cap	PCP
Connection	2m cable PVC 3 x 0,5mm²

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

Short circuit protection and overload protection locking. After removal of the short circuit the voltage supply has to be interrupted for approximately 2sec.
Other cable lengths as requested.

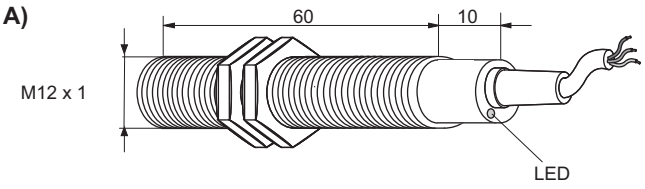
Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Drawing (next page)
08317251200	**KJ2-M12MB70-VZS**	shielded	AC/DC ⎓	2	A
08317251300	**KJ2-M12MB70-VZÖ**	shielded	AC/DC ⎓	2	A
08317251500	**KJ4-M12MN70-VZS**	non shielded	AC/DC ⎓	4	B
08317251700	**KJ4-M12MN70-VZÖ**	non shielded	AC/DC ⎓	4	B
08317231200	**KJ5-M18MB60-VZS**	shielded	AC/DC ⎓	5	C
08317231300	**KJ5-M18MB60-VZÖ**	shielded	AC/DC ⎓	5	C
08317231500	**KJ8-M18MN60-VZS**	non shielded	AC/DC ⎓	8	D
08317231700	**KJ8-M18MN60-VZÖ**	non shielded	AC/DC ⎓	8	D
08317171200	**KJ10-M30MB60-VZS**	shielded	AC/DC ⎓	10	E
08317171300	**KJ10-M30MB60-VZÖ**	shielded	AC/DC ⎓	10	E
08317171500	**KJ15-M30MN60-VZS**	non shielded	AC/DC ⎓	15	F
08317171700	**KJ15-M30MN60-VZÖ**	non shielded	AC/DC ⎓	15	F

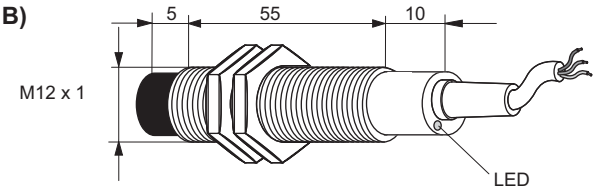
CYLINDER AC/DC

Dimensions

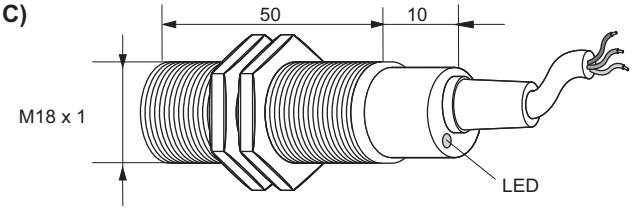
A)



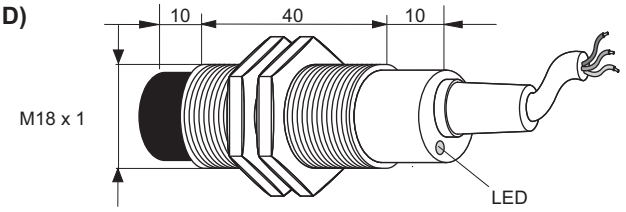
B)



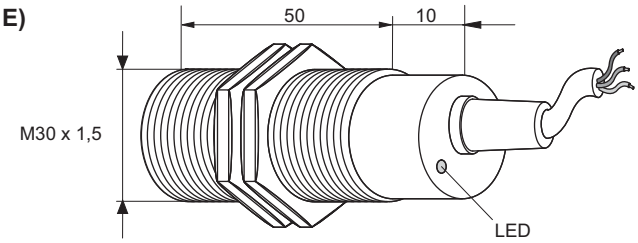
C)



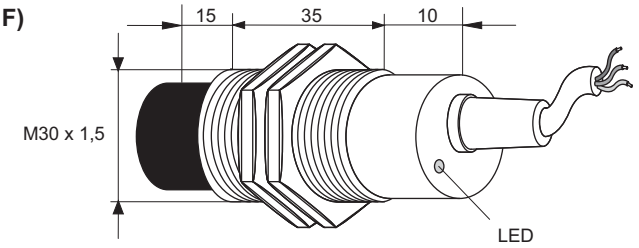
D)



E)



F)



all data in mm

SQUARE AC

General data

	KJ15-Q40KB-AZU	KJ40-Q40KN-AZU	KJ50-Q80KN-AZS
Operating voltage U_b	20 ... 250V AC	20 ... 250V AC or DC	20 ... 250V AC
Voltage frequency	50/60Hz	50/60Hz	50/60Hz
Voltage drop U_d	≤ 5V	≤ 5V	≤ 8V bei 400mA
Min. load current I_{emin}	5mA	5mA	5mA
Max. load current I_e	≤ 500mA	≤ 500mA	≤ 400mA
Residual current I_r	≤ 2mA	≤ 2mA	≤ 1,8mA
Peak current	8,0A (20ms)	8,0A (20ms)	5,0A (20ms)
Max. switching frequency f	15Hz	15Hz	25Hz
Output function	AC changeover	AC changeover	AC changeover
Hysteresis H	≤ 15%	≤ 15%	≤ 15%
Operating temperature T_a	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C
Temperature drift	≤ 10%	≤ 10%	≤ 10%
Repeat accuracy R	≤ 5%	≤ 5%	≤ 5%
Protection class	IP67	IP67	IP67
Switching state	2 LED	2 LED	2 LED
EMV-standard	according to EN60947-5-2	according to EN60947-5-2	according to EN60947-5-2
Housing material	Trogamide T	Trogamide T	PBT Resin
Connection	clamps 1,5mm²	clamps 1,5mm²	clamps 1,5mm²

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

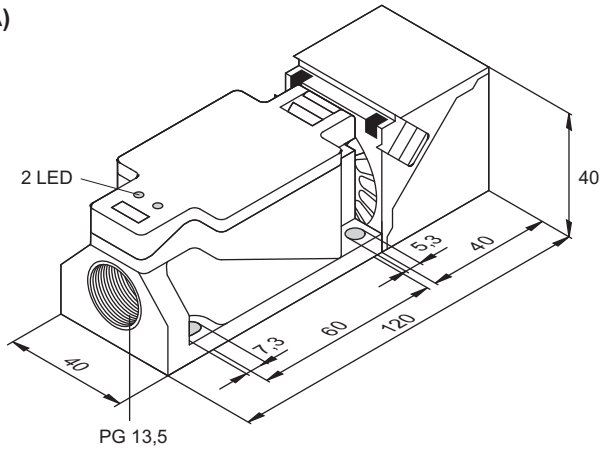
Selection chart

Article number	Designations	Mounting	Switching distance in mm	Drawing (next page)
08317533000	**KJ15-Q40KB-AZU**	shielded	15	A
08317533200	**KJ40-Q40KN-AZU**	non shielded	40	A
08317551000	**KJ50-Q80KN-AZS**	non shielded	50	B

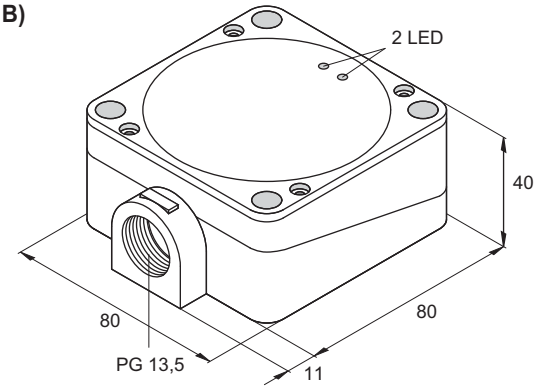
SQUARE AC

Dimensions

A)



B)



all data in mm

SQUARE AC/DC

General data

Mounting	shielded
Operating voltage U_b	20 ... 250V AC /DC
Voltage frequency	50/60Hz
Voltage drop U_d	≤ 5V
Min. load current I_{emin}	5mA
Max. load current I_e	400mA
Residual current I_r	≤ 2mA
Peak current	8A (20ms)
Max. switching frequency f	15Hz
Output function	AC/DC changeover
Hysteresis H	≤ 15%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Repeat accuracy R	≤ 5%
Protection class	IP67
Switching state	2 LED
EMV-standard	according to EN 60947-5-2
Housing material	PA 6.6 GF30
Connection	clamps 1,5mm²

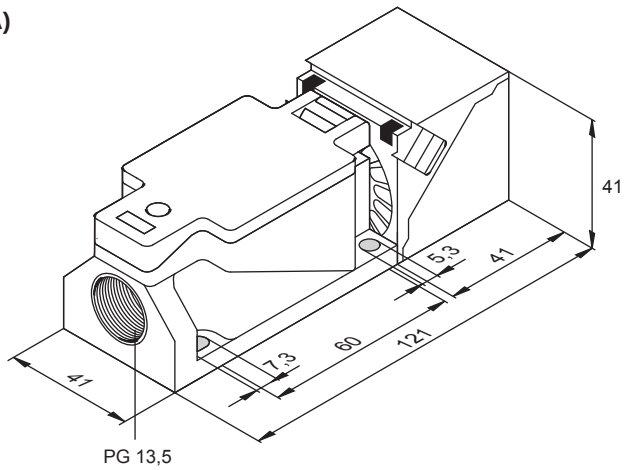
Short circuit protection and overload protection locking. After removal of the short circuit the voltage supply has to be interrupted for approximately 2sec.

Selection chart

Article number	Designation	Switching distance in mm	Drawing
08317730000	**KJ20-Q40KB-VZU**	20	A
08317730200	**KJ40-Q40KN-VZU**	40	A

Dimensions

A)



all data in mm

PRODUCT OVERVIEW

Product group	Designation	Article number	Matchcode	Page
Induktive ACDC	KJ2-M12MB70-AZS	08317240500	9924-0500	5
Induktive ACDC	KJ2-M12MB70-AZÖ	08317240400	9924-0400	5
Induktive ACDC	KJ2-M12MB70-VZS	08317251200		7
Induktive ACDC	KJ2-M12MB70-VZÖ	08317251300		7
Induktive ACDC	KJ4-M12MN70-AZS	08317240700	9924-0700	5
Induktive ACDC	KJ4-M12MN70-AZÖ	08317240900	9924-0900	5
Induktive ACDC	KJ4-M12MN70-VZS	08317251500		7
Induktive ACDC	KJ4-M12MN70-VZÖ	08317251700		7
Induktive ACDC	KJ5-M18MB60-AZS	08317211200	9921-1200	5
Induktive ACDC	KJ5-M18MB60-AZÖ	08317211300	9921-1300	5
Induktive ACDC	KJ5-M18MB60-VZS	08317231200		7
Induktive ACDC	KJ5-M18MB60-VZÖ	08317231300		7
Induktive ACDC	KJ8-M18MN60-VZS	08317231500		7
Induktive ACDC	KJ8-M18MN60-VZÖ	08317231700		7
Induktive ACDC	KJ10-M18MN60-AZS	08317211500	9921-1500	5
Induktive ACDC	KJ10-M18MN60-AZÖ	08317211700	9921-1700	5
Induktive ACDC	KJ10-M30MB60-AZS	08317162600	9916-2600	5
Induktive ACDC	KJ10-M30MB60-AZÖ	08317162100	9916-2100	5
Induktive ACDC	KJ10-M30MB60-VZS	08317171200		7
Induktive ACDC	KJ10-M30MB60-VZÖ	08317171300		7
Induktive ACDC	KJ15-M30MN60-AZS	08317162700	9916-2700	5
Induktive ACDC	KJ15-M30MN60-AZÖ	08317162300	9916-2300	5
Induktive ACDC	KJ15-M30MN60-VZS	08317171500		7
Induktive ACDC	KJ15-M30MN60-VZÖ	08317171700		7
Induktive ACDC	KJ15-Q40KB-AZU	08317533000	9853-3000	9
Induktive ACDC	KJ20-Q40KB-VZU	08317730000	9873-0000	11
Induktive ACDC	KJ40-Q40KN-AZU	08317533200	9853-3200	9
Induktive ACDC	KJ40-Q40KN-VZU	08317730200	9873-0200	11
Induktive ACDC	KJ50-Q80KN-AZS	08317551000	9855-1000	9

TABLE OF CONTENT

Designation code

Circuit diagrams

Sensors

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

NOTES

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	Metalface
M	Magnetoresistive		
N	Inclination sensor		
R	Reed-contact		
W	Angle sensor		

2 = Switching distance / range

3 = Design

D	Ring housing
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 = Termination

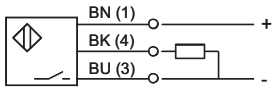
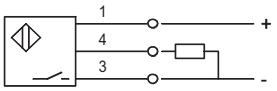
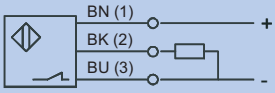
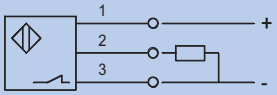
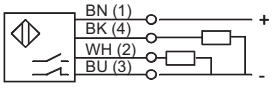
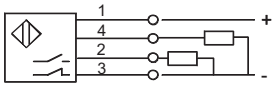
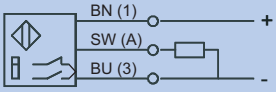
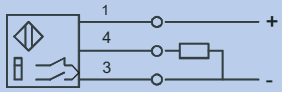
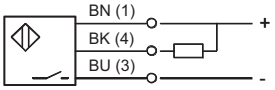
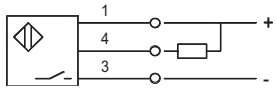
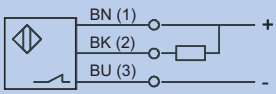
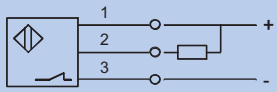
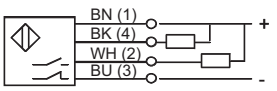
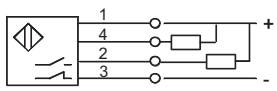
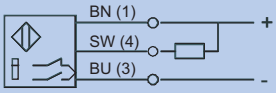
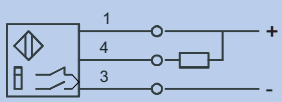
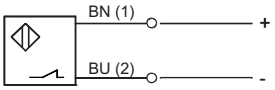
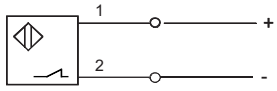
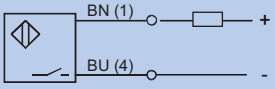
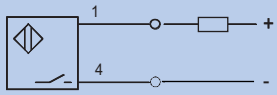
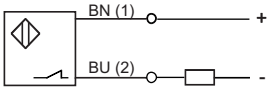
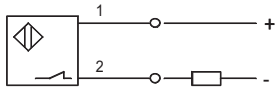
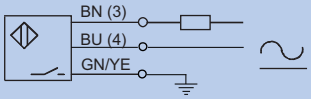
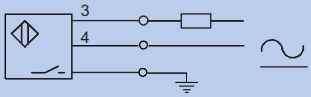
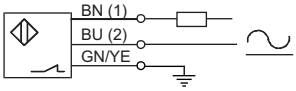
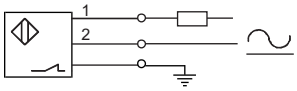
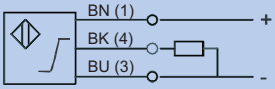
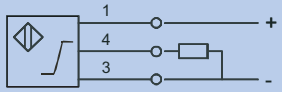
V1	M8 screw-/snap-in
V2	M12 metal
V2/1	M12 plastic
V3	M5 metal
V4	Amphenol Tuchel
V6	Brad Harrison
V7	Valve connector type A
V8	M8 snap-in only
V9	Torson
V10	Valve connector type C
V11	AC connector 1/2" UNF
V12	M18 plastic
VE	Euchner connector
RS232	Data interface
PG	Thread joint PG
Mxx	Thread joint 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 detailled description

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		

PROGRAMMABLE ANALOG SENSORS

Technical data

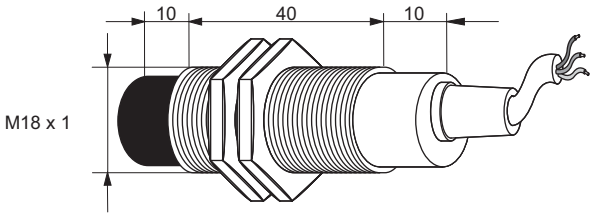
With four programmable switching points and an enlarged switching distance this sensor provides for large flexibility. Depending on the application the switching points can be configurated as normally open or normally close contact. Current and voltage values can be set freely within the thresholds. The user realises any desired output characteristics until an ideal linearity in the application is attained. By programming a switching window the user is able to gate out unwanted measured data.

Article number	Designation
08317144730	**KJ10-M18MN60-ANU-DPSS**

Mounting	non shielded
Output signal	0 ... 10V
Operating voltage U_b	11 ... 30V DC
Ripple voltage of U_b	≤ 5%
Reverse voltage protection	between + and -
Linearity	≤ 3%
Off-state current I_0	≤ 10,0mA (typ. 4 ... 5mA)
Operating current I_e	≤ 10mA
Internal resistor R_i	≤ 500Ohm
Operating frequency f	200Hz
Switching distance	0,5 ... 10,0mm
Repeat accuracy R	≤ 1%
Average Rising	1,05V / mm +/- 5%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	+/- 8%
Protection class	IP67
EMV-standard	according to IEC 60947-5-7
Housing material	brass, nickel-plated
Front cap	PA 6.6
Termination	2m cable PVC 4 x 0,34mm²

Other cable lengths as requested.

Dimensions



all data in mm

CYLINDER G6,5 ANALOG VOLTAGE OUTPUT (ANU)

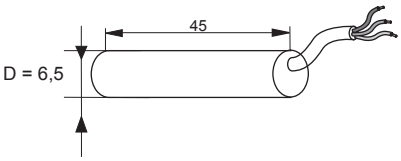
Technical data

Article number	Designation
08317140050	**KJ2-G6,5MB40-ANU**

Mounting	shielded
Output signal	0V ... 10V
Operating voltage U_b	11V ... 35V DC
Ripple voltage of U_b	≤ 5%
Reverse voltage protection	between + and -
Linearity	≤ 3%
Off-state current I_0	10,0mA (typ. 4 ... 5mA)
Operating frequency f	400Hz
Switching distance	0,5 ... 2mm
Repeat accuracy R	≤ 1%
Average rising	6,66V / mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	+/- 8%
Protection class	IP67
EMV-standard	according to IEC 60947-5-7
Housing material	brass, nickel-plated
Front cap	PA 6.6
Termination	2m cable PVC 3 x 0,14mm²

Other cable lengths as requested.

Dimensions



all data in mm

CYLINDER M8 ANALOG VOLTAGE OUTPUT (ANU)

General data

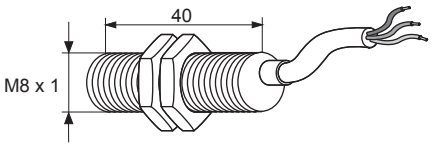
Mounting	shielded
Output signal	0V ... 10V
Operating voltage U_b	11V ... 35V DC
Ripple voltage of U_b	≤ 5%
Reverse voltage protection	between + and -
Linearity	≤ 3%
Off-state current I_0	10,0mA (typ. 4 ... 5mA)
Operating frequency f	400Hz
Switching distance	0,5 ... 2mm
Repeat accuracy R	≤ 1%
Average rising	6,66V / mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	+/- 8%
Protection class	IP67
EMV-standard	according to IEC 60947-5-7
Housing material	brass, nickel-plated
Front cap	PA 6.6

Selection chart

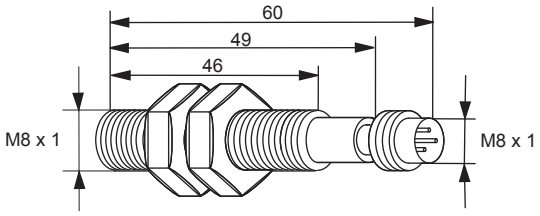
Article number	Designation	Termination	Drawing
08317140000	**KJ2-M8MB40-ANU**	2m cable PVC 3 x 0,14mm²	A
08317140064	**KJ2-M8MB60-ANU-V1**	Connector M8 3-pole	B

Dimensions

A)



B)



all data in mm

CYLINDER M12 ANALOG VOLTAGE OUTPUT (ANU)

General data

Output signal	1V ... 9V
Operating voltage U_b	11V ... 35V DC
Ripple voltage of U_b	≤ 10%
Reverse voltage protection	yes
Linearity	≤ 5%
Off-state current I_0	≤ 5mA
Operating frequency f	KJ3... 500Hz KJ4... 400Hz
Repeat accuracy R	≤ 1%
Average rising	KJ3... 2,91V / mm KJ4... 2,28V /mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	+/- 5%
Protection class	IP67
EMV-standard	according to EN 60947-5-7
Housing material	brass, nickel-plated
Front cap	PCP

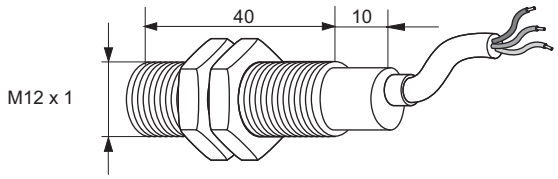
Selection chart

Article number	Designation	Mounting	Switching distance in mm	Termination	Drawing
08317143800	**KJ3-M12MB50-ANU**	shielded	0,25 ... 3	2m cable PVC 3 x 0,34mm²	A
08317143865	**KJ3-M12MB60-ANU-V2**	shielded	0,25 ... 3	Connector M12 4-pole	A1
08317144800	**KJ4-M12MN50-ANU**	non shielded	0,5 ... 4	2m cable PVC 3 x 0,34mm²	B
08317144865	**KJ4-M12MN60-ANU-V2**	non shielded	0,5 ... 4	Connector M12 4-pole	B1

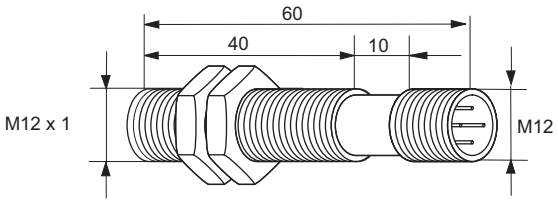
Other cable lengths as requested.

Dimensions

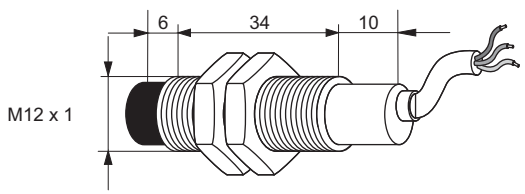
A)



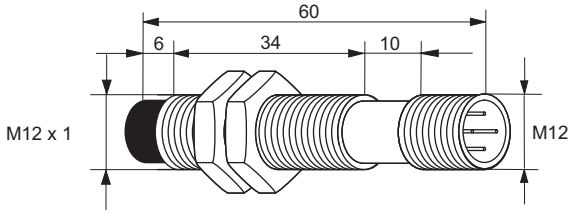
A1)



B)



B1)



alle 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

CYLINDER M12 ANALOG CURRENT OUTPUT (ANI)

General data

Output signal	4 ... 20mA
Operating voltage U_b	10 ... 35V DC
Ripple voltage of U_b	≤ 10%
Reverse voltage protection	yes
Linearity	≤ 5%
Off-state current I_0	≤ 10mA
Operating frequency f	KJ3... 450Hz KJ4... 400Hz
Repeat accuracy R	≤ 1%
Average rising	KJ3... 5,82mA / mm KJ4... 4,57mA /mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	+/- 5%
Protection class	IP67
EMV-standard	according to EN 60947-5-7
Housing material	brass, nickel-plated
Front cap	PCP

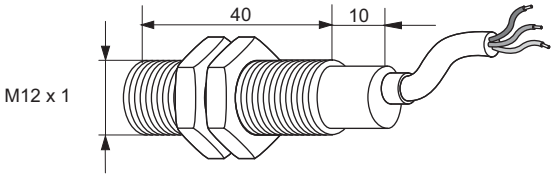
Selection chart

Article number	Designation	Mounting	Switching distance in mm	Termination	Drawing
08317141800	**KJ3-M12MB50-ANI**	shielded	0,25 ... 3	2m cable PVC 3 x 0,34mm²	A
08317141865	**KJ3-M12MB60-ANI-V2**	shielded	0,25 ... 3	Connector M12 4-pole	A1
08310000287	**KJ4-M12MN50-ANI**	non shielded	0,5 ... 4	2m cable PVC 3 x 0,34mm²	B
08310001033	**KJ4-M12MN60-ANI-V2**	non shielded	0,5 ... 4	Connector M12 4-pole	B1

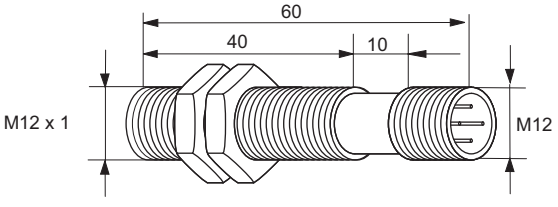
Other cable lengths as requested.

Dimensions

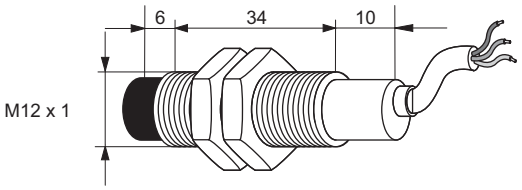
A)



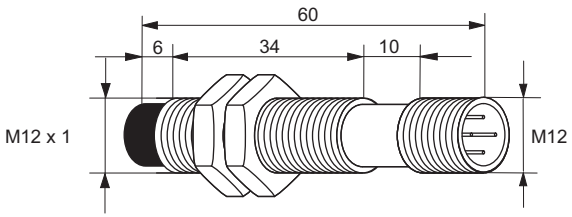
A1)



B)



B1)



all data in mm

CYLINDER M18 ANALOG VOLTAGE OUTPUT (ANU)

General data

Output signal	1V ... 9V
Operating voltage U_b	11V ... 35V DC
Ripple voltage of U_b	≤ 10%
Reverse voltage protection	yes
Linearity	≤ 5%
Off-state current I_0	≤ 5mA
Operating frequency f	KJ5... 500Hz KJ8... 400Hz
Repeat accuracy R	≤ 1%
Average rising	KJ5... 1,778V / mm KJ8... 1,143V / mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	+/- 5%
Protection class	IP67
EMV-standard	according to EN 60947-5-7
Housing material	brass, nickel-plated
Front cap	PCP

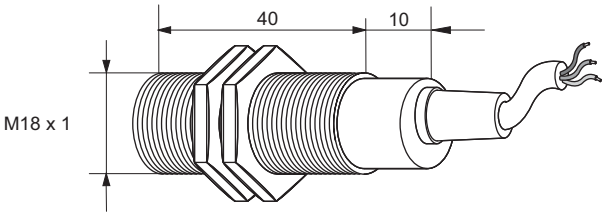
Selection chart

Article number	Designation	Mounting	Switching distance in mm	Termination	Drawing
08317143700	**KJ5-M18MB50-ANU**	shielded	0,5 ... 5	2m cable PVC 3 x 0,34mm²	A
08317143765	**KJ5-M18MB61-ANU-V2**	shielded	0,5 ... 5	Connector M12 4-pole	A1
08317144700	**KJ8-M18MN50-ANU**	non shielded	1 ... 8	2m cable PVC 3 x 0,34mm²	B
08317144765	**KJ8-M18MN61-ANU-V2**	non shielded	1 ... 8	Connector M12 4-pole	B1

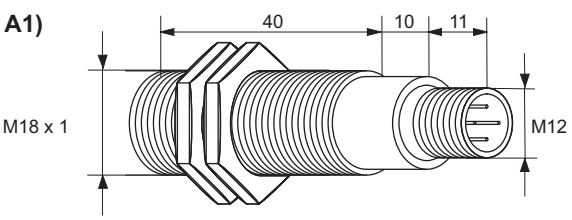
Other cable lengths as requested.

Dimensions

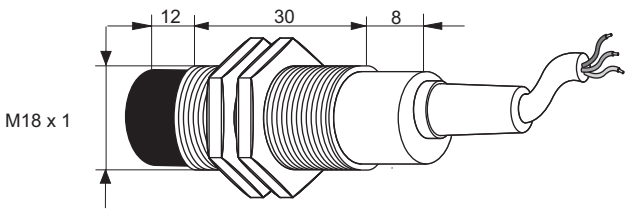
A)



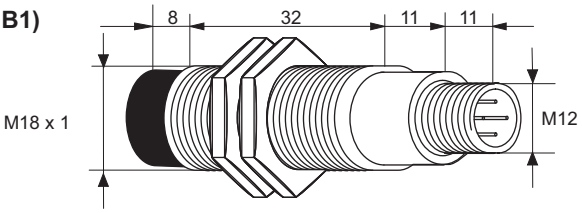
A1)



B)



B1)



all data in mm

CYLINDER M18 ANALOG CURRENT OUTPUT (ANI)

General data

Output signal	4 ... 20mA
Operating voltage U_b	10V ... 35V DC
Ripple voltage of U_b	≤ 10%
Reverse voltage protection	yes
Linearity	≤ 5%
Off-state current I_0	≤ 10mA
Operating frequency f	400Hz
Repeat accuracy R	≤ 1%
Average rising	KJ5... 3,56mA / mm KJ8... 2,29mA / mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	+/- 5%
Protection class	IP67
EMV-standard	according to EN 60947-5-7
Housing material	brass, nickel-plated
Front cap	PCP

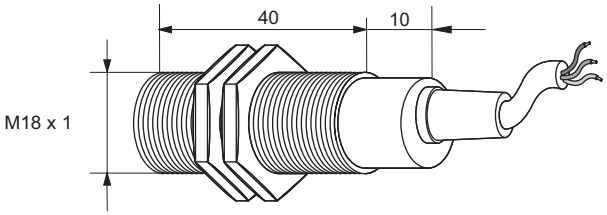
Selection chart

Article number	Designation	Mounting	Switching distance in mm	Termination	Drawing
08317141700	**KJ5-M18MB50-ANI**	shielded	0,5 ... 5	2m cable PVC 3 x 0,34mm²	A
08317141765	**KJ5-M18MB61-ANI-V2**	shielded	0,5 ... 5	Connector M12 4-pole	A1
08310000293	**KJ8-M18MN50-ANI**	non shielded	1 ... 8	2m cable PVC 3 x 0,34mm²	B
08310001031	**KJ8-M18MN61-ANI-V2**	non shielded	1 ... 8	Connector M12 4-pole	B1

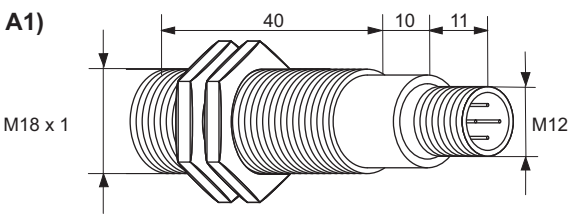
Other cable lengths as requested.

Dimensions

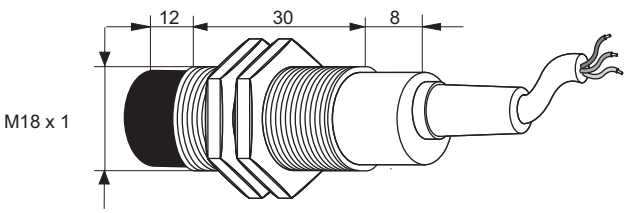
A)



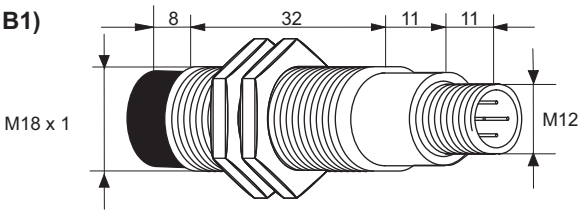
A1)



B)



B1)



alle data in mm

CYLINDER M30 ANALOG VOLTAGE OUTPUT (ANU)

General data

Output signal	1V ... 9V	
Operating voltage U_b	KJ9...	11 ... 35V DC
	KJ14...	18 ... 30V DC
	KJ15...	11 ... 35V DC
Ripple voltage of U_b	≤ 10%	
Reverse voltage protection	yes	
Linearity	≤ 5%	
Off-state current I_0	KJ9...	5mA
	KJ14...	≤ 10mA
	KJ15...	≤ 5mA
Repeat accuracy R	≤ 1%	
Average rising	KJ9...	1V / mm
	KJ14 ... (4BIT)	1,14V / mm
	KJ15...	0,667V / mm
Operating temperature T_a	-25°C ... +70°C	
Temperature drift	+/- 5%	
Protection class	IP67	
EMV-standard	according to EN 60947-5-7	
Housing material	brass, nickel-plated	
Frontcap	PCP	

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

Selection chart

Article number	Designation M30 Switching distance 1 ... 9mm	Mounting	Operating frequency	Termination	Drawing (following page)
08317143600	**KJ9-M30MB40-ANU**	shielded	400Hz	2m cable PVC 3 x 0,34mm²	A
08317143665	**KJ9-M30MB50-ANU-V2**	shielded	400Hz	Connector M12 4-pole	A1

	Designation M30 Switching distance 7 ... 14mm				
08317140500	**KJ14-M30MN80-ANU-F1***	non shielded	100Hz	2m cable PVC 3 x 0,14mm²	B
08317140600	**KJ14-M30MN80-ANU-F2***	non shielded	100Hz	2m cable PVC 3 x 0,14mm²	B
08317141000	**KJ14-M30MN80-ANU 4BIT****	non shielded	30Hz	2m cable PVC 7 x 0,14mm²	B

* several working frequencies for opposed mounting

** with additional 4 BIT NPN-digital output

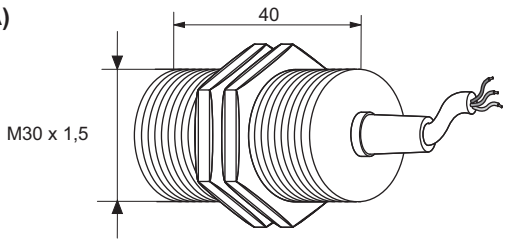
	Designation M30 Switching distance 3 ... 15mm				
08317144600	**KJ15-M30MN40-ANU**	non shielded	300Hz	2m cable PVC 3 x 0,34mm²	C
08317144665	**KJ15-M30MN50-ANU-V2**	non shielded	300Hz	Connector M12 4-pole	C1

Other cable lengths as requested.

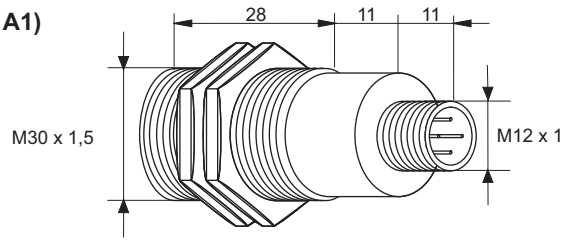
CYLINDER M30 ANALOG VOLTAGE OUTPUT (ANU)

Dimensions

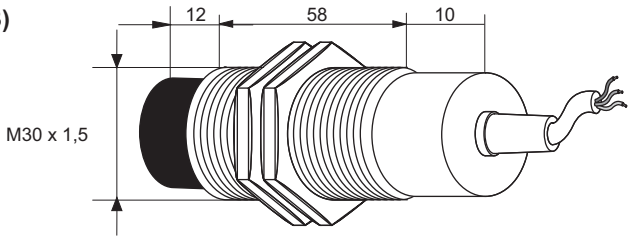
A)



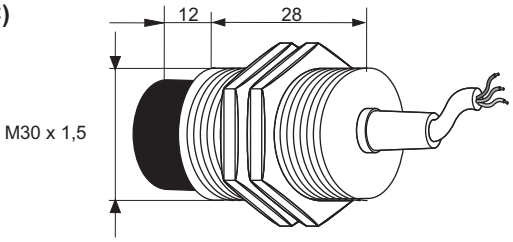
A1)



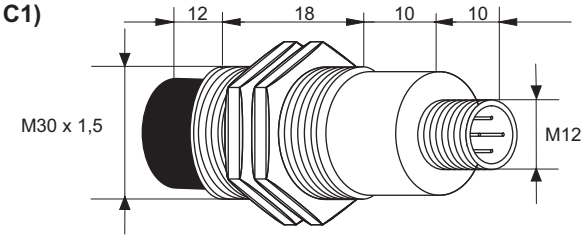
B)



C)



C1)



all data in mm

CYLINDER M30 ANALOG CURRENT OUTPUT (ANI)

General data

Output signal	4 ... 20mA
Operating voltage U_b	10V ... 35V DC
Ripple voltage of U_b	≤ 10%
Reverse voltage protection	yes
Linearity	≤ 5%
Off-state current I_0	≤ 10mA
Operating frequency f	KJ9... 350Hz KJ15... 300Hz
Repeat accuracy R	≤ 1%
Average rising	KJ9... 2mA / mm KJ15... 1,33mA / mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	+/- 5%
Protection class	IP67
EMV-standard	according to EN 60947-5-7
Housing material	brass, nickel-plated
Front cap	PCP

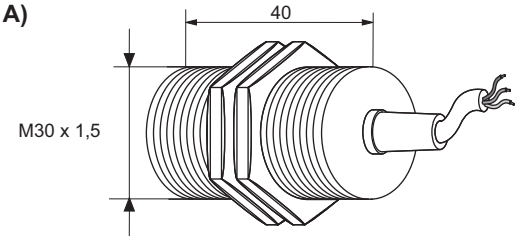
Selection chart

Article number	Designation	Mounting	Switching distance in mm	Termination	Drawing
08317141600	**KJ9-M30MB40-ANI**	shielded	1 ... 9	2m cable PVC 3 x 0,34mm²	A
08317141665	**KJ9-M30MB50-ANI-V2**	shielded	1 ... 9	Connector M12 4-pole	A1
08310000294	**KJ15-M30MN40-ANI**	non shielded	3 ... 15	2m cable PVC 3 x 0,34mm²	B
08310001032	**KJ15-M30MN50-ANI-V2**	non shielded	3 ... 15	Connector M12 4-pole	B1

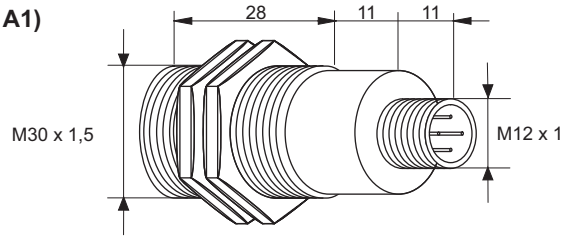
Other cable lengths as requested.

Dimensions

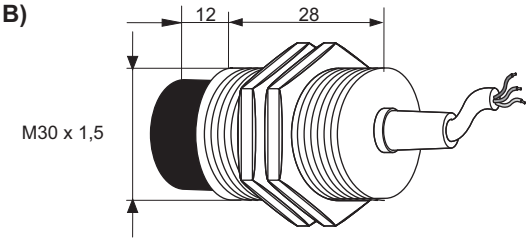
A)



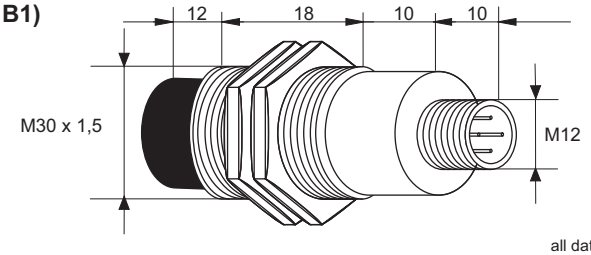
A1)



B)



B1)



all data in mm

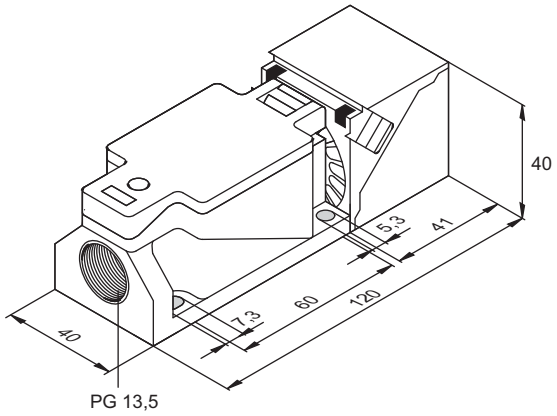
SQUARE Q40 ANALOG VOLTAGE OUTPUT (ANU)

Technical data

Article number	Designation
08317141100	**KJ20-Q40KN-ANU**

Mounting	non shielded
Output signal	1 ... 9V
Operating voltage U_b	18 ... 30V DC
Ripple voltage of U_b	≤ 10%
Reverse voltage protection	between + and -
Linearity	≤ 5%
Off-state current I_0	≤ 10mA
Operating frequency f	25Hz
Switching distance	10 ... 20mm
Repeat accuracy R	≤ 5%
Average rising	0,8V / mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	+/- 5%
Protection class	IP67
EMV-standard	according to EN 60947-5-7
Housing material	Trogamid
Termination	Terminals 1,5mm²

Dimensions



all data in mm

CYLINDER ANALOG VOLTAGE AND CURRENT OUTPUT (ANUI)

General data

Output signal	0 ... 10V 4 ... 20mA
Operating voltage U_b	18V ... 30V DC
Ripple voltage of U_b	≤ 10%
Reverse voltage protection	yes
Linearity	≤ 10%
Off-state current I_0	≤ 15mA
Operating frequency f	SJ4... 100Hz SJ7... 30Hz SJ10... 100Hz SJ14... 30Hz
Repeat accuracy R	≤ 0,02 %
Average Rising	SJ4... 3,3V mm / 6,66mA /mm SJ7... 1,66V /mm / 3,33mA /mm SJ10... 2V /mm / 4mA /mm SJ14... 1,43V /mm / 2,86mA /mm
Operating temperature T_a	0°C ... +70°C
Temperature drift	+/- 5%
Protection class	IP67
EMV-standard	according to EN 60947-5-7
Housing material	brass, nickel-plated
Front cap	PBT
Termination	2m cable PUR 4 x 0,5mm²

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

Selection chart

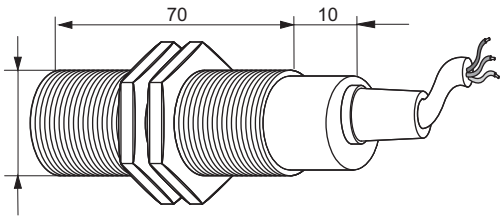
Article number	Designation	Mounting	Switching distance in mm	Drawing (following page)
08313180410	**SJ4-M18MB80-ANUI**	shielded	1 ... 4	A
08313180710	**SJ7-M18MN80-ANUI**	non shielded	1 ... 7	B
08313103010	**SJ10-M30MB80-ANUI**	shielded	5 ... 10	C
08313301410	**SJ14-M30MN80-ANUI**	non shielded	7 ... 14	D

Other cable lengths as requested.

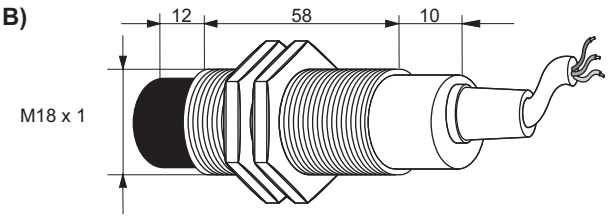
CYLINDER ANALOG VOLTAGE AND CURRENT OUTPUT (ANUI)

Dimensions

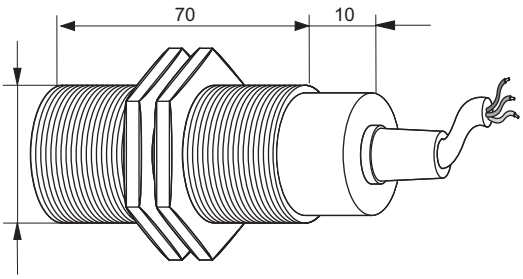
A)



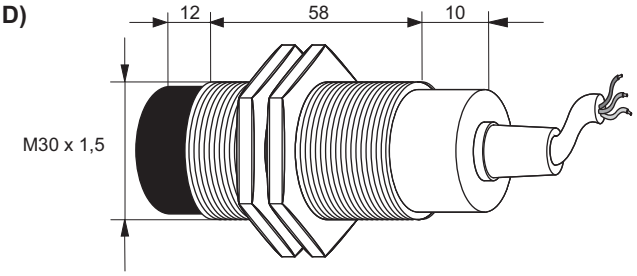
B)



C)



D)



all data in mm

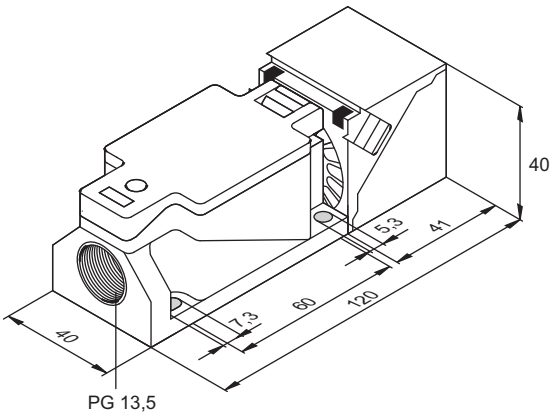
SQUARE ANALOG VOLTAGE AND CURRENT OUTPUT (ANUI)

Technical data

Article number	Designation
08313204010	**SJ20-Q40KN-ANUI**

Mounting	non shielded
Output signal	0 ... 10V 0mA ... 20mA
Operating voltage U_b	18 ... 30V DC
Ripple voltage of U_b	≤ 10%
Reverse voltage protection	yes
Linearity	0%
Off-state current I_0	≤ 15mA
Operating frequency f	30Hz
Switching distance	10 ... 20mm
Repeat accuracy R	≤ 0,02%
Aversage rising	0,77V / mm = 1,54 mA / mm
Operating temperature T_a	0°C ... +70°C
Temperature drift	+/- 5%
Protection class	IP67
EMV-standard	according to EN 60947-5-7
Housing material	PBT
Termination	Terminals 1,5mm²

Dimensions



all data in mm

TABLE OF CONTENT

Designation code

Circuit diagrams

Sensors

NOTES

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	Metalface
M	Magnetoresistive		
N	Inclination sensor		
R	Reed-contact		
W	Angle sensor		

2 = Switching distance / range

3 = Design

D	Ring housing
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 = Connection

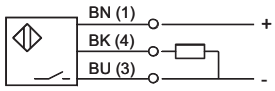
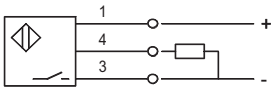
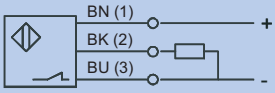
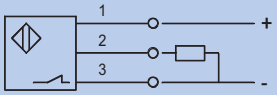
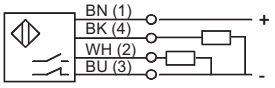
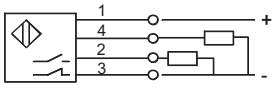
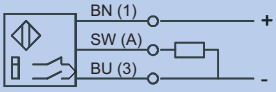
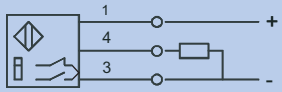
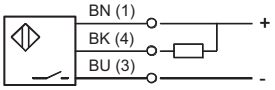
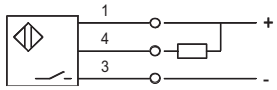
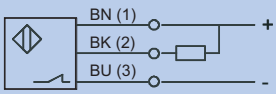
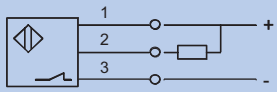
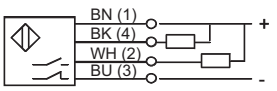
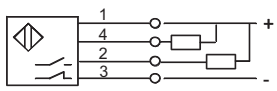
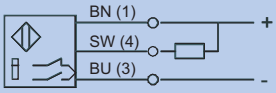
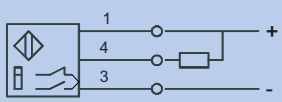
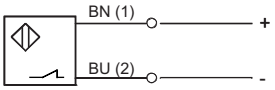
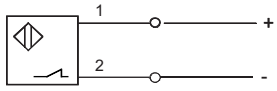
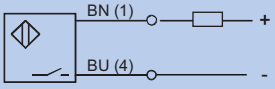
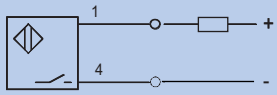
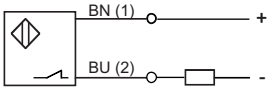
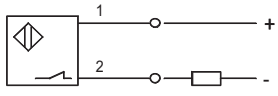
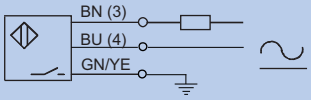
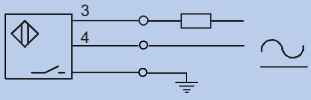
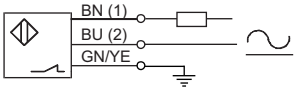
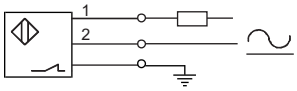
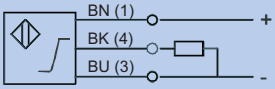
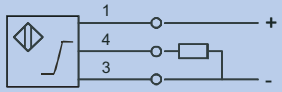
V1	M8 screw-/snap-in
V2	M12 metal
V2/1	M12 plastic
V3	M5 metal
V4	Amphenol Tuchel
V6	Brad Harrison
V7	Valve connector type A
V8	M8 snap-in only
V9	Torson
V10	Valve connector type C
V11	AC connector 1/2" UNF
V12	M18 plastic
VE	Euchner connector
RS232	Data interface
PG	Thread joint PG
Mxx	Thread joint 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 detailled description

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		

CYLINDER G6,5

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	SJ1,5... 2000Hz KJ2... 3000Hz KJ3... 2500Hz
Hysteresis H	typ. 5% ≤ 10% (SJ1,5... ≤ 15%)
Repeatability R	≤ 2% (SJ1,5... ≤ 1%)
Temperature range T_a	-25°C ... +75°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated (SJ1,5... stainless steel)
Front cap	PA 6.6 (SJ1,5... POM)

Selection chart

Article number	Designation brass	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317816000	**KJ2-G6,5MB30-DPS**	shielded	PNP	2	2m cable PVC 3 x 0,14mm²	A
08317816400	**KJ2-G6,5MB30-DPÖ**	shielded	PNP	2	2m cable PVC 3 x 0,14mm²	A
08317816100	**KJ2-G6,5MB30-DNS**	shielded	NPN	2	2m cable PVC 3 x 0,14mm²	A
08317816500	**KJ2-G6,5MB30-DNÖ**	shielded	NPN	2	2m cable PVC 3 x 0,14mm²	A
08317816064	**KJ2-G6,5MB50-DPS-V1**	shielded	PNP	2	connector M8 3-pole	B
08317816464	**KJ2-G6,5MB50-DPÖ-V1**	shielded	PNP	2	connector M8 3-pole	B
08317816164	**KJ2-G6,5MB50-DNS-V1**	shielded	NPN	2	connector M8 3-pole	B
08317816564	**KJ2-G6,5MB50-DNÖ-V1**	shielded	NPN	2	connector M8 3-pole	B
08317816200	**KJ3-G6,5MN33-DPS**	non shielded	PNP	3	2m cable PVC 3 x 0,14mm²	C
08317816600	**KJ3-G6,5MN33-DPÖ**	non shielded	PNP	3	2m cable PVC 3 x 0,14mm²	C
08317816300	**KJ3-G6,5MN33-DNS**	non shielded	NPN	3	2m cable PVC 3 x 0,14mm²	C
08317816700	**KJ3-G6,5MN33-DNÖ**	non shielded	NPN	3	2m cable PVC 3 x 0,14mm²	C
08317816264	**KJ3-G6,5MN53-DPS-V1**	non shielded	PNP	3	connector M8 3-pole	D
08317816664	**KJ3-G6,5MN53-DPÖ-V1**	non shielded	PNP	3	connector M8 3-pole	D
08317816364	**KJ3-G6,5MN53-DNS-V1**	non shielded	NPN	3	connector M8 3-pole	D
08317816764	**KJ3-G6,5MN53-DNÖ-V1**	non shielded	NPN	3	connector M8 3-pole	D

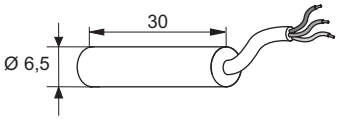
	Designation stainless steel					
08313651564	**SJ1,5-G6,5EB45-DPA**	shielded	PNP	1,5	2m cable PVC 4 x 0,15mm²	E
08313651554	**SJ1,5-G6,5EB45-DNA**	shielded	NPN	1,5	2m cable PVC 4 x 0,15mm²	E

Other cable lenghts as requested.

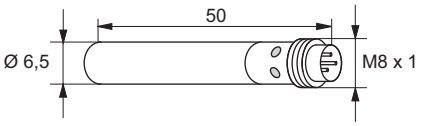
CYLINDER G6,5

Dimensions

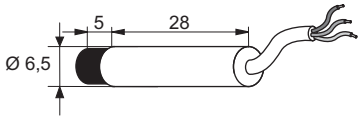
A)



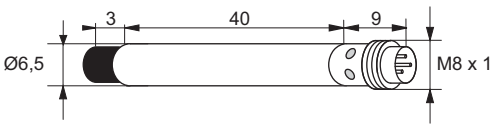
B)



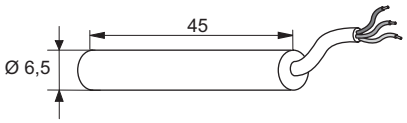
C)



D)



E)



all data in mm

CYLINDER M8 - STANDARD

General data

Operating voltage U_b	10 ... 30V DC*
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V (SJ1,5... ≤ 1,0V)
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	2000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 10% (SJ1,5... ≤ 1,0%)
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated, stainless steel
Front cap	brass: PCP stainless steel: POM

* KJ1,5-M8MB50-DPS-V2: 10 ... 35V DC

Selection chart

Article number	Designation brass	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317610200	**KJ1,5-M8MB40-DPS**	shielded	PNP ⎍	1,5	2m cable PVC 3 x 0,14mm²	A
08317610300	**KJ1,5-M8MB40-DNS**	shielded	NPN ⎍	1,5	2m cable PVC 3 x 0,14mm²	A
08317610264	**KJ1,5-M8MB50-DPS-V1**	shielded	PNP ⎍	1,5	connector M8 3-pole	B
08317610364	**KJ1,5-M8MB50-DNS-V1**	shielded	NPN ⎍	1,5	connector M8 3-pole	B
08317610265	**KJ1,5-M8MB50-DPS-V2**	shielded	PNP ⎍	1,5	connector M12 4-pole	C
08317610365	**KJ1,5-M8MB50-DNS-V2**	shielded	NPN ⎍	1,5	connector M12 4-pole	C
08317610400	**KJ2-M8MN40-DPS**	non shielded	PNP ⎍	2	2m cable PVC 3 x 0,14mm²	D
08317610500	**KJ2-M8MN40-DNS**	non shielded	NPN ⎍	2	2m cable PVC 3 x 0,14mm²	D
08317610464	**KJ2-M8MN50-DPS-V1**	non shielded	PNP ⎍	2	connector M8 3-pole	E
08317610564	**KJ2-M8MN50-DNS-V1**	non shielded	NPN ⎍	2	connector M8 3-pole	E
08317610465	**KJ2-M8MN50-DPS-V2**	non shielded	PNP ⎍	2	connector M12 4-pole	F
08317610565	**KJ2-M8MN50-DNS-V2**	non shielded	NPN ⎍	2	connector M12 4-pole	F

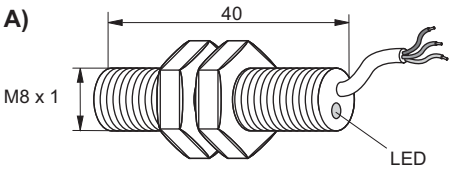
	Designation stainless steel					
08313081560	**SJ1,5-M8EB45-DPA**	shielded	PNP ⎍	1,5	2m cable PVC 4 x 0,15mm²	G
08313081550	**SJ1,5-M8EB45-DNA**	shielded	NPN ⎍	1,5	2m cable PVC 4 x 0,15mm²	G

Other cable lengths as requested.

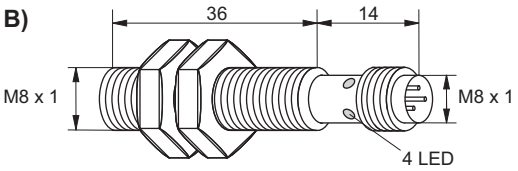
CYLINDER M8 - STANDARD

Dimensions

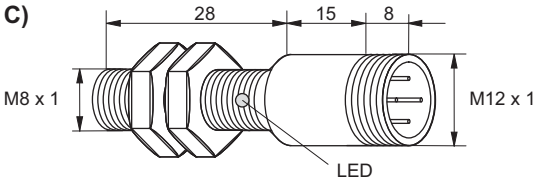
A)



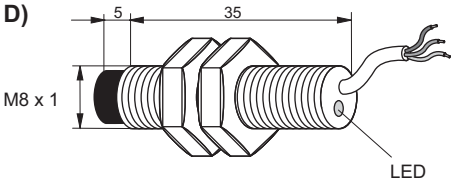
B)



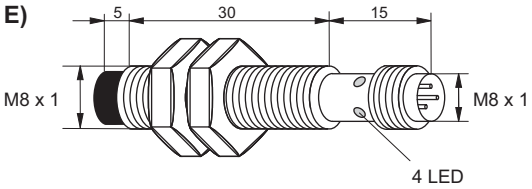
C)



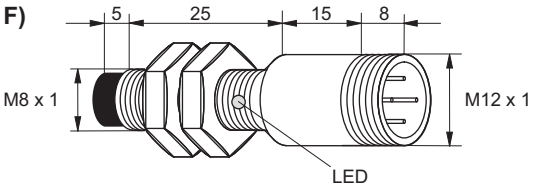
D)



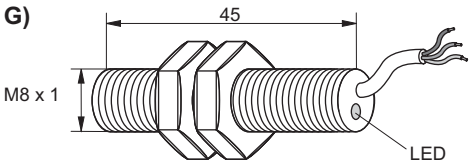
E)



F)



G)



all data in mm

CYLINDER M8 - ADVANCED

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	KJ2... 3000Hz KJ3... 2500Hz
Hysteresis H	typ. 5% ≤ 10%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated
Front cap	PCP

Selection chart

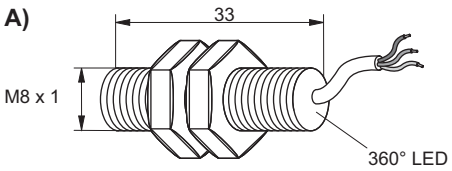
Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317811000	**KJ2-M8MB33-DPS**	shielded	PNP	2	2m cable PVC 3 x 0,14mm²	A
08317811400	**KJ2-M8MB33-DPÖ**	shielded	PNP	2	2m cable PVC 3 x 0,14mm²	A
08317811100	**KJ2-M8MB33-DNS**	shielded	NPN	2	2m cable PVC 3 x 0,14mm²	A
08317811500	**KJ2-M8MB33-DNÖ**	shielded	NPN	2	2m cable PVC 3 x 0,14mm²	A
08317811064	**KJ2-M8MB50-DPS-V1**	shielded	PNP	2	connector M8 3-pole	B
08317811464	**KJ2-M8MB50-DPÖ-V1**	shielded	PNP	2	connector M8 3-pole	B
08317811164	**KJ2-M8MB50-DNS-V1**	shielded	NPN	2	connector M8 3-pole	B
08317811564	**KJ2-M8MB50-DNÖ-V1**	shielded	NPN	2	connector M8 3-pole	B
08317811050	**KJ2-M8MB58-DPS-V2**	shielded	PNP	2	connector M12 4-pole	C
08317811450	**KJ2-M8MB58-DPÖ-V2**	shielded	PNP	2	connector M12 4-pole	C
08317811150	**KJ2-M8MB58-DNS-V2**	shielded	NPN	2	connector M12 4-pole	C
08317811550	**KJ2-M8MB58-DNÖ-V2**	shielded	NPN	2	connector M12 4-pole	C
08317811200	**KJ3-M8MN33-DPS**	non shielded	PNP	3	2m cable PVC 3 x 0,14mm²	D
08317811600	**KJ3-M8MN33-DPÖ**	non shielded	PNP	3	2m cable PVC 3 x 0,14mm²	D
08317811300	**KJ3-M8MN33-DNS**	non shielded	NPN	3	2m cable PVC 3 x 0,14mm²	D
08317811700	**KJ3-M8MN33-DNÖ**	non shielded	NPN	3	2m cable PVC 3 x 0,14mm²	D
08317811264	**KJ3-M8MN50-DPS-V1**	non shielded	PNP	3	connector M8 3-pole	E
08317811664	**KJ3-M8MN50-DPÖ-V1**	non shielded	PNP	3	connector M8 3-pole	E
08317811364	**KJ3-M8MN50-DNS-V1**	non shielded	NPN	3	connector M8 3-pole	E
08317811764	**KJ3-M8MN50-DNÖ-V1**	non shielded	NPN	3	connector M8 3-pole	E
08317811250	**KJ3-M8MN58-DPS-V2**	non shielded	PNP	3	connector M12 4-pole	F
08317811650	**KJ3-M8MN58-DPÖ-V2**	non shielded	PNP	3	connector M12 4-pole	F
08317811350	**KJ3-M8MN58-DNS-V2**	non shielded	NPN	3	connector M12 4-pole	F
08317811750	**KJ3-M8MN58-DNÖ-V2**	non shielded	NPN	3	connector M12 4-pole	F

Other cable lengths as requested.

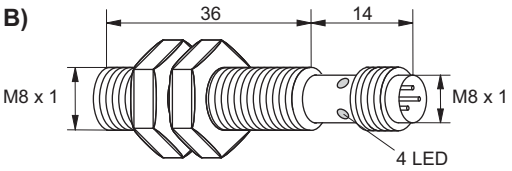
CYLINDER M8 - ADVANCED

Dimensions

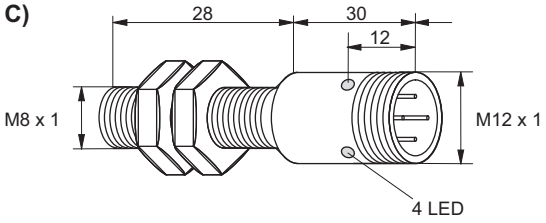
A)



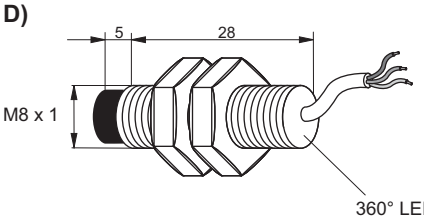
B)



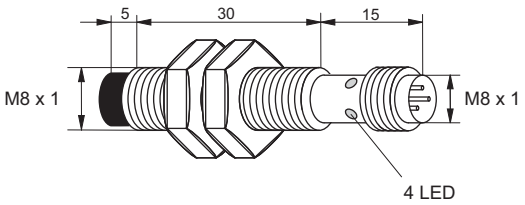
C)



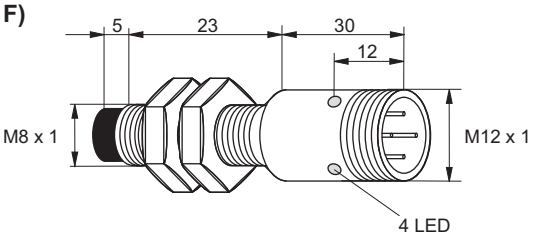
D)



E)



F)



all data in mm

CYLINDER M12 - SHORTIES

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	KJ2... 2000Hz KJ4... 1000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated
Front cap	PA 6.6

Selection chart

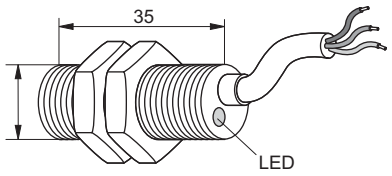
Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317822000	**KJ2-M12MB35-DPS**	shielded	PNP ⎍	2	2m cable PVC 3 x 0,34mm²	A
08317822100	**KJ2-M12MB35-DNS**	shielded	NPN ⎍	2	2m cable PVC 3 x 0,34mm²	A
08317822064	**KJ2-M12MB50-DPS-V1**	shielded	PNP ⎍	2	connector M8 3-pole	B
08317822164	**KJ2-M12MB50-DNS-V1**	shielded	NPN ⎍	2	connector M8 3-pole	B
08317822065	**KJ2-M12MB50-DPS-V2**	shielded	PNP ⎍	2	connector M12 4-pole	C
08317822165	**KJ2-M12MB50-DNS-V2**	shielded	NPN ⎍	2	connector M12 4-pole	C
08310009173	**KJ4-M12MB30-DPS**	shielded	PNP ⎍	4	2m cable PVC 3 x 0,34mm²	D
08310000288	**KJ4-M12MB50-DPS-V1**	shielded	PNP ⎍	4	connector M8 3-pole	E
08317824950	**KJ4-M12MB50-DPS-V2**	shielded	PNP ⎍	4	connector M12 4-pole	C
08317822200	**KJ4-M12MN35-DPS**	non shielded	PNP ⎍	4	2m cable PVC 3 x 0,14mm²	F
08317822300	**KJ4-M12MN35-DNS**	non shielded	NPN ⎍	4	2m cable PVC 3 x 0,14mm²	F
08317822264	**KJ4-M12MN50-DPS-V1**	non shielded	PNP ⎍	4	connector M8 3-pole	G
08317822364	**KJ4-M12MN50-DNS-V1**	non shielded	NPN ⎍	4	connector M8 3-pole	G
08317822265	**KJ4-M12MN50-DPS-V2**	non shielded	PNP ⎍	4	connector M12 4-pole	H
08317822365	**KJ4-M12MN50-DNS-V2**	non shielded	NPN ⎍	4	connector M12 4-pole	H
0831xxxxxxx	**KJ6-M12MN30-DPS**	non shielded	PNP ⎍	6	2m cable PVC 3 x 0,34mm²	I
08310000736	**KJ6-M12MN50-DPS-V1**	non shielded	PNP ⎍	6	connector M8 3-pole	G
0831xxxxxxx	**KJ6-M12MN50-DPS-V2**	non shielded	PNP ⎍	6	connector M12 4-pole	H

Other cable lengths as requested.

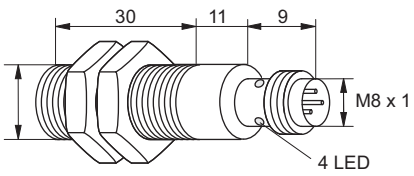
CYLINDER M12 - SHORTIES

Dimensions

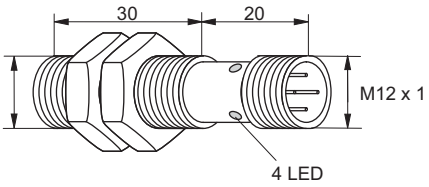
A)



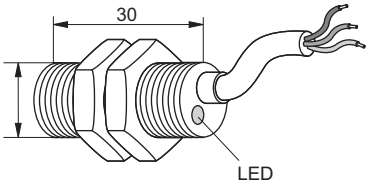
B)



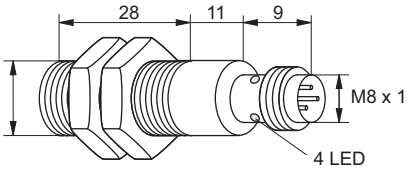
C)



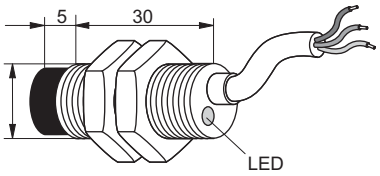
D)



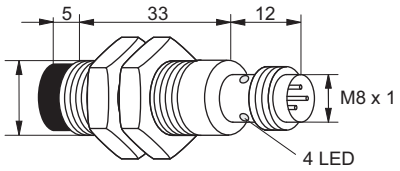
E)



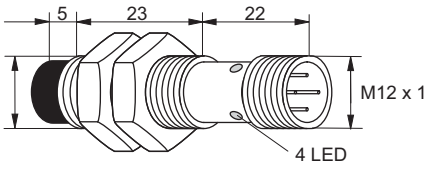
F)



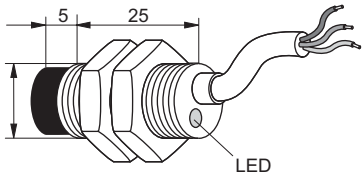
G)



H)



I)



all data in mm

CYLINDER M12 - STANDARD

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	KJ2... 1000Hz (antivalent 2000Hz) KJ4... 800Hz (antivalent 1000Hz)
Hysteresis H	≤ 15%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	nach EN 60947-5-2
Switching state	LED
Housing material	Messing vernickelt
Front cap	PA 6.6

Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317624000	**KJ2-M12MB40-DPS**	shielded	PNP ⎍	2	2m cable PVC 3 x 0,34mm²	A
08317624400	**KJ2-M12MB40-DPÖ**	shielded	PNP ⎍	2	2m cable PVC 3 x 0,34mm²	A
08317624100	**KJ2-M12MB40-DNS**	shielded	NPN ⎍	2	2m cable PVC 3 x 0,34mm²	A
08317624500	**KJ2-M12MB40-DNÖ**	shielded	NPN ⎍	2	2m cable PVC 3 x 0,34mm²	A
08317624064	**KJ2-M12MB60-DPS-V1**	shielded	PNP ⎍	2	connector M8 3-pole	B
08317624464	**KJ2-M12MB60-DPÖ-V1**	shielded	PNP ⎍	2	connector M8 3-pole	B
08317624164	**KJ2-M12MB60-DNS-V1**	shielded	NPN ⎍	2	connector M8 3-pole	B
08317624564	**KJ2-M12MB60-DNÖ-V1**	shielded	NPN ⎍	2	connector M8 3-pole	B
08317624065	**KJ2-M12MB60-DPS-V2**	shielded	PNP ⎍	2	connector M12 4-pole	C
08317624465	**KJ2-M12MB60-DPÖ-V2**	shielded	PNP ⎍	2	connector M12 4-pole	C
08317624165	**KJ2-M12MB60-DNS-V2**	shielded	NPN ⎍	2	connector M12 4-pole	C
08317624565	**KJ2-M12MB60-DNÖ-V2**	shielded	NPN ⎍	2	connector M12 4-pole	C
08317626200	**KJ2-M12MB60-DPA**	shielded	PNP ⎍	2	2m cable PVC 4 x 0,34mm²	D
08310000705	**KJ2-M12MB60-DNA**	shielded	NPN ⎍	2	2m cable PVC 4 x 0,34mm²	D
08317626265	**KJ2-M12MB80-DPA-V2**	shielded	PNP ⎍	2	connector M12 4-pole	E
0831xxxxxxx	**KJ2-M12MB80-DNA-V2**	shielded	NPN ⎍	2	connector M12 4-pole	E
08317624200	**KJ4-M12MN40-DPS**	non shielded	PNP ⎍	4	2m cable PVC 3 x 0,34mm²	F
08317624600	**KJ4-M12MN40-DPÖ**	non shielded	PNP ⎍	4	2m cable PVC 3 x 0,34mm²	F
08317624300	**KJ4-M12MN40-DNS**	non shielded	NPN ⎍	4	2m cable PVC 3 x 0,34mm²	F
08317624700	**KJ4-M12MN40-DNÖ**	non shielded	NPN ⎍	4	2m cable PVC 3 x 0,34mm²	F
08317624264	**KJ4-M12MN60-DPS-V1**	non shielded	PNP ⎍	4	connector M8 3-pole	G
08317624664	**KJ4-M12MN60-DPÖ-V1**	non shielded	PNP ⎍	4	connector M8 3-pole	G
08317624364	**KJ4-M12MN60-DNS-V1**	non shielded	NPN ⎍	4	connector M8 3-pole	G
08317624764	**KJ4-M12MN60-DNÖ-V1**	non shielded	NPN ⎍	4	connector M8 3-pole	G

Continuation on the next page. Other cable lengths as requested.

CYLINDER M12 - STANDARD

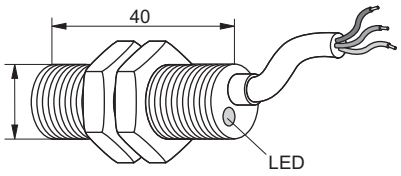
Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing
08317624265	**KJ4-M12MN60-DPS-V2**	non shielded	PNP	4	connector M12 4-pole	H
08317624665	**KJ4-M12MN60-DPÖ-V2**	non shielded	PNP	4	connector M12 4-pole	H
08317624365	**KJ4-M12MN60-DNS-V2**	non shielded	NPN	4	connector M12 4-pole	H
08317624765	**KJ4-M12MN60-DNÖ-V2**	non shielded	NPN	4	connector M12 4-pole	H
08317626300	**KJ4-M12MN60-DPA**	non shielded	PNP	4	2m cable PVC 4 x 0,34mm²	I
08310000019	**KJ4-M12MN60-DNA**	non shielded	NPN	4	2m cabel PVC 4 x 0,34mm²	I
08317626365	**KJ4-M12MN80-DPA-V2**	non shielded	PNP	4	connector M12 4-pole	J
0831xxxxxxx	**KJ4-M12MN80-DNA-V2**	non shielded	NPN	4	connector M12 4-pole	J

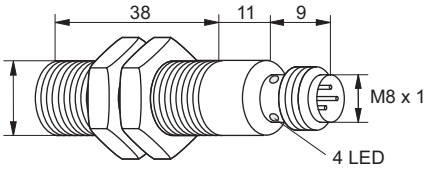
Other cable lengths as requested.

Dimensions

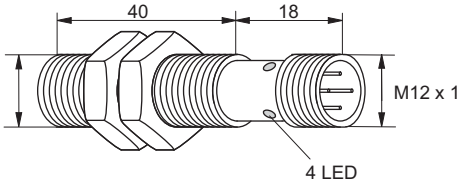
A)



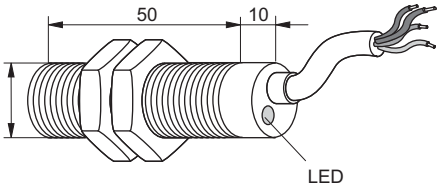
B)



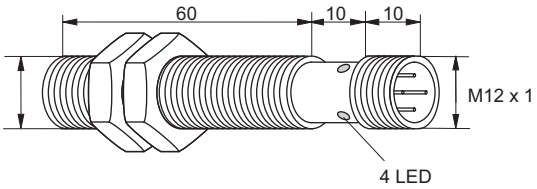
C)



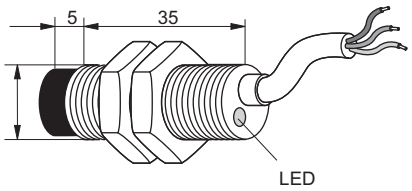
D)



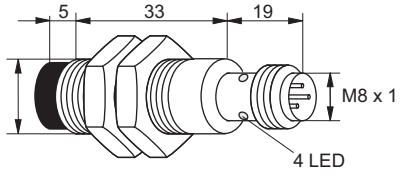
E)



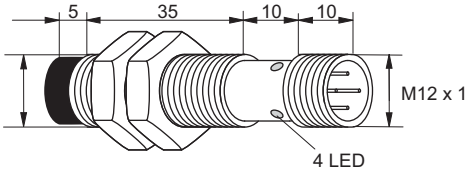
F)



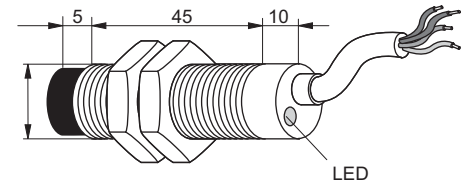
G)



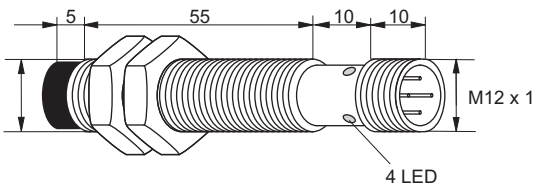
H)



I)



J)



all data in mm

CYLINDER M12 - ADVANCED

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	KJ4... 2000Hz KJ6... 1000Hz
Hysteresis H	typ. 5% ≤ 10%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated
Front cap	PA 6.6

Selection chart

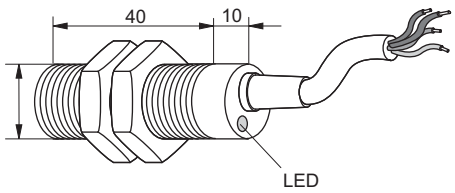
Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317821000	**KJ4-M12MB50-DPS**	shielded	PNP	4	2m cable PVC 3 x 0,34mm²	A
08317821400	**KJ4-M12MB50-DPÖ**	shielded	PNP	4	2m cable PVC 3 x 0,34mm²	A
08317821100	**KJ4-M12MB50-DNS**	shielded	NPN	4	2m cable PVC 3 x 0,34mm²	A
08317821500	**KJ4-M12MB50-DNÖ**	shielded	NPN	4	2m cable PVC 3 x 0,34mm²	A
08317821050	**KJ4-M12MB60-DPS-V2**	shielded	PNP	4	connector M12 4-pole	B
08317821450	**KJ4-M12MB60-DPÖ-V2**	shielded	PNP	4	connector M12 4-pole	B
08317821150	**KJ4-M12MB60-DNS-V2**	shielded	NPN	4	connector M12 4-pole	B
08317821550	**KJ4-M12MB60-DNÖ-V2**	shielded	NPN	4	connector M12 4-pole	B
0831xxxxxxx	**KJ4-M12MB50-DPA**	shielded	PNP	4	2m cable PVC 4 x 0,34mm²	A
08310001904	**KJ4-M12MB50-DNA**	shielded	NPN	4	2m cable PVC 4 x 0,34mm²	A
08310000388	**KJ4-M12MB60-DPA-V2**	shielded	PNP	4	connector M12 4-pole	B
0831xxxxxxx	**KJ4-M12MB60-DNA-V2**	shielded	NPN	4	connector M12 4-pole	B
08317821200	**KJ6-M12MN50-DPS**	non shielded	PNP	6	2m cable PVC 3 x 0,34mm²	C
08317821600	**KJ6-M12MN50-DPÖ**	non shielded	PNP	6	2m cable PVC 3 x 0,34mm²	C
08317821300	**KJ6-M12MN50-DNS**	non shielded	NPN	6	2m cable PVC 3 x 0,34mm²	C
08317821700	**KJ6-M12MN50-DNÖ**	non shielded	NPN	6	2m cable PVC 3 x 0,34mm²	C
08317821250	**KJ6-M12MN60-DPS-V2**	non shielded	PNP	6	connector M12 4-pole	D
08317821650	**KJ6-M12MN60-DPÖ-V2**	non shielded	PNP	6	connector M12 4-pole	D
0831xxxxxxx	**KJ6-M12MN60-DNS-V2**	non shielded	NPN	6	connector M12 4-pole	D
08317821750	**KJ6-M12MN60-DNÖ-V2**	non shielded	NPN	6	connector M12 4-pole	D
0831xxxxxxx	**KJ6-M12MN50-DPA**	non shielded	PNP	6	2m cable PVC 4 x 0,34mm²	C
0831xxxxxxx	**KJ6-M12MN50-DNA**	non shielded	NPN	6	2m cable PVC 4 x 0,34mm²	C
0831xxxxxxx	**KJ6-M12MN60-DPA-V2**	non shielded	PNP	6	connector M12 4-pole	D
08310001176	**KJ6-M12MN60-DNA-V2**	non shielded	NPN	6	connector M12 4-pole	D

Other cable lengths as requested.

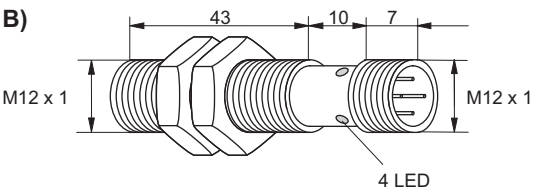
CYLINDER M12 - ADVANCED

Dimensions

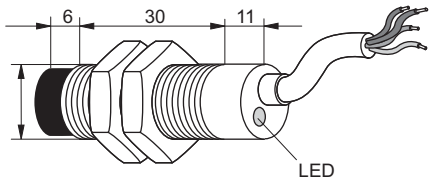
A)



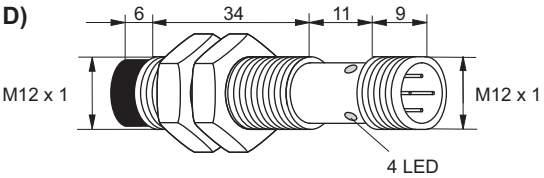
B)



C)



D)



all data in mm

CYLINDER M18 - SHORTIES

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA*
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	KJ5... 800Hz KJ8... 500Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated
Front cap	PCB

* KJ5-M18MB25-DPS: 100mA

Selection chart

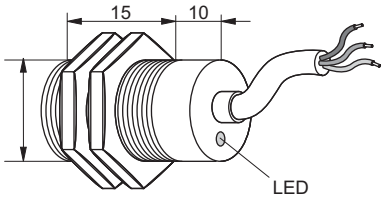
Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08310000562	**KJ5-M18MB25-DPS**	shielded	PNP ⎍	5	2m cable PVC 3 x 0,34mm²	A
08317842000	**KJ5-M18MB35-DPS**	shielded	PNP ⎍	5	2m cable PVC 3 x 0,34mm²	B
08317842100	**KJ5-M18MB35-DNS**	shielded	NPN ⎍	5	2m cable PVC 3 x 0,34mm²	B
08317842065	**KJ5-M18MB50-DPS-V2**	shielded	PNP ⎍	5	connector M12 4-pole	C
08317842165	**KJ5-M18MB50-DNS-V2**	shielded	NPN ⎍	5	connector M12 4-pole	C
08317844900	**KJ8-M18MB40-DPS**	shielded	PNP ⎍	8	2m cable PVC 3 x 0,34mm²	D
08317844800	**KJ8-M18MB40-DNS**	shielded	NPN ⎍	8	2m cable PVC 3 x 0,34mm²	D
08317844950	**KJ8-M18MB50-DPS-V2**	shielded	PNP ⎍	8	connector M12 4-pole	C
08317844850	**KJ8-M18MB50-DNS-V2**	shielded	NPN ⎍	8	connector M12 4-pole	C
08317842200	**KJ8-M18MN35-DPS**	non shielded	PNP ⎍	8	2m cable PVC 3 x 0,34mm²	E
08317842300	**KJ8-M18MN35-DNS**	non shielded	NPN ⎍	8	2m cable PVC 3 x 0,34mm²	E
08317842265	**KJ8-M18MN50-DPS-V2**	non shielded	PNP ⎍	8	connector M12 4-pole	F
08317842365	**KJ8-M18MN50-DNS-V2**	non shielded	NPN ⎍	8	connector M12 4-pole	F

Other cable lengths as requested.

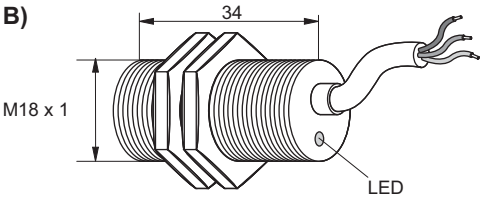
CYLINDER M18 - SHORTIES

Dimensions

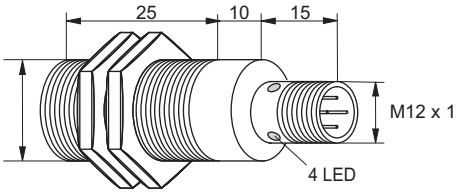
A)



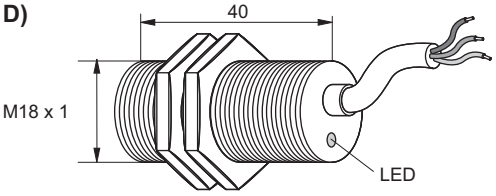
B)



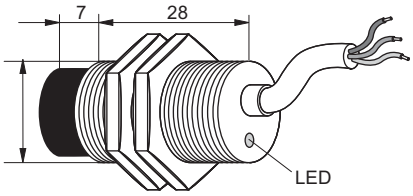
C)



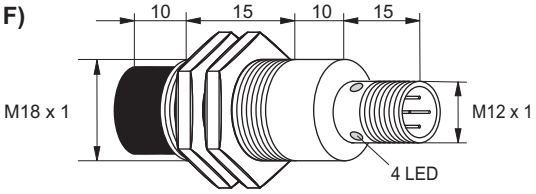
D)



E)



F)



all data in mm

CYLINDER M18 - STANDARD

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	KJ5... 800Hz KJ8... 500Hz
Hysteresis H	≤ 15%
Repeatability R	-25°C ... +70°C
Temperature range T_a	≤ 10%
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated
Front cap	PCB (KJ5... and KJ8... cable versions: PA 6.6)

Selection chart

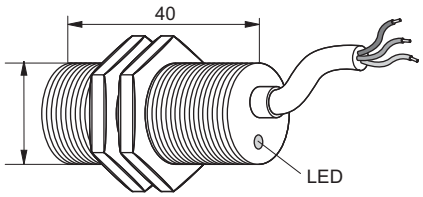
Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317644000	**KJ5-M18MB40-DPS**	shielded	PNP	5	2m cable PVC 3 x 0,34mm²	A
08317644400	**KJ5-M18MB40-DPÖ**	shielded	PNP	5	2m cable PVC 3 x 0,34mm²	A
08317644100	**KJ5-M18MB40-DNS**	shielded	NPN	5	2m cable PVC 3 x 0,34mm²	A
08317644500	**KJ5-M18MB40-DNÖ**	shielded	NPN	5	2m cable PVC 3 x 0,34mm²	A
08317644065	**KJ5-M18MB65-DPS-V2**	shielded	PNP	5	connector M12 4-pole	B
08317644465	**KJ5-M18MB65-DPÖ-V2**	shielded	PNP	5	connector M12 4-pole	B
08317644165	**KJ5-M18MB65-DNS-V2**	shielded	NPN	5	connector M12 4-pole	B
08317644565	**KJ5-M18MB65-DNÖ-V2**	shielded	NPN	5	connector M12 4-pole	B
08317646200	**KJ5-M18MB60-DPA**	shielded	PNP	5	2m cable PVC 4 x 0,34mm²	C
0831xxxxxxx	**KJ5-M18MB60-DNA**	shielded	NPN	5	2m cable PVC 4 x 0,34mm²	C
08317644200	**KJ8-M18MN40-DPS**	non shielded	PNP	8	2m cable PVC 3 x 0,34mm²	D
08317644600	**KJ8-M18MN40-DPÖ**	non shielded	PNP	8	2m cable PVC 3 x 0,34mm²	D
08317644300	**KJ8-M18MN40-DNS**	non shielded	NPN	8	2m cable PVC 3 x 0,34mm²	D
08317644700	**KJ8-M18MN40-DNÖ**	non shielded	NPN	8	2m cable PVC 3 x 0,34mm²	D
08317644265	**KJ8-M18MN65-DPS-V2**	non shielded	PNP	8	connector M12 4-pole	E
08317644665	**KJ8-M18MN65-DPÖ-V2**	non shielded	PNP	8	connector M12 4-pole	E
08317644365	**KJ8-M18MN65-DNS-V2**	non shielded	NPN	8	connector M12 4-pole	E
08317644765	**KJ8-M18MN65-DNÖ-V2**	non shielded	NPN	8	connector M12 4-pole	E
08317646300	**KJ8-M18MN60-DPA**	non shielded	PNP	8	2m cable PVC 4 x 0,34mm²	F
0831xxxxxxx	**KJ8-M18MN60-DNA**	non shielded	NPN	8	2m cable PVC 4 x 0,34mm²	F

Other cable lengths as requested.

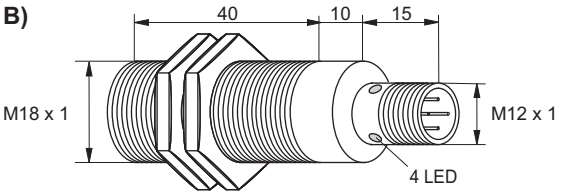
CYLINDER M18 - STANDARD

Dimensions

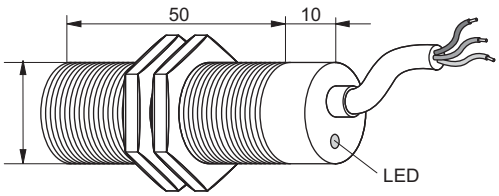
A)



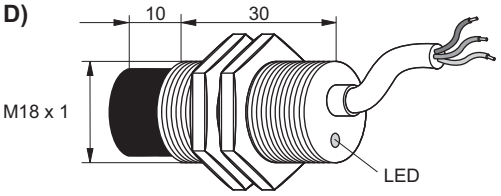
B)



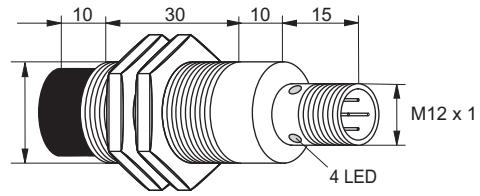
C)



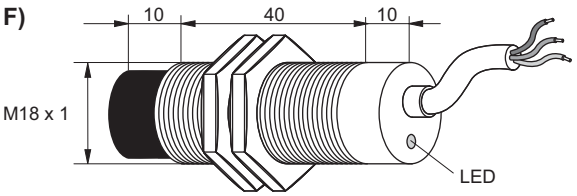
D)



E)



F)



all data in mm

CYLINDER M18 - ADVANCED

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	KJ8... 500Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated
Front cap	PCB

Selection chart

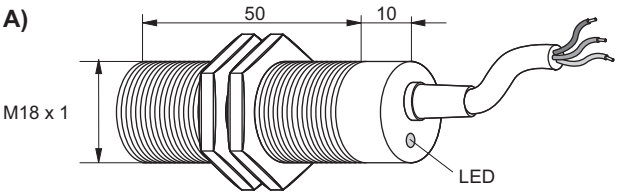
Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317643900	**KJ8-M18MB60-DPS**	shielded	PNP	8	2m cable PVC 3 x 0,34mm²	A
08310001001	**KJ8-M18MB60-DPÖ**	shielded	PNP	8	2m cable PVC 3 x 0,34mm²	A
0831xxxxxxx	**KJ8-M18MB60-DNS**	shielded	NPN	8	2m cable PVC 3 x 0,34mm²	A
0831xxxxxxx	**KJ8-M18MB60-DNÖ**	shielded	NPN	8	2m cable PVC 3 x 0,34mm²	A
08317643965	**KJ8-M18MB75-DPS-V2**	shielded	PNP	8	connector M12 4-pole	B
08310000900	**KJ8-M18MB75-DPÖ-V2**	shielded	PNP	8	connector M12 4-pole	B
08310000525	**KJ8-M18MB75-DNS-V2**	shielded	NPN	8	connector M12 4-pole	B
08310001581	**KJ8-M18MB75-DNÖ-V2**	shielded	NPN	8	connector M12 4-pole	B
08317846200	**KJ8-M18MB60-DPA**	shielded	PNP	8	2m cable PVC 4 x 0,34mm²	A
08310000919	**KJ8-M18MB75-DPA-V2**	shielded	PNP	8	connector M12 4-pole	B
08310000760	**KJ12-M18MN60-DPS**	non shielded	PNP	12	2m cable PVC 3 x 0,34mm²	C
0831xxxxxxx	**KJ12-M18MN60-DPÖ**	non shielded	PNP	12	2m cable PVC 3 x 0,34mm²	C
0831xxxxxxx	**KJ12-M18MN60-DNS**	non shielded	NPN	12	2m cable PVC 3 x 0,34mm²	C
0831xxxxxxx	**KJ12-M18MN60-DNÖ**	non shielded	NPN	12	2m cable PVC 3 x 0,34mm²	C
08310000761	**KJ12-M18MN75-DPS-V2**	non shielded	PNP	12	connector M12 4-pole	D
0831xxxxxxx	**KJ12-M18MN75-DPÖ-V2**	non shielded	PNP	12	connector M12 4-pole	D
0831xxxxxxx	**KJ12-M18MN75-DNS-V2**	non shielded	NPN	12	connector M12 4-pole	D
0831xxxxxxx	**KJ12-M18MN75-DNÖ-V2**	non shielded	NPN	12	connector M12 4-pole	D
0831xxxxxxx	**KJ12-M18MN60-DPA**	non shielded	PNP	12	2m cable PVC 4 x 0,34mm²	C
08310000870	**KJ12-M18MN75-DPA-V2**	non shielded	PNP	12	connector M12 4-pole	D

Other cable lengths as requested.

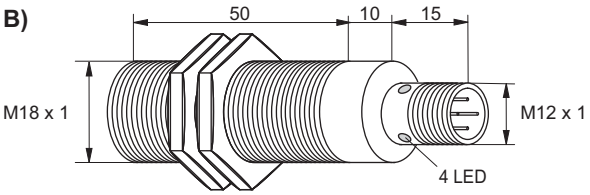
CYLINDER M18 - ADVANCED

Dimensions

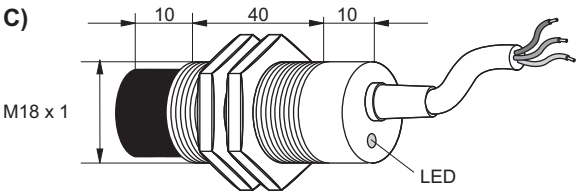
A)



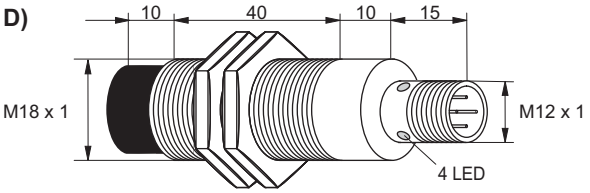
B)



C)



D)



all data in mm

CYLINDER G20

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	500Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	Trogamit T

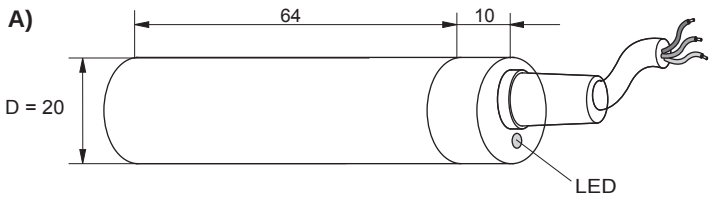
Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing
08310537100	**KJ10-G20KN-DPS**	non shielded	PNP	10	2m cable PVC 3 x 0,34mm²	A
08310020051	**KJ10-G20KN-DPÖ**	non shielded	PNP	10	2m cable PVC 3 x 0,34mm²	A
08310000503	**KJ10-G20KN-DPA**	non shielded	PNP	10	2m cable PVC 3 x 0,34mm²	A

Other cable lengths as requested.

Dimensions

A)



all data in mm

CYLINDER M30 - SHORTIES

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	KJ10... 500Hz KJ15... 300Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated
Front cap	PCB

Selection chart

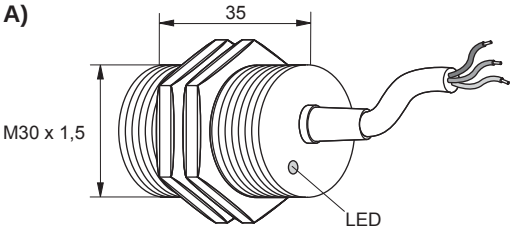
Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317862000	**KJ10-M30MB35-DPS**	shielded	PNP ⎍	10	2m cable PVC 3 x 0,34mm²	A
08317862100	**KJ10-M30MB35-DNS**	shielded	NPN ⎍	10	2m cable PVC 3 x 0,34mm²	A
08317862065	**KJ10-M30MB50-DPS-V2**	shielded	PNP ⎍	10	connector M12 4-pole	B
08317862165	**KJ10-M30MB50-DNS-V2**	shielded	NPN ⎍	10	connector M12 4-pole	B
08317862200	**KJ15-M30MN35-DPS**	non shielded	PNP ⎍	15	2m cable PVC 3 x 0,34mm²	C
08317862300	**KJ15-M30MN35-DNS**	non shielded	NPN ⎍	15	2m cable PVC 3 x 0,34mm²	C
08317862265	**KJ15-M30MN50-DPS-V2**	non shielded	PNP ⎍	15	connector M12 4-pole	D
08317862365	**KJ15-M30MN50-DNS-V2**	non shielded	NPN ⎍	15	connector M12 4-pole	D

Other cable lengths as requested.

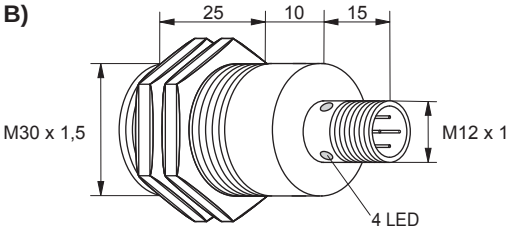
CYLINDER M30 - SHORTIES

Dimensions

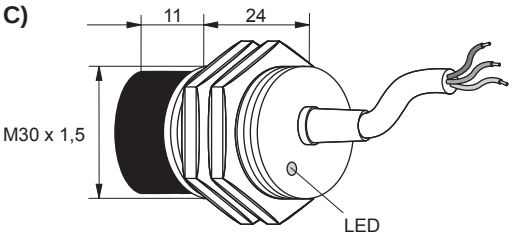
A)



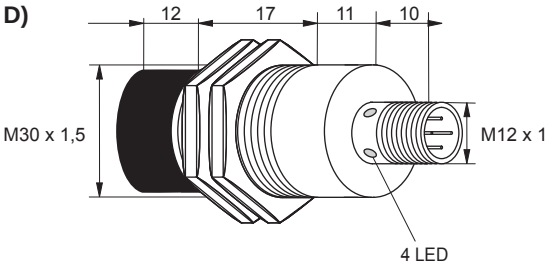
B)



C)



D)



all data in mm

CYLINDER M30 - STANDARD

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	KJ10... 500Hz KJ15... 300Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated

Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317664000	**KJ10-M30MB40-DPS**	shielded	PNP	10	2m cable PVC 3 x 0,34mm²	A
08317664400	**KJ10-M30MB40-DPÖ**	shielded	PNP	10	2m cable PVC 3 x 0,34mm²	A
08317664100	**KJ10-M30MB40-DNS**	shielded	NPN	10	2m cable PVC 3 x 0,34mm²	A
08317664500	**KJ10-M30MB40-DNÖ**	shielded	NPN	10	2m cable PVC 3 x 0,34mm²	A
08317664065	**KJ10-M30MB75-DPS-V2**	shielded	PNP	10	connector M12 4-pole	B
08317664465	**KJ10-M30MB75-DPÖ-V2**	shielded	PNP	10	connector M12 4-pole	B
08317664165	**KJ10-M30MB75-DNS-V2**	shielded	NPN	10	connector M12 4-pole	B
08317664565	**KJ10-M30MB75-DNÖ-V2**	shielded	NPN	10	connector M12 4-pole	B
08317666200	**KJ10-M30MB60-DPA**	shielded	PNP	10	2m cable PVC 4 x 0,34mm²	C
08317666265	**KJ10-M30MB80-DPA-V2**	shielded	PNP	10	2m cable PVC 4 x 0,34mm²	D
08317664200	**KJ15-M30MN40-DPS**	non shielded	PNP	15	2m cable PVC 3 x 0,34mm²	E
08317664600	**KJ15-M30MN40-DPÖ**	non shielded	PNP	15	2m cable PVC 3 x 0,34mm²	E
08317664300	**KJ15-M30MN40-DNS**	non shielded	NPN	15	2m cable PVC 3 x 0,34mm²	E
08317664700	**KJ15-M30MN40-DNÖ**	non shielded	NPN	15	2m cable PVC 3 x 0,34mm²	E
08317664265	**KJ15-M30MN75-DPS-V2**	non shielded	PNP	15	connector M12 4-pole	F
08317664665	**KJ15-M30MN75-DPÖ-V2**	non shielded	PNP	15	connector M12 4-pole	F
08317664365	**KJ15-M30MN75-DNS-V2**	non shielded	NPN	15	connector M12 4-pole	F
08317664765	**KJ15-M30MN75-DNÖ-V2**	non shielded	NPN	15	connector M12 4-pole	F
08317666300	**KJ15-M30MN60-DPA**	non shielded	PNP	15	2m cable PVC 4 x 0,34mm²	G
08317666365	**KJ15-M30MN80-DPA-V2**	non shielded	PNP	15	2m cable PVC 4 x 0,34mm²	H

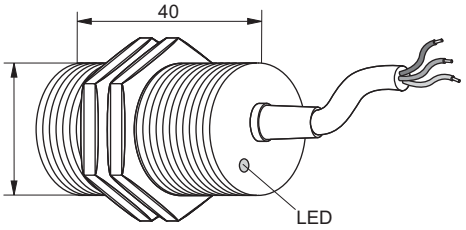
Other cable lengths as requested.

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

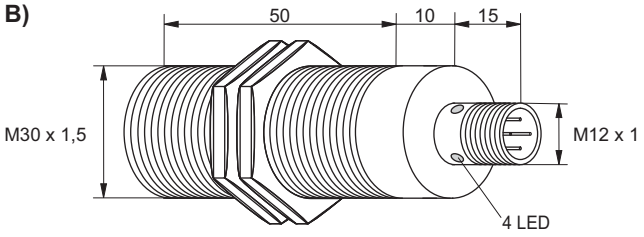
CYLINDER M30 - STANDARD

Dimensions

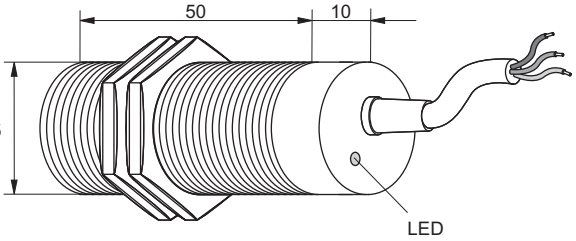
A)



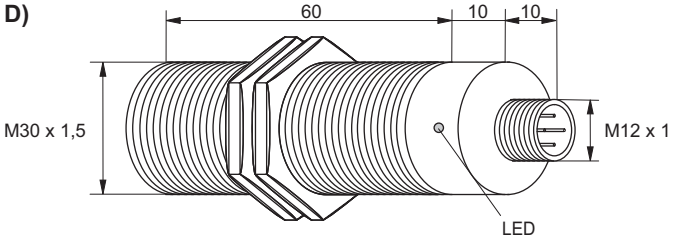
B)



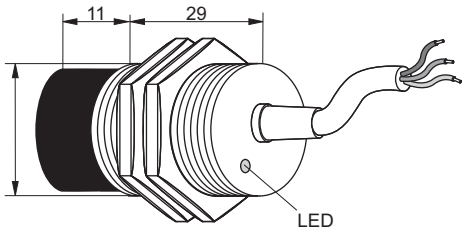
C)



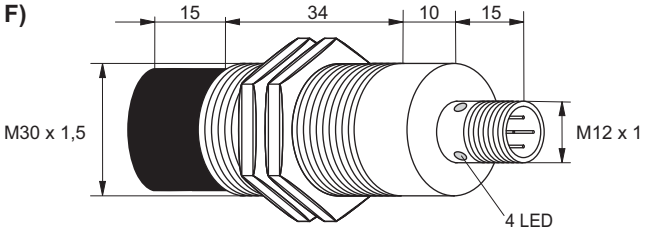
D)



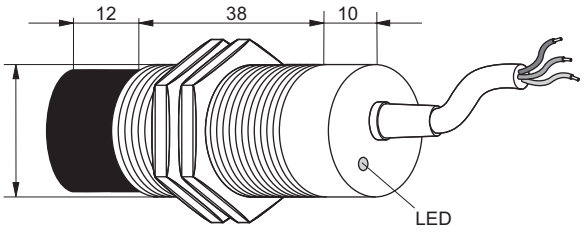
E)



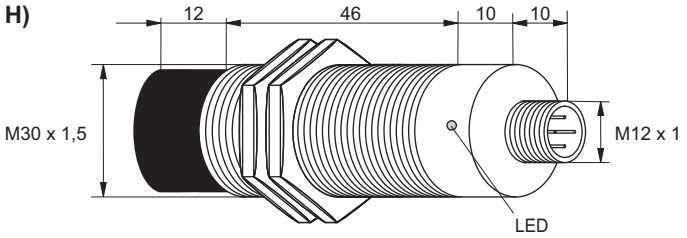
F)



G)



H)



all data in mm

CYLINDER M30 - ADVANCED

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	KJ15... 500Hz KJ30... 300Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated
Front cap	PA 6.6

Selection chart

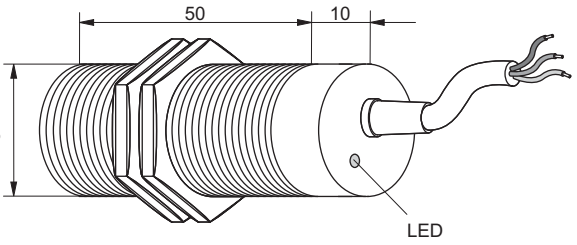
Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317663900	**KJ15-M30MB60-DPS**	shielded	PNP	15	2m cable PVC 3 x 0,34mm²	A
0831xxxxxxx	**KJ15-M30MB60-DPÖ**	shielded	PNP	15	2m cable PVC 3 x 0,34mm²	A
0831xxxxxxx	**KJ15-M30MB60-DNS**	shielded	NPN	15	2m cable PVC 3 x 0,34mm²	A
0831xxxxxxx	**KJ15-M30MB60-DNÖ**	shielded	NPN	15	2m cable PVC 3 x 0,34mm²	A
08317663965	**KJ15-M30MB75-DPS-V2**	shielded	PNP	15	connector M12 4-pole	B
08310001130	**KJ15-M30MB75-DPÖ-V2**	shielded	PNP	15	connector M12 4-pole	B
08310001578	**KJ15-M30MB75-DNS-V2**	shielded	NPN	15	connector M12 4-pole	B
08310001579	**KJ15-M30MB75-DNÖ-V2**	shielded	NPN	15	connector M12 4-pole	B
08310000762	**KJ30-M30MN60-DPS**	non shielded	PNP	30	2m cable PVC 3 x 0,34mm²	C
0831xxxxxxx	**KJ30-M30MN60-DPÖ**	non shielded	PNP	30	2m cable PVC 3 x 0,34mm²	C
0831xxxxxxx	**KJ30-M30MN60-DNS**	non shielded	NPN	30	2m cable PVC 3 x 0,34mm²	C
0831xxxxxxx	**KJ30-M30MN60-DNÖ**	non shielded	NPN	30	2m cable PVC 3 x 0,34mm²	C
08310000717	**KJ30-M30MN75-DPS-V2**	non shielded	PNP	30	connector M12 4-pole	D
0831xxxxxxx	**KJ30-M30MN75-DPÖ-V2**	non shielded	PNP	30	connector M12 4-pole	D
0831xxxxxxx	**KJ30-M30MN75-DNS-V2**	non shielded	NPN	30	connector M12 4-pole	D
0831xxxxxxx	**KJ30-M30MN75-DNÖ-V2**	non shielded	NPN	30	connector M12 4-pole	D

Other cable lengths as requested.

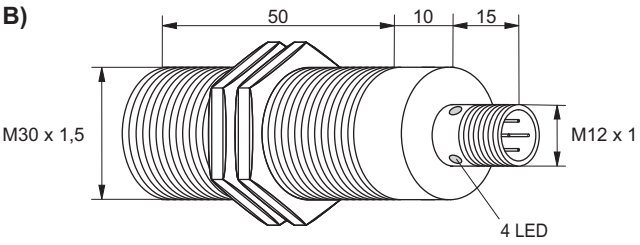
CYLINDER M30 - ADVANCED

Dimensions

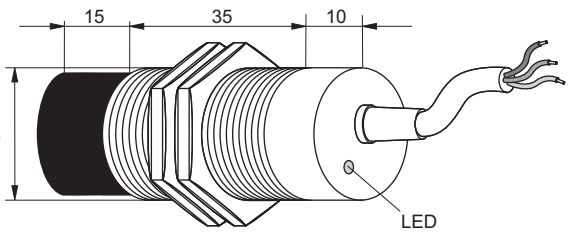
A)



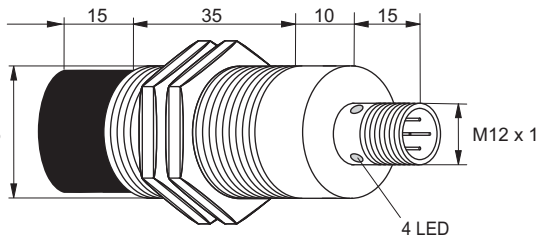
B)



C)



D)



all data in mm

CYLINDER G34 - ADVANCED

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	200Hz (antivalent 300Hz)
Hysteresis H	≤ 15%
Repeatability R	≤ 10%
Temperature range T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	brass nickel-plated
Front cap	PA 6.6

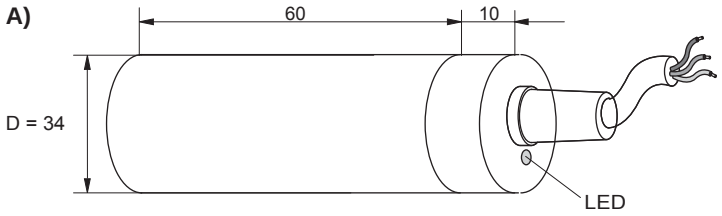
Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing
08310000485	**KJ20-G34KN-DPS**	non shielded	PNP	20	2m cable PVC 3 x 0,34mm²	A
08310000622	**KJ20-G34KN-DPÖ**	non shielded	PNP	20	2m cable PVC 3 x 0,34mm²	A
08310000450	**KJ20-G34KN-DPA**	non shielded	PNP	20	2m cable PVC 4 x 0,34mm²	A

Version NPN and other cable lengths as requested.

Dimensions

A)



all data in mm

TABLE OF CONTENT

Designation code

Circuit diagrams

Sensors

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

NOTES

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	Metalface
M	Magnetoresistive		
N	Inclination sensor		
R	Reed-contact		
W	Angle sensor		

2 = Switching distance / range

3 = Design

D	Ring housing
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 = Connection

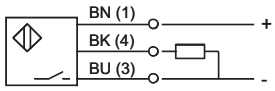
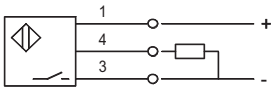
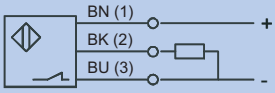
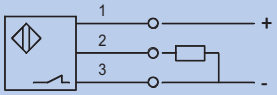
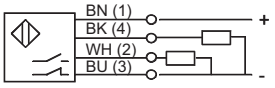
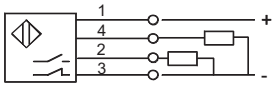
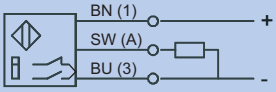
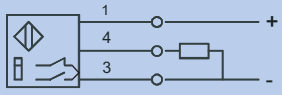
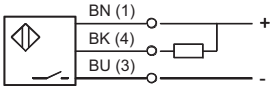
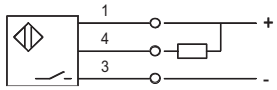
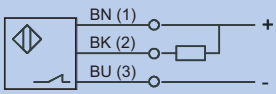
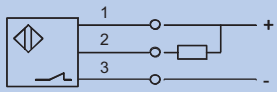
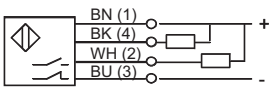
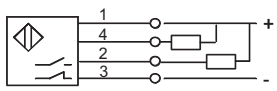
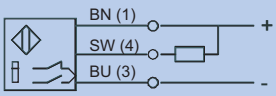
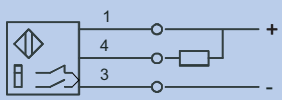
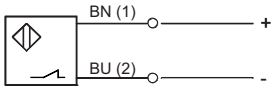
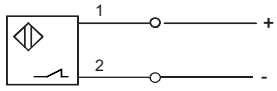
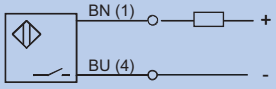
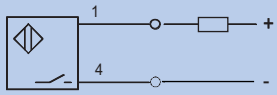
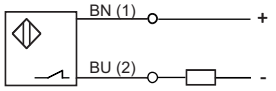
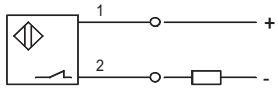
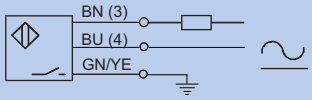
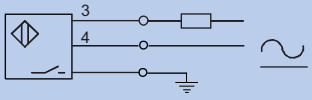
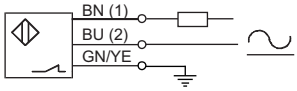
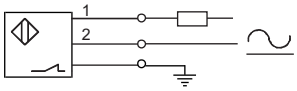
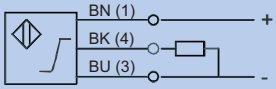
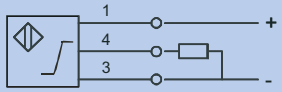
V1	M8 screw-/snap-in
V2	M12 metal
V2/1	M12 plastic
V3	M5 metal
V4	Amphenol Tuchel
V6	Brad Harrison
V7	Valve connector type A
V8	M8 snap-in only
V9	Torson
V10	Valve connector type C
V11	AC connector 1/2" UNF
V12	M18 plastic
VE	Euchner connector
RS232	Data interface
PG	Thread joint PG
Mxx	Thread joint 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 detailled description

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		

CYLINDER M8

General data

Operating voltage U_b	nom. 8,2V DC Ri 1K	
Ripple voltage U_b	≤ 5%	
Reverse voltage protection	yes	
Load current alive	< 1,1mA	
Load current dead	> 2,2mA	
Hysteresis H	see control unit	
Repeatability R	≤ 10%	
Operating temperature T_a	-25°C ... +60°C (high temperature max. +125°C)	
Temperature drift	≤ 10%	
Protection class	IP67	
Necessity of control unit	yes	
EMV-standard	according to EN 60947-5-6	
Housing material	Standard:	brass, nickel-plated
	High temperature:	Arnite
	Plastic:	Trogamid T
Front cap	PCP (brass housing)	

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

Selection chart brass

Article number	Designation switching distance 1mm	Max. switching frequency	Mounting	Connection	Drawing (next page)
08317320100	**KJ1-M8MB30-NA**	2000Hz	shielded	2m cable PVC 2 x 0,14mm²	A
08317320165	**KJ1-M8MB50-NA-V2**	2000Hz	shielded	connector M12 4-pole	B
	Designation switching distance 2mm				
08317320200	**KJ2-M8MN30-NA**	1000Hz	non shielded	2m cable PVC 2 x 0,14mm²	C
08317320265	**KJ2-M8MN50-NA- V2**	1000Hz	non shielded	connector M12 4-pole	D

Selection chart plastic

Article number	Designation switching distance 2mm	Max. switching frequency	Mounting	Connection	Drawing (next page)
08317321600	**KJ2-M8KN30-NA**	1000Hz	non shielded	2m cable PVC 2 x 0,14mm²	A

Selection chart high temperature

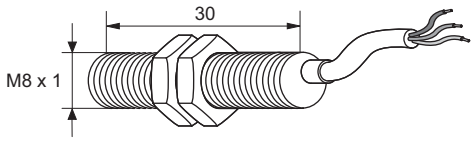
Article number	Designation switching distance 2mm	Max. switching frequency	Mounting	Connection	Drawing (next page)
08317321632	**KJ2-M8KN30-NA-HT**	1000Hz	non shielded	5m cable PTFE 2 x 0,25mm²	A

Other cable lenghts as requested.

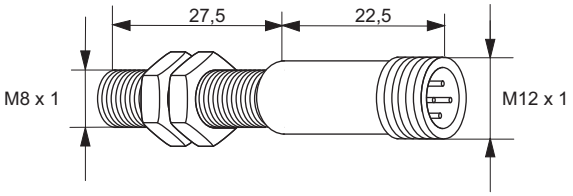
CYLINDER M8

Dimensions

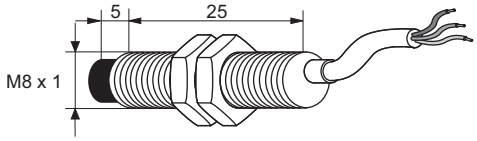
A)



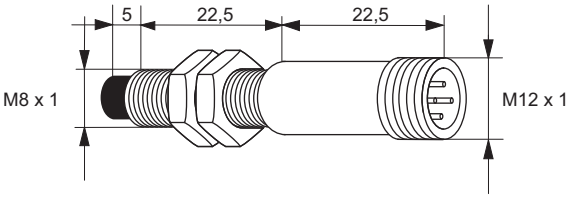
B)



C)



D)



all data in mm

CYLINDER M12

General data

Operating voltage U_b	nom. 8,2V DC Ri 1K	
Ripple voltage U_b	≤ 5%	
Reverse voltage protection	yes	
Load current alive	< 1,1mA	
Load current dead	> 2,2mA	
Hysteresis H	see control unit	
Repeatability R	≤ 10%	
Operating temperature T_a	-25°C ... +60°C (high temperature max. +125°C)	
Temperature drift	≤ 10%	
Protection class	IP67	
Necessity of control unit	yes	
EMV-standard	according to EN 60947-5-6	
Housing material	Standard:	brass, nickel-plated
	High temperature:	Arnite
	Plastic:	Trogamid T
Front cap	PCP (brass housing)	

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

Selection chart brass

Article number	Designation switching distance 2mm	Max. switching frequency	Mounting	Connection	Drawing (next page)
08317320300	**KJ2-M12MB30-NA**	2000Hz	shielded	2m cable PVC 2 x 0,25mm²	A
08317320365	**KJ2-M12MB55-NA-V2**	2000Hz	shielded	connector M12 4-pole	B
	Designation switching distance 4mm				
08317320400	**KJ4-M12MN30-NA**	1000Hz	non shielded	2m cable PVC 2 x 0,25mm²	C
08317320465	**KJ4-M12MN50-NA-V2**	1000Hz	non shielded	connector M12 4-pole	D

Selection chart plastic

Article number	Designation switching distance 2mm	Max. switching frequency	Mounting	Connection	Drawing (next page)
083173211000	**KJ2-M12KB30-NA**	2000Hz	shielded	2m cable PVC 2 x 0,25mm²	A
	Designation switching distance 4mm				
08317321000	**KJ4-M12KN30-NA**	1000Hz	non shielded	2m cable PVC 2 x 0,25mm²	A

Other cable lenghts as requested.

CYLINDER M12

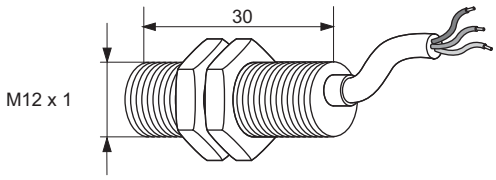
Selection chart high temperature

Article number	Designation switching distance 4mm	Max. switching frequency	Mounting	Connection	Drawing
08317321032	**KJ4-M12KN30-NA-HT**	1000Hz	non shielded	5m cable PTFE 2 x 0,25mm²	A

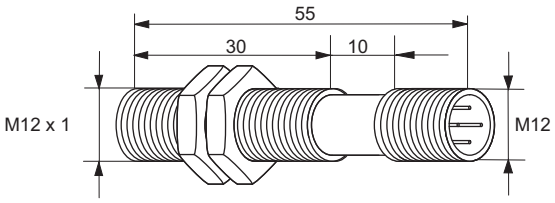
Other cable lengths as requested.

Dimensions

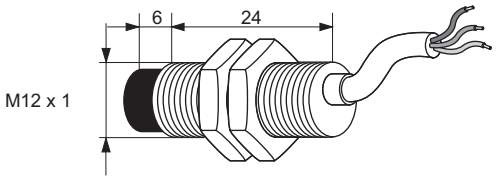
A)



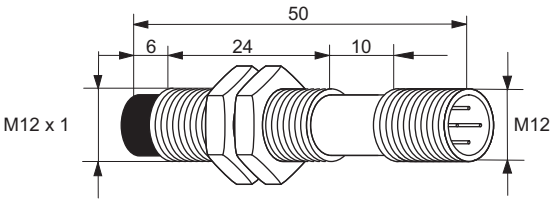
B)



C)



D)



all data in mm

CYLINDER M18

General data

Operating voltage U_b	nom. 8,2V DC Ri 1K
Ripple voltage U_b	≤ 5%
Reverse voltage protection	yes
Load current alive	< 1,1mA
Load current dead	> 2,2mA
Hysteresis H	see control unit
Repeatability R	≤ 10%
Operating temperature T_a	-25°C ... +60°C
Temperature drift	≤ 10%
Protection class	IP67
Necessity of control unit	yes
EMV-standard	according to EN 60947-5-6
Housing material	Standard: brass, nickel-plated Plastic: Trogamid T
Front cap	PCP (brass housing)

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

Selection chart brass

Article number	Designation switching distance 5mm	Max. switching frequency	Mounting	Connection	Drawing (next page)
08317320500	**KJ5-M18MB30-NA**	1000Hz	shielded	2m cable PVC 2 x 0,25mm²	A
08317320565	**KJ5-M18MB50-NA-V2**	1000Hz	shielded	connector M12 4-pole	B
	Designation switching distance 8mm				
08317320600	**KJ8-M18MN30-NA**	500Hz	non shielded	2m cable PVC 2 x 0,25mm²	C
08317320665	**KJ8-M18MN50-NA-V2**	500Hz	non shielded	connector M12 4-pole	D

Selection chart plastic

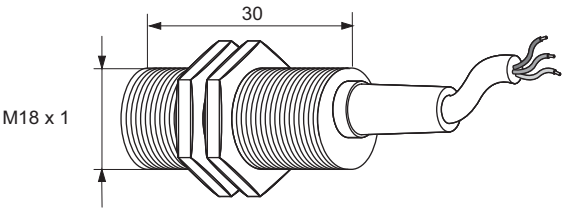
Article number	Designation switching distance 5mm	Max. switching frequency	Mounting	Connection	Drawing (next page)
08317321300	**KJ5-M18KB30-NA**	1000Hz	shielded	2m cable PVC 2 x 0,25mm²	A
	Designation switching distance 8mm				
08317321200	**KJ8-M18KN30-NA**	500Hz	non shielded	2m cable PVC 2 x 0,25mm²	A

Other cable lenghts as requested.

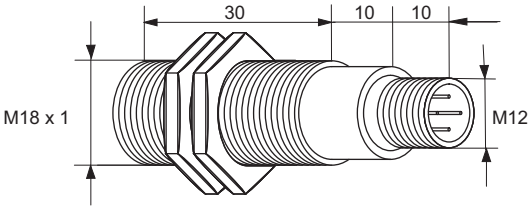
CYLINDER M18

Dimensions

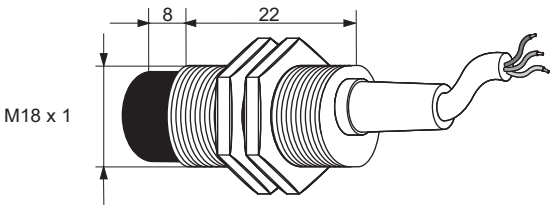
A)



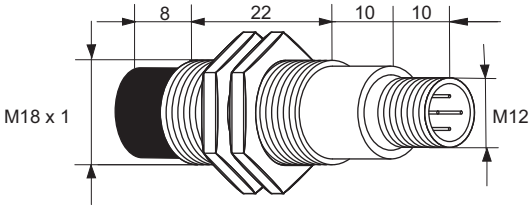
B)



C)



D)



all data in mm

CYLINDER M30

General data

Operating voltage U_b	nom. 8,2V DC Ri 1K
Ripple voltage U_b	≤ 5%
Reverse voltage protection	yes
Load current alive	< 1,1mA
Load current dead	> 2,2mA
Hysteresis H	see control unit
Repeatability R	≤ 10%
Operating temperature T_a	-25°C ... +60°C
Temperature drift	≤ 10%
Protection class	IP67
Necessity of control unit	yes
EMV-standard	according to EN 60947-5-6
Housing material	Standard: brass, nickel-plated Plastic: Trogamid T
Front cap	PCP (brass housing)

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

Selection chart brass

Article number	Designation switching distance 10mm	Max. switching frequency	Mounting	Connection	Drawing (next page)
08317320700	**KJ10-M30MB40-NA**	500Hz	shielded	2m cable PVC 2 x 0,25mm²	A
08317320765	**KJ10-M30MB60-NA-V2**	500Hz	shielded	connector M12 4-pole	B
	Designation switching distance 15mm				
08317320800	**KJ15-M30MN40-NA**	300Hz	non shielded	2m cable PVC 2 x 0,25mm²	C
08317320865	**KJ15-M30MN60-NA-V2**	300Hz	non shielded	connector M12 4-pole	D

Auswahltabelle Kunststoff

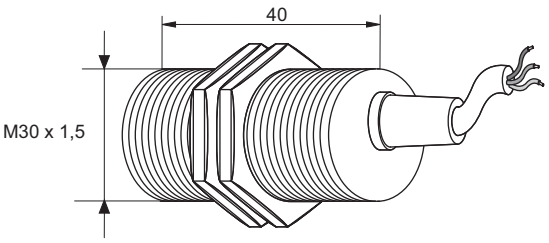
Article number	Designation switching distance 10mm	Max. switching frequency	Mounting	Connection	Drawing (next page)
08317321500	**KJ10-M30KB40-NA**	500Hz	shielded	2m cable PVC 2 x 0,25mm²	A
	Designation switching distance 15mm				
08317321400	**KJ15-M30KN40-NA**	300Hz	non shielded	2m cable PVC 2 x 0,25mm²	A

Other cable lenghts as requested.

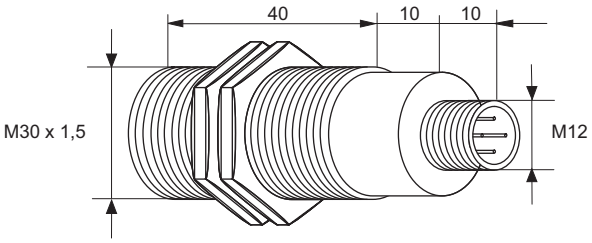
CYLINDER M30

Dimensions

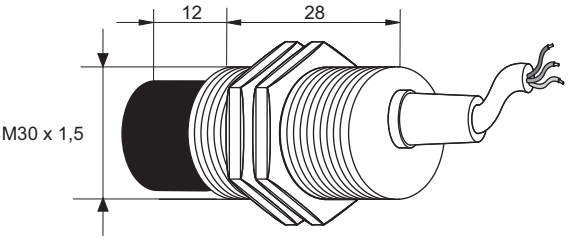
A)



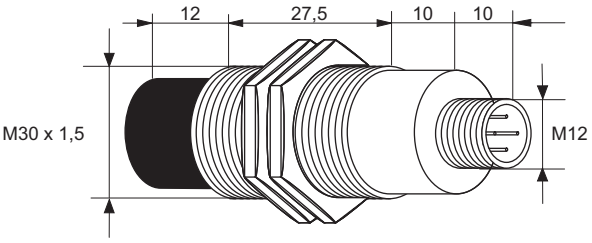
B)



C)



D)

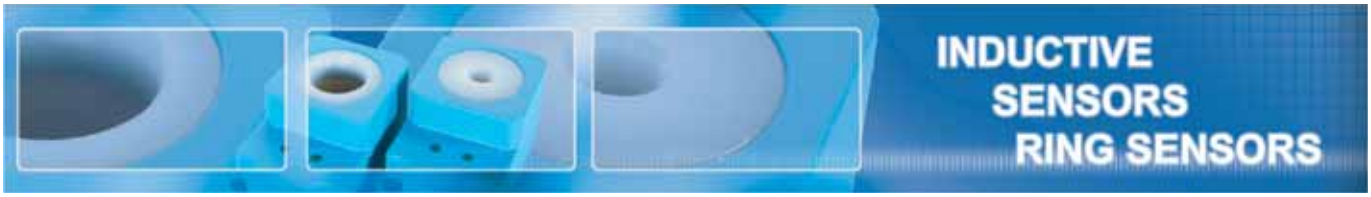


all data in mm

TABLE OF CONTENT

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

NOTES



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	Metalface
M	Magnetoresistive		
N	Inclination sensor		
R	Reed-contact		
W	Angle sensor		

2 = Switching distance / range

3 = Design

D	Ring housing
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 = Connection

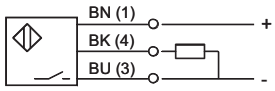
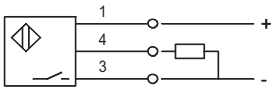
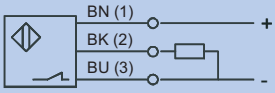
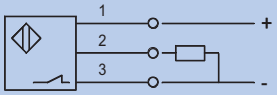
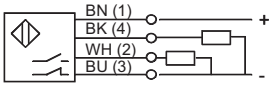
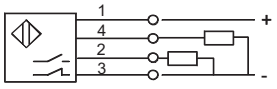
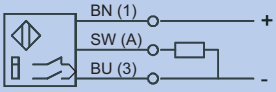
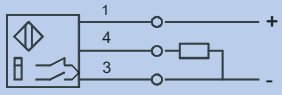
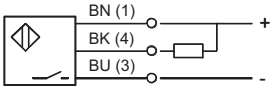
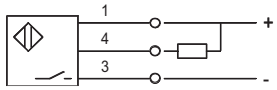
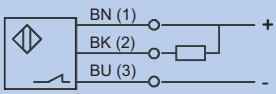
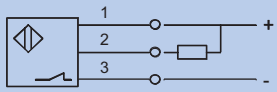
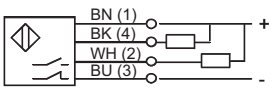
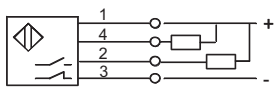
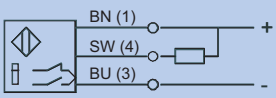
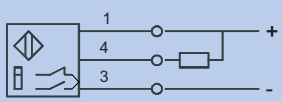
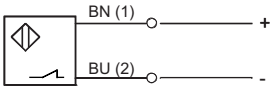
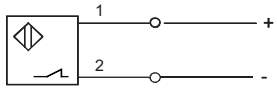
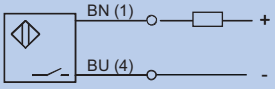
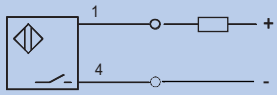
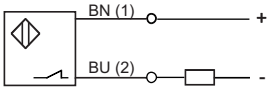
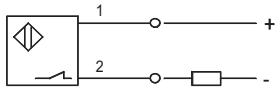
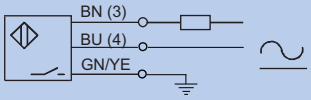
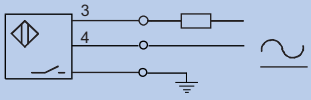
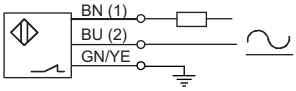
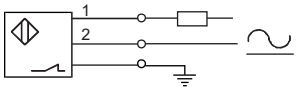
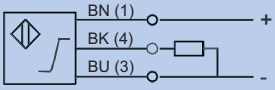
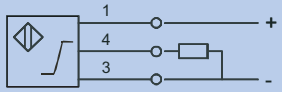
V1	M8 screw-/snap-in
V2	M12 metal
V2/1	M12 plastic
V3	M5 metal
V4	Amphenol Tuchel
V6	Brad Harrison
V7	Valve connector type A
V8	M8 snap-in only
V9	Torson
V10	Valve connector type C
V11	AC connector 1/2" UNF
V12	M18 plastic
VE	Euchner connector
RS232	Data interface
PG	Thread joint PG
Mxx	Thread joint 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 detailled description

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		

FUNCTIONAL DESCRIPTION

Ring sensors use the energy variations in a resonant circuit caused by eddy current losses in conductive materials. Thus they detect all types of conductive material. Ring sensors from Pulsotronic are used for object counting tasks, wire gauge measuring, wire break control or for presence check. The product range of Pulsotronic comprehends digital and analog ring sensors.

An oscillator in the sensor excites a high-frequency, electromagnetic alternating field. Due to the axially symmetric coil arrangement an almost homogeneous field is realised. The ferrite core and the sensor housing concentrate the field lines of the alternating field in the center of the ring. Metal entering in the sensor causes eddy currents that withdraw energy from the field. This leads to a damping and a voltage fluctuation in the sensor. The electronics in the sensor evaluates this variation.

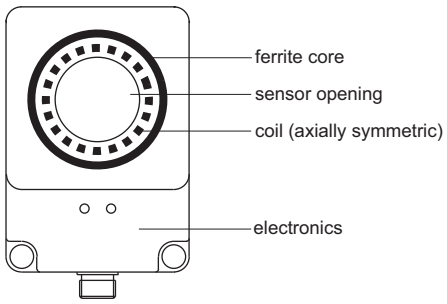


Illustration 1: front view ring sensor

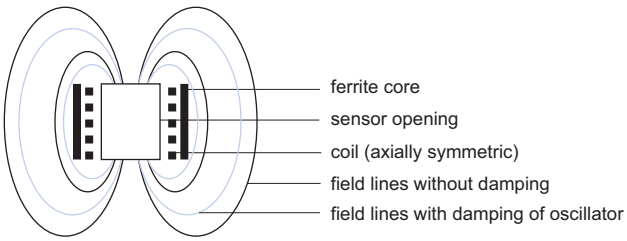


Illustration 2: course of field lines in the sensor (top view ring sensor)

Digital ring sensors

Digital ring sensors are classified into static sensors (normal sensitivity) and dynamic sensors (high sensitivity). As long as metal is situated in the sensor, the static sensor excites a permanent signal. Only when metal is removed from the sensor the signal deactivates. Static sensors detect moving and non moving objects. Dynamic sensors only excite a short pulse when metal is detected. They only detect moving objects.

Analog ring sensors

Like static sensors analog sensors excite a permanent signal which depends on the dimension and the position of the metallic object in the sensor. The bigger the metallic object, the bigger the output voltage of the sensor.

APPLICATIONS

Wire break control

For this type of applications static sensors are used. The oscillator in the sensor excites a high-frequency alternating field. The wire passes through the sensor and withdraws energy from the resonant circuit. As long as the wire is moved through the sensor without interruption the sensor excites a constant signal because the damping of the oscillator is not alternating. A wire break leads to a damping of the oscillator. The sensor switches due to the voltage fluctuation.

Object counting, presence check

In the sensor is a high-frequency alternating field. When a metallic object passes the sensor it withdraws energy from the field and leads to a voltage fluctuation in the oscillator. When the object quits the sensor, the oscillator takes its' normal value until the next object causes a new damping. Thus for example the ejection of stamping parts can be monitored. Ring sensors detect free-falling products as well as products being led in a tube through the sensor. The user can detect and count metallic objects. Ring sensors detect metallic contamination in non-metallic materials (e.g. synthetic granules). As moving parts are detected, dynamic and static sensors can be applied.

Wire gauge measuring, object identification

The wire passes through the sensor and withdraws energy from the resonant circuit. The degree of the energy loss depends on the dimension of the wire. The thicker the wire, the bigger the loss of energy and the bigger the voltage fluctuation in the sensor. The value of the voltage fluctuation provides information about the quantity of material in the field. By this it is possible to detect also other metallic objects. Depending on the size and the material of the object the sensor provides an according output voltage. Thus the user can make the distinction between different products. A possible application is a sorting device for small parts.

NORMAL SENSITIVITY (STATIC PRINCIPLE)

General data

Mounting	non shielded
Operating voltage U_b	10 ... 30V DC (KJR-D100FAN... 18 - 30V DC)
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	≤ 200mA (KJR-Q130... ≤ 50mA)
Off-state current I_0	KJR-D6... to KJR-D100...: ≤15mA KJR-D130... to KJR-D300...: ≤10mA
Residual current	≤ 10µA
Hysteresis H	≤ 15%
Operating temperature T_a	-25°C ... +70°C
Sensitivity over temp. range	see sensitivity
Protection class	IP54
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	KJR-D6... to KJR-D30: Ultramid B3EG3 KJR-D50... to KJR-D300: Aluminium
Connection	connector M12 4-pole

Selection chart

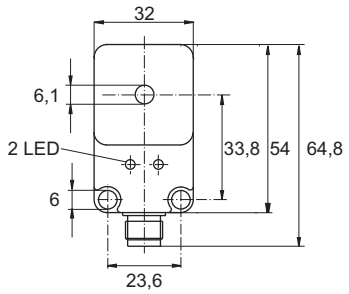
Article number	Designation	Output signal	Sensitivity	Max. switching frequency f	Drawing (next page)
08310000982	**KJR-D6KN-DPA-V2**	PNP ⏚	FE-ball D=1,5mm	600Hz	A + D
08310000983	**KJR-D6KN-DNA-V2**	NPN ⏚	FE-ball D=1,5mm	600Hz	A + D
08310000984	**KJR-D10KN-DPA-V2**	PNP ⏚	FE-ball D=1,8mm	600Hz	B + D
08310000985	**KJR-D10KN-DNA-V2**	NPN ⏚	FE-ball D=1,8mm	600Hz	B + D
08310000986	**KJR-D15-KN-DPA-V2**	PNP ⏚	FE-ball D=2,4mm	500Hz	C + D
08310000987	**KJR-D15-KN-DNA-V2**	NPN ⏚	FE-ball D=2,4mm	500Hz	C + D
08310000988	**KJR-D20KN-DPA-V2**	PNP ⏚	FE-ball D=3,0mm	400Hz	E + G
08310000989	**KJR-D20KN-DNA-V2**	NPN ⏚	FE-ball D=3,0mm	400Hz	E + G
08310000990	**KJR-D30KN-DPA-V2**	PNP ⏚	FE-ball D=4,0mm	300Hz	F + G
08310000991	**KJR-D30KN-DNA-V2**	NPN ⏚	FE-ball D=4,0mm	300Hz	F + G
08317050665	**KJR-D50FAN-DPA-V2**	PNP ⏚	FE-ball D=3,0mm	500Hz	H
08317050265	**KJR-D50FAN-DNA-V2**	NPN ⏚	FE-ball D=3,0mm	500Hz	H
08317080565	**KJR-D100AN-DPA-V2**	PNP ⏚	FE-ball D=6,0mm	500Hz	I
08317080150	**KJR-D100AN-DNA-V2**	NPN ⏚	FE-ball D=6,0mm	500Hz	I
08317080365	**KJR-D100FAN-DPA-V2**	PNP ⏚	FE-ball D=8,0mm	500Hz	J
08317080465	**KJR-D100FAN-DNA-V2**	NPN ⏚	FE-ball D=8,0mm	500Hz	J
08417090659	**KJR-Q130AN-DPA-VE**	PNP ⏚	FE-ball D=12,0mm	300Hz	K
08317090159	**KJR-Q130AN-DNA-VE**	NPN ⏚	FE-ball D=12,0mm	300Hz	K
08317160665	**KJR-D200AN-DPA-V2**	PNP ⏚	FE-ball D=15,0mm	300Hz	L
08317160165	**KJR-D200AN-DNA-V2**	NPN ⏚	FE-ball D=15,0mm	300Hz	L
08317070665	**KJR-D300AN-DPA-V2**	PNP ⏚	FE-ball D=30,0mm	300Hz	M
08317071165	**KJR-D300AN-DNA-V2**	NPN ⏚	FE-ball D=30,0mm	300Hz	M

Control unit and accessories on pages 15 and 16.

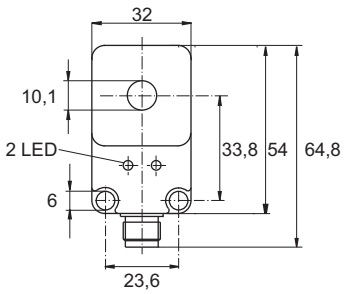
NORMAL SENSITIVITY (STATIC PRINCIPLE)

Dimensions

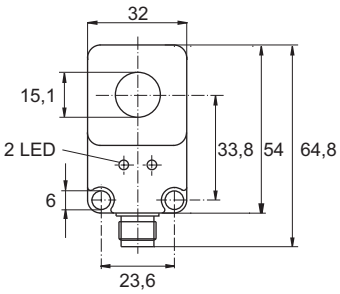
A)



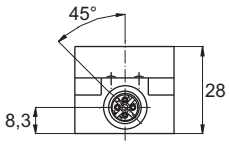
B)



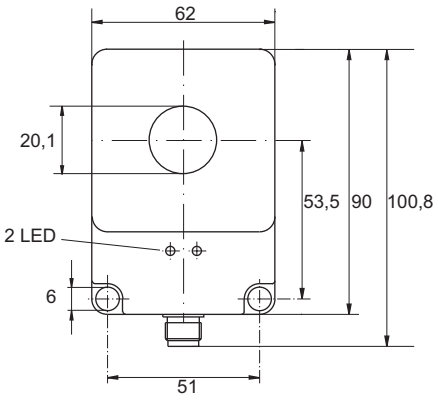
C)



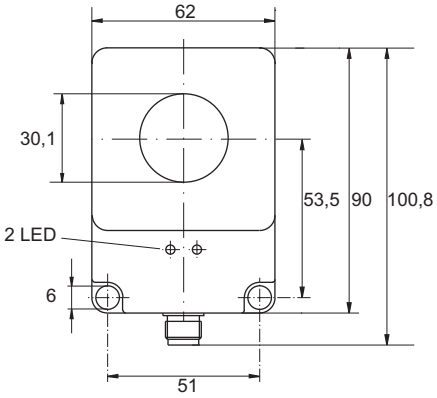
D)



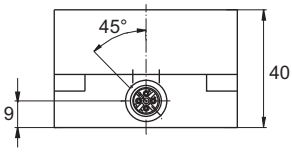
E)



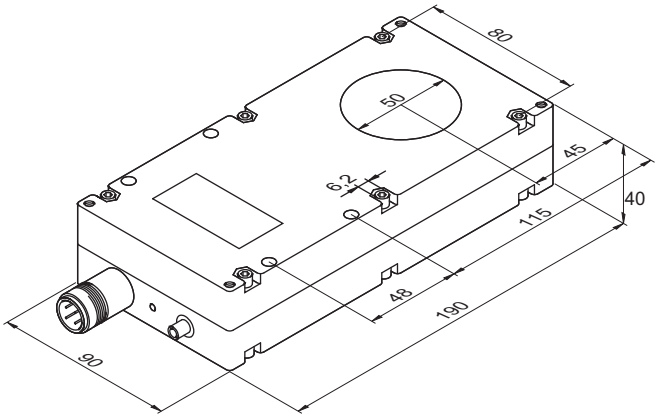
F)



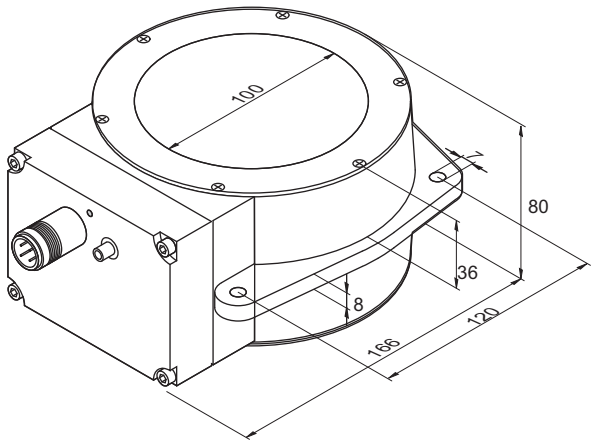
G)



H)



I)

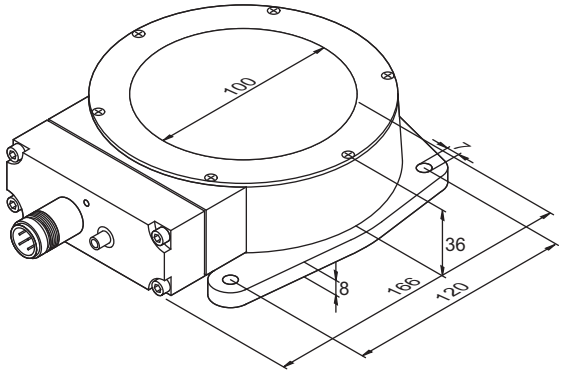


all data in mm

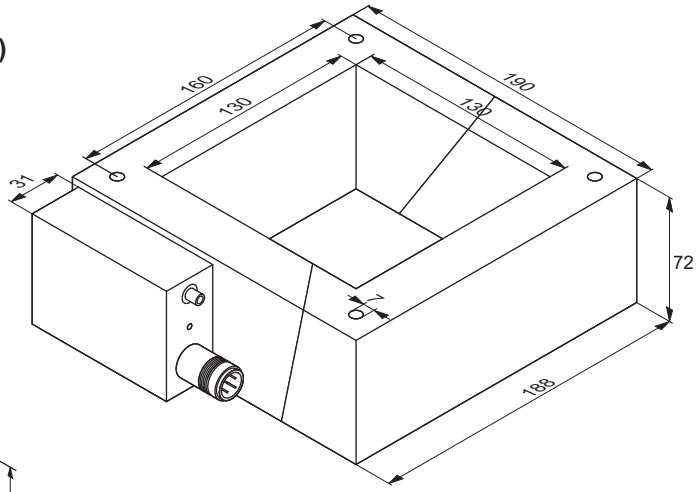
NORMAL SENSITIVITY (STATIC PRINCIPLE)

Dimensions

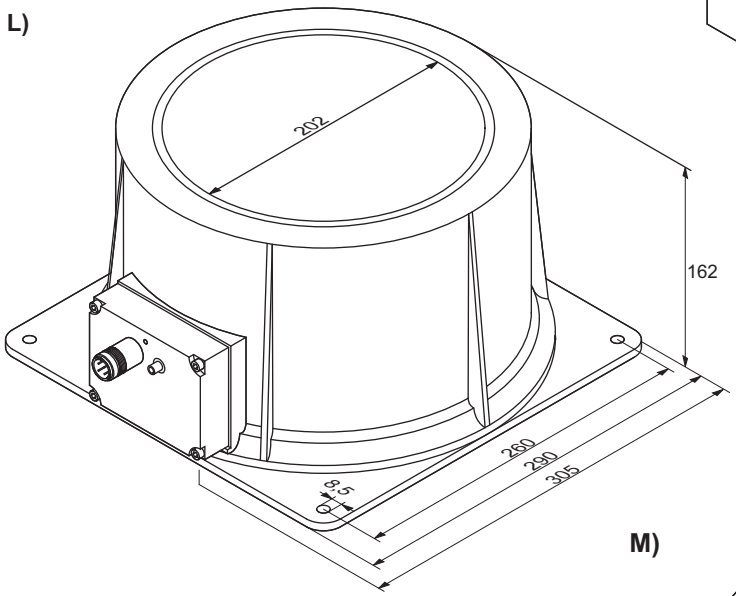
J)



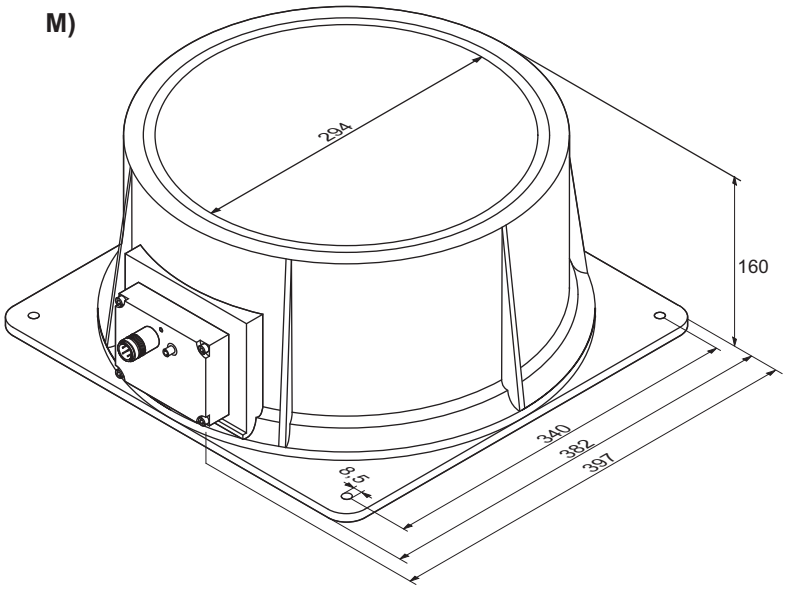
K)



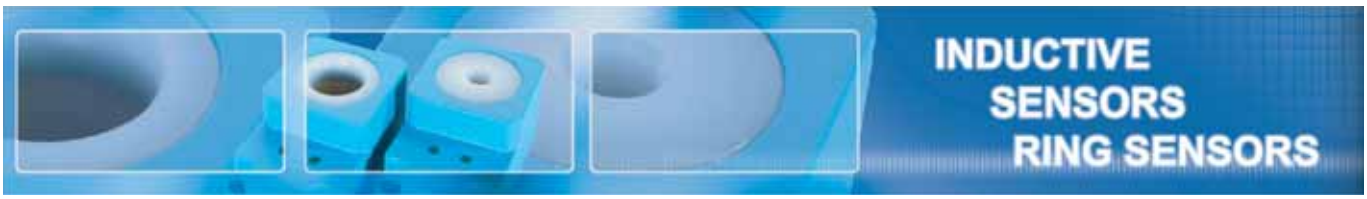
L)



M)



all data in mm



HIGH SENSITIVITY (DYNAMIC PRINCIPLE)

General data

Mounting	non shielded
Operating voltage U_b	11 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	KJR-D6... to KJR-D30: ≤200mA KJR-D50... to KJR-D300: ≤50mA
Off-state current I_0	KJR-D6... to KJR-D30: ≤15mA KJR-D50... to KJR-D300: ≤25mA
Hysteresis H	≤ 15%
Operating temperature T_a	-25°C ... +70°C
Sensitivity over temp. range	see sensitivity
Protection class	IP54
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	KJR-D6... to KJR-D30: Ultramid B3EG3 KJR-D50... to KJR-D300: Aluminium
Connection	connector M12 4-pole

Selection chart

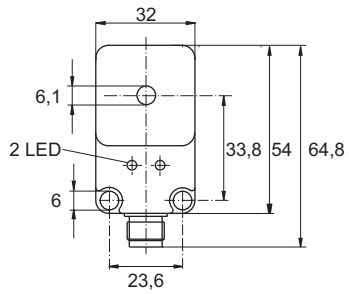
Article number	Designation	Output signal	Sensitivity * = adjustable	Max. switching frequency	Residual current	Drawing (next page)
08310001003	**KJR-D6KN-DPIA-V2**	PNP	FE-ball D=0,4mm	10Hz	10µA	A + D
08310001008	**KJR-D6KN-DNIA-V2**	NPN	FE-ball D=0,4mm	10Hz	10µA	A + D
08310001004	**KJR-D10KN-DPIA-V2**	PNP	FE-ball D=0,5mm	10Hz	10µA	B + D
08310001009	**KJR-D10KN-DNIA-V2**	NPN	FE-ball D=0,5mm	10Hz	10µA	B + D
08310001005	**KJR-D15-KN-DPIA-V2**	PNP	FE-ball D=0,6mm	10Hz	10µA	C + D
08310001010	**KJR-D15-KN-DNIA-V2**	NPN	FE-ball D=0,6mm	10Hz	10µA	C + D
08310001006	**KJR-D20KN-DPIA-V2**	PNP	FE-ball D=0,7mm	10Hz	10µA	E + G
08310001011	**KJR-D20KN-DNIA-V2**	NPN	FE-ball D=0,7mm	10Hz	10µA	E + G
08310001007	**KJR-D30KN-DPIA-V2**	PNP	FE-ball D=1,0mm	10Hz	10µA	F + G
08310001012	**KJR-D30KN-DNIA-V2**	NPN	FE-ball D=1,0mm	10Hz	10µA	F + G
08317010865	**KJR-D50FAN-DPIA-V2**	PNP	FE-ball D=0,6mm*	100Hz	50µA	H
08317010765	**KJR-D50AN-DNIA-V2**	NPN	FE-ball D=0,6mm*	100Hz	50µA	H
08317010265	**KJR-D50FAN-DNIA-V2**	PNP	FE-ball D=1,0mm*	100Hz	50µA	I
08317110065	**KJR-D70AN-DNIA-V2**	NPN	FE-ball D=1,0mm*	100Hz	50µA	J
08317000265	**KJR-D100AN-DPIA-V2**	PNP	FE-ball D=1,3mm*	100Hz	50µA	K
08317000165	**KJR-D100AN-DNIA-V2**	NPN	FE-ball D=1,3mm*	100Hz	50µA	K
08317090359	**KJR-Q130AN-DNIA-VE**	PNP	FE-ball D=5,0mm	100Hz	500µA	L
08317030265	**KJR-D200AN-DPIA-V2**	NPN	FE-ball D=3,0mm	100Hz	50µA	M
08317030165	**KJR-D200AN-DNIA-V2**	PNP	FE-ball D=3,0mm	100Hz	50µA	M
08317090259	**KJR-Q290AN-DNIA-VE**	NPN	FE-ball D=12,0mm	100Hz	500µA	N
08317040265	**KJR-D300AN-DPIA-V2**	PNP	FE-ball D=4,0mm	100Hz	50µA	O
08317040165	**KJR-D300AN-DNIA-V2**	NPN	FE-ball D=4,0mm	100Hz	50µA	O

Control unit and accessories on pages 15 and 16.

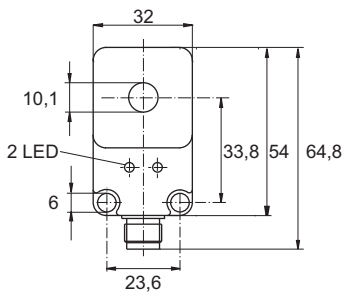
HIGH SENSITIVITY (DYNAMIC PRINCIPLE)

Dimensions

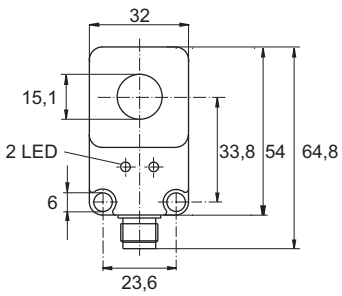
A)



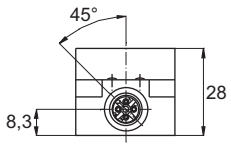
B)



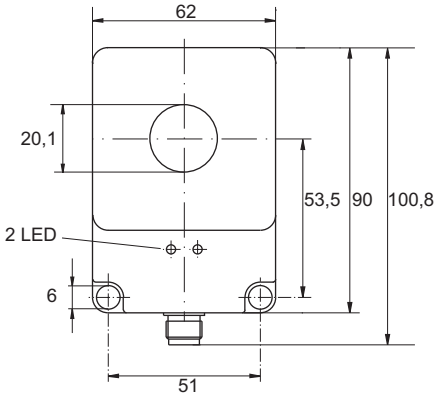
C)



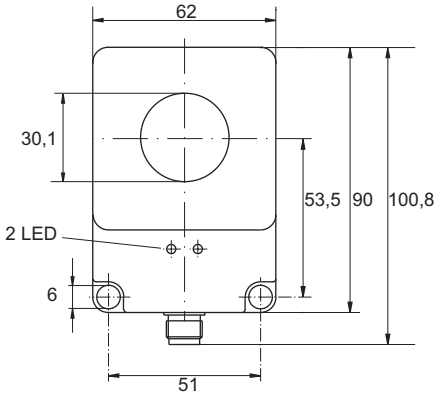
D)



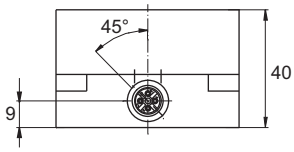
E)



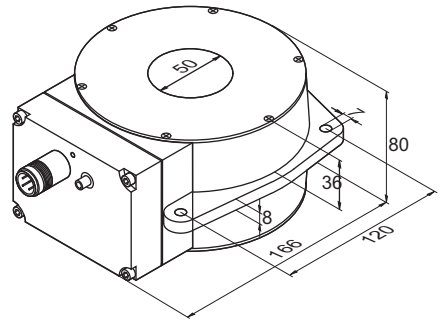
F)



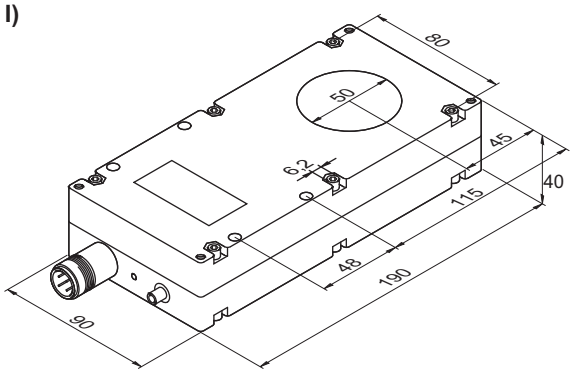
G)



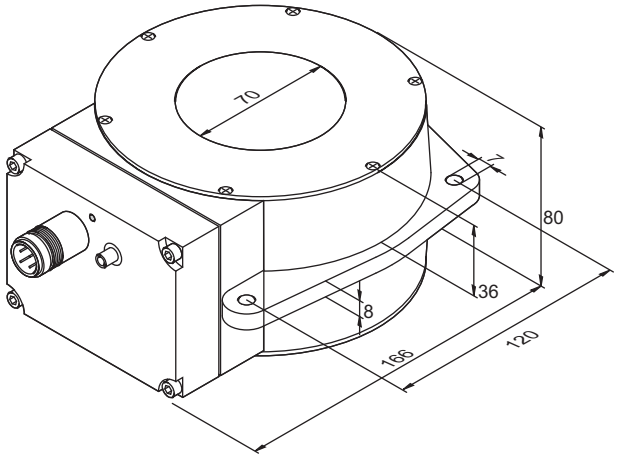
H)



I)



J)

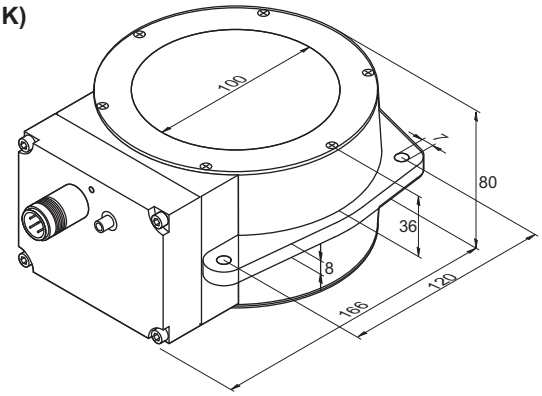


all data in mm

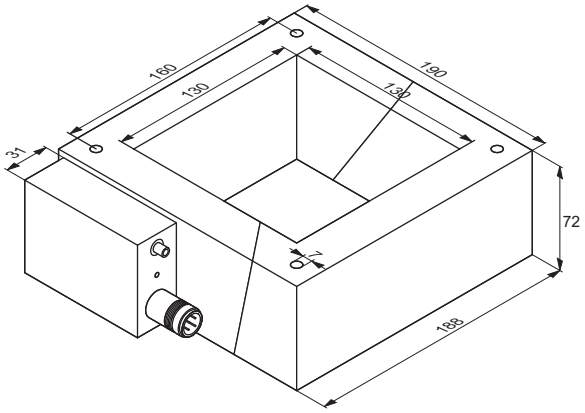
HIGH SENSITIVITY (DYNAMIC PRINCIPLE)

Dimensions

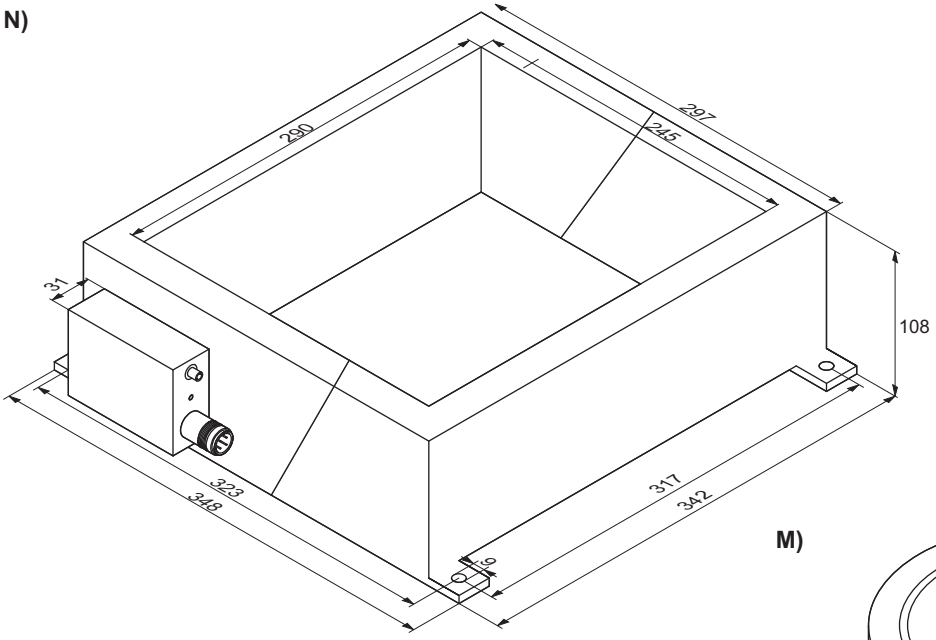
K)



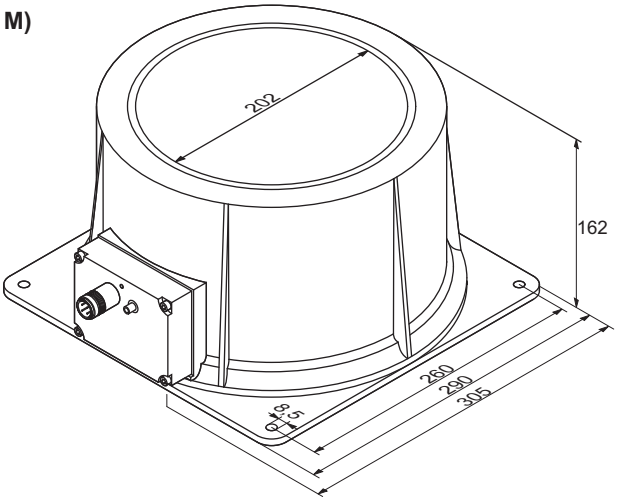
L)



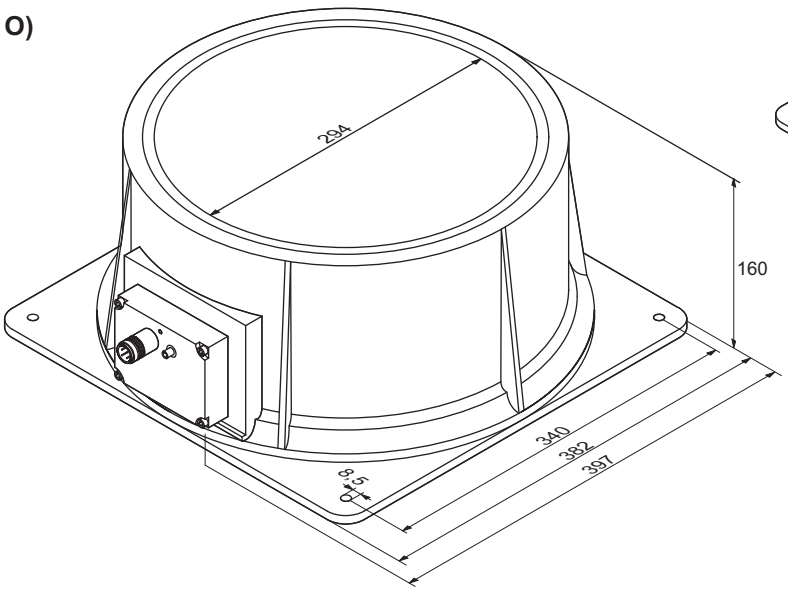
N)



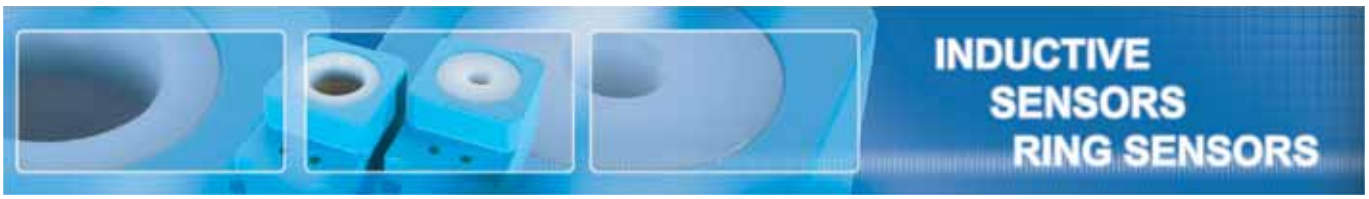
M)



O)



all data in mm



ANALOG

General data

Mounting	non shielded
Output signal	0 ... 10V analog
Operating voltage U_b	15 ... 30V DC
Load Resistor R_L	> 1kOhm
Linearity	≤ +/- 5%
Repeat accuracy	≤ 5%
Off-state current I_0	≤ 10mA
Operating temperature T_a	-25°C ... +70°C
Sensitivity over temp. range	≤ +/- 5%
Protection class	IP54
EMV-standard	according to EN 60947-5-2
Switching state	LED
Housing material	Ultramid B3EG3
Connection	connector M12 4-pole

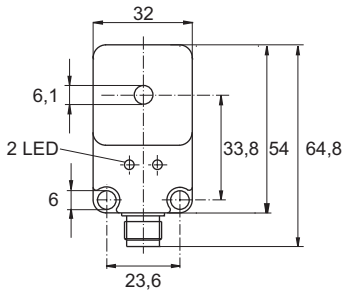
Selection chart

Article number	Designation	Sensitivity	Max. switching frequency f	Drawing
08310000894	**KJR-D6KN-ANU-V2**	FE-stick D=0,3 - 4,0mm	100Hz	A + D
08310000895	**KJR-D10KN-ANU-V2**	FE-stick D=0,3 - 6,0mm	100Hz	B + D
08310000896	**KJR-D15-KN-ANU-V2**	FE-stick D=0,5 - 8,0mm	80Hz	C + D
08310000897	**KJR-D20KN-ANU-V2**	FE-stick D=0,5 - 15,0mm	80Hz	E (next page)
08310000898	**KJR-D30KN-ANU-V2**	FE-ball D=1,0 - 20,0mm	80Hz	F (next page)

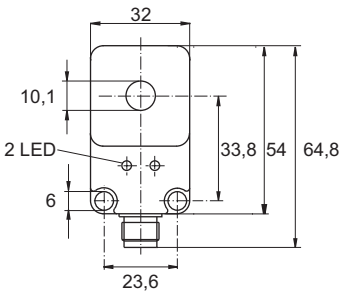
Control unit and accessories on pages 15 and 16.

Dimensions

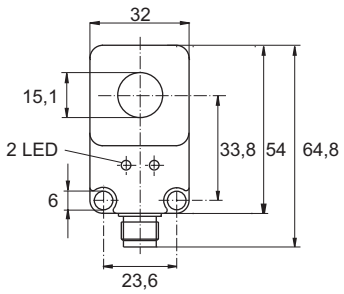
A)



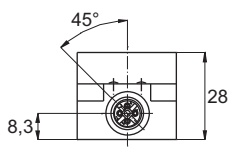
B)



C)



D)

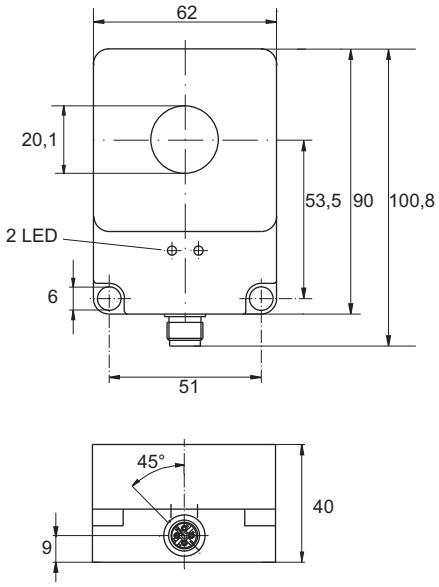


all data in mm

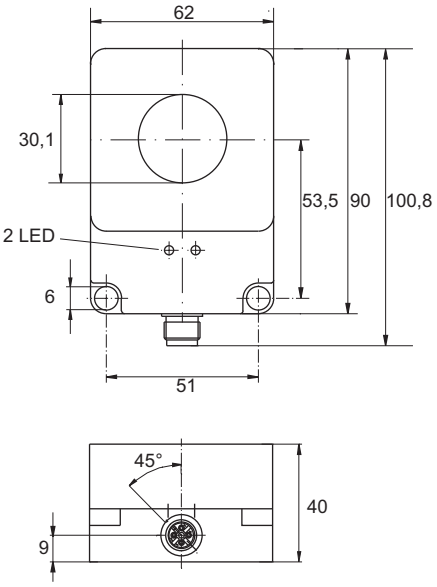
ANALOG

Dimensions

D



E)



all data in mm

CONTROL UNIT FOR RING SENSORS

Functional description

This control unit can be operated with all sensors from the KJR series. The device serves for evaluating the signals of the sensor and at the same time provides the operating voltage for the sensor. It has been rated especially for mounting on a 35mm top hat rail. The control unit can be operated with all switching sensors with 24V operating voltage.

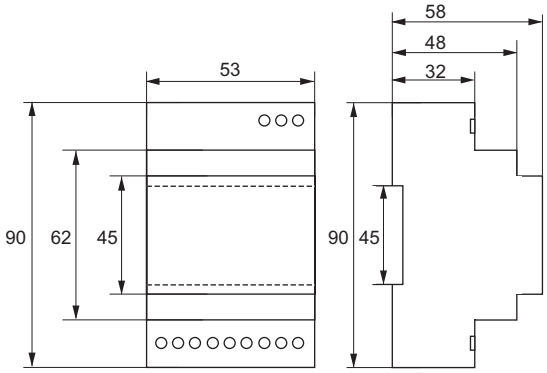
If the connected sensor excites a signal, it will be collected and lengthened on the adjusted period by the control unit. When during that time another signal is excited, it will be lengthened on the adjusted period again. After that the signal is output via a relay and a transistor output. The active switching state is indicated by an LED. The device can be operated with 24V direct current or alternatively with line voltage. All outputs provide short circuit protection as well as overload protection. All voltage inputs are protected against reverse polarity.

Technical data

	Control unit for ring sensors 230V AC / 24V DC	Control unit for ring sensors 230V AC / 24V DC
Article number	08349005011	08349005013
Supply voltage	230V DC, 50/60Hz or 24V DC	115V, 50/60Hz or 24V DC
Sensor supply	24V DC, max. 80mA*	
Transistor output	1 x NPN, 1 x PNP, 25mA open collector*	
Relay output	1 potential-free changer, max. 250 V AC, 5A	
Switching time per pulse	1 ... 10 / 1 ... 60s (adjustable)	
Operating temperature	-10°C ... +50°C	
Storage temperature	-10°C ... +60°C	
Protection class	IP20	
Housing material	Polycarbonat (UL 94V-0)	

* Overload and short circuit protected.

Dimensions, operation

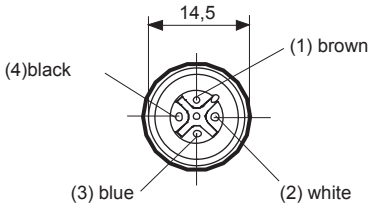


The period for a switching pulse can be adjusted via a potentiometer. The user chooses among two time domains. The selection of the time domain is realised via a rotary coding switch. Via this switch the user also defines if the relay shall be activated or if the connected sensor is NPN or PNP switching.

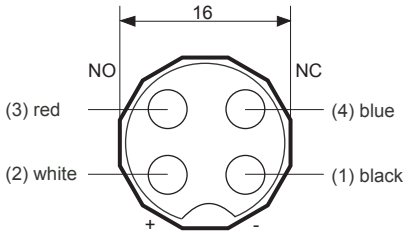
all data in mm

ACCESSORIES

Connectors



Connector M12, 4 pole



SD4K (Euchner)

The sensors in this catalogue are mostly listed in design with connector M12, 4-pole.
Optionally the sensors are also available with connector SD4K (Euchner) for the same price.

Terminating cable

	2m connecting cable	5m connecting cable
Article number M12 4-pole	4450512531	44505125312
Article number SD4K (Euchner)	4455120200	44505120202

M12 4-pole

SD4K (Euchner)

all data in mm

TABLE OF CONTENT

Designation code

Circuit diagrams

Sensors

NOTES

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	Magnetoresistive		
N	Inclination sensor		
R	Reed-contact		
W	Angle sensor		

2 = Switching distance / range

3 = Design

D	Ring housing
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

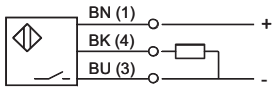
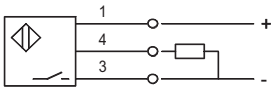
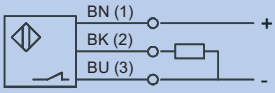
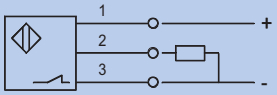
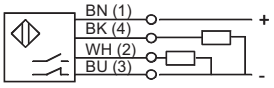
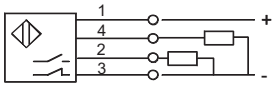
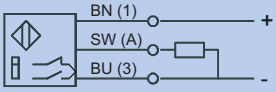
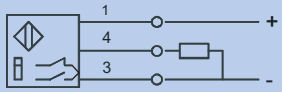
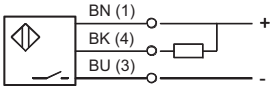
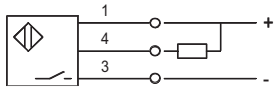
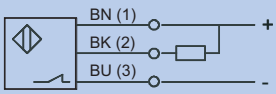
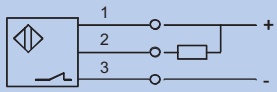
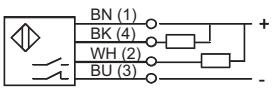
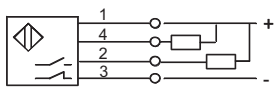
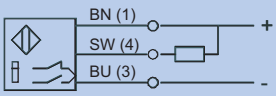
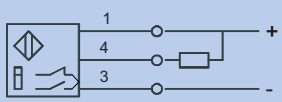
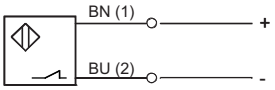
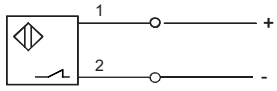
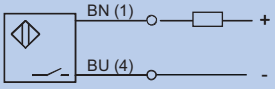
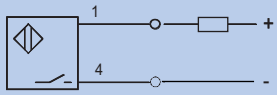
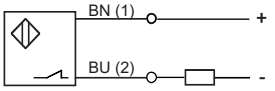
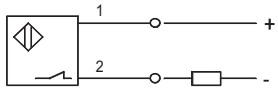
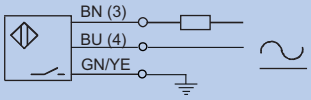
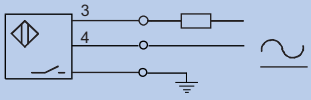
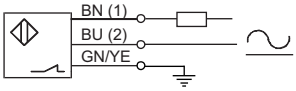
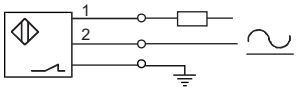
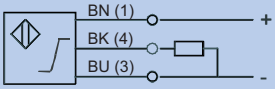
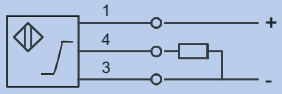
V1	M8 screw-/snap-in
V2	M12 metal
V2/1	M12 plastic
V3	M5 metal
V4	Amphenol Tuchel
V6	Brad Harrison 7/8" UNF
V7	Valve connector type A
V8	M8 snap-in only
V9	Torson
V10	Valve connector type C
V11	AC connector 1/2" UNF
V12	M18 plastic
VE	Euchner connector
RS232	Data interface
PG	Thread joint PG
Mxx	Tread 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 detailled description

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		

SQUARE Q5

General data

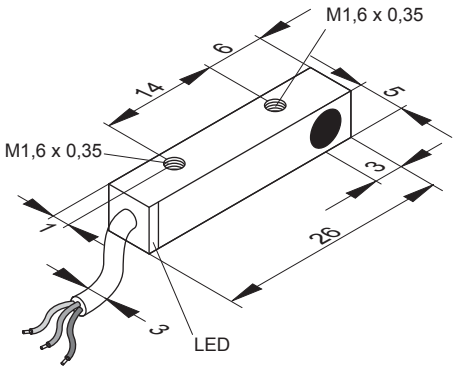
Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	2000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 1%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	brass, nickel-plated
Front cap	POM
Connection	2m cable PUR 3 x 0,15mm²

Other cable lengths as requested.

Selection chart

Article number	Designation	Output signal
08313550110	**KJ1-Q5MB26-DPS**	PNP
08313550120	**KJ1-Q5MB26-DPÖ**	PNP
08313550130	**KJ1-Q5MB26-DNS**	NPN
08313550140	**KJ1-Q5MB26-DNÖ**	NPN
08313550160	**KJ1-Q5MB26-DPS-X0429**	NPN

Dimensions



all data in mm

SQUARE Q8

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10% (KJ3... ≤ 20%)
Voltage drop U_d	≤ 2,4V*
Max. load current	200mA
Off-state current I_0	≤ 13mA (KJ3... ≤ 20mA)
Residual current I_r	≤ 10µA (KJ3... ≤ 100µA)
Max. switching frequency f	1000Hz
Hysteresis H	≤ 15% (KJ3... ≤ 10%)
Repeatability R	≤ 5%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	brass nickel-plated, aluminium
Front cap	brass: PCP aluminium: polyamide 6.6

Selection chart brass

Article number	Designation	Output signal	Switching distance in mm	Connection	Drawing (next page)
08317611000	**KJ1,5-Q8MB40-DPS**	PNP ⎍	1,5	2m cable PVC 3 x 0,14mm²	A
08317611064	**KJ1,5-Q8MB60-DPS-V1**	PNP ⎍	1,5	connector M8 3-pole	B
08317611100	**KJ1,5-Q8MB40-DPS-AM**	PNP ⎍	1,5	2m cable PVC 3 x 0,14mm²	C
08317611164	**KJ1,5-Q8MB60-DPS-V1-AM**	PNP ⎍	1,5	connector M8 3-pole	D
08317612000	**KJ3-Q8MB40-DPS**	PNP ⎍	3	2m cable PVC 3 x 0,14mm²	A
08317612064	**KJ3-Q8MB60-DPS-V1**	PNP ⎍	3	connector M8 3-pole	E

Design NPN and other cable lengths as requested.

Selection chart aluminium

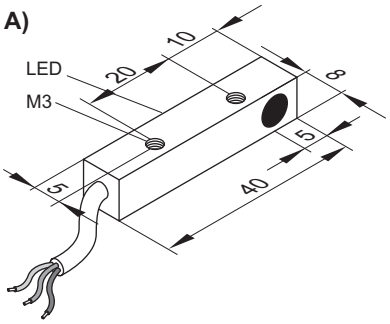
Article number	Designation	Output signal	Switching distance in mm	Connection	Drawing (next page)
08310000475	**KJ2-Q8AB-DPS**	PNP ⎍	2	2m cable PVC 3 x 0,14mm²	F
08310020475	**KJ2-Q8AB-DPÖ**	PNP ⎍	2	2m cable PVC 3 x 0,14mm²	F
08310000509	**KJ2-Q8AB-DPS-V1**	PNP ⎍	2	connector M8 3-pole	G
0831xxxxxxx	**KJ2-Q8AB-DPÖ-V1**	PNP ⎍	2	connector M8 3-pole	G
08310000440	**KJ2-Q8AB-DPS-AM**	PNP ⎍	2	2m cable PVC 3 x 0,14mm²	H
08310000074	**KJ2-Q8AB-DPÖ-AM**	PNP ⎍	2	2m cable PVC 3 x 0,14mm²	H
08310000369	**KJ2-Q8AB-DPS-V1-AM**	PNP ⎍	2	connector M8 3-pole	I
0831xxxxxxx	**KJ2-Q8AB-DPÖ-V1-AM**	PNP ⎍	2	connector M8 3-pole	I
08310001035	**KJ2-Q8AB-DPS-V3**	PNP ⎍	2	connector M5 4-pole	J

Design NPN and other cable lengths as requested.

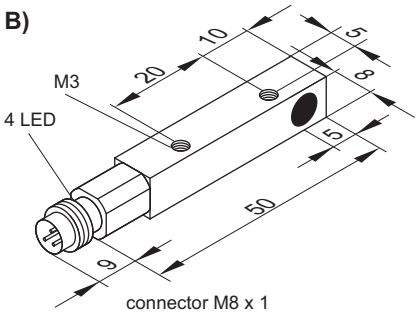
SQUARE Q8

Dimensions

A)

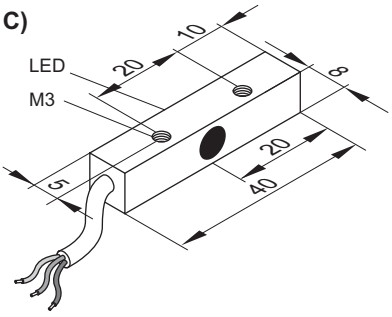


B)

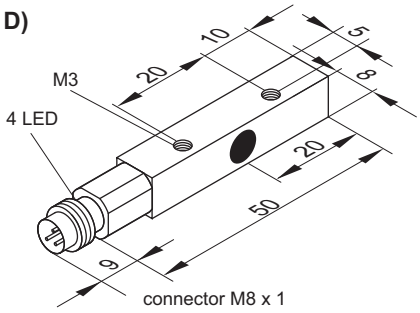


connector M8 x 1

C)

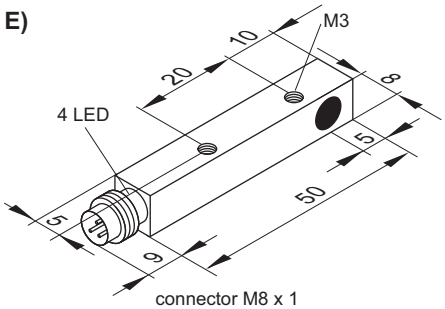


D)



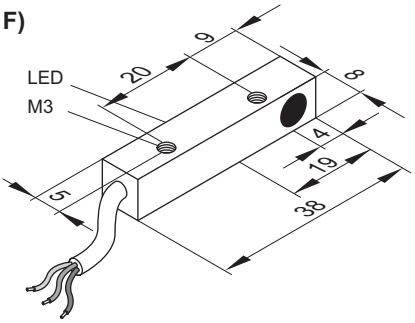
connector M8 x 1

E)

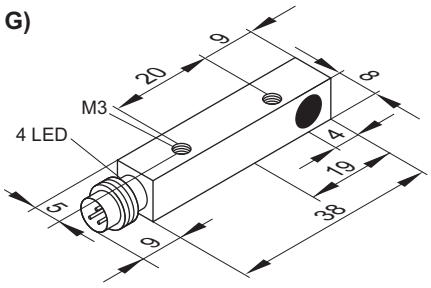


connector M8 x 1

F)

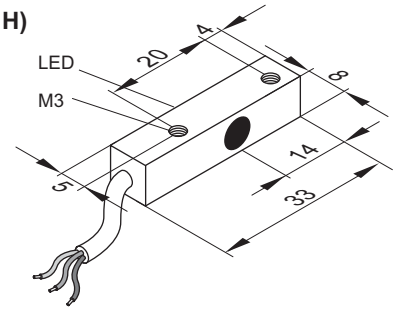


G)

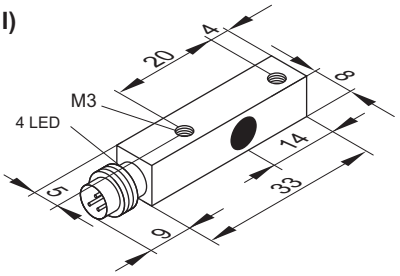


connector M8 x 1

H)

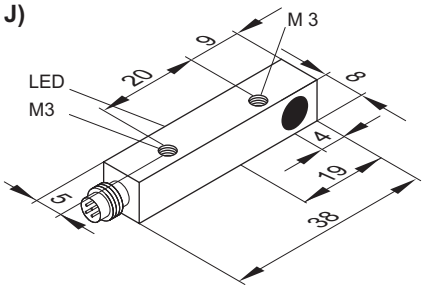


I)



connector M8 x 1

J)



connector M5 x 0,5

all data in mm

SQUARE Q9,9

General data

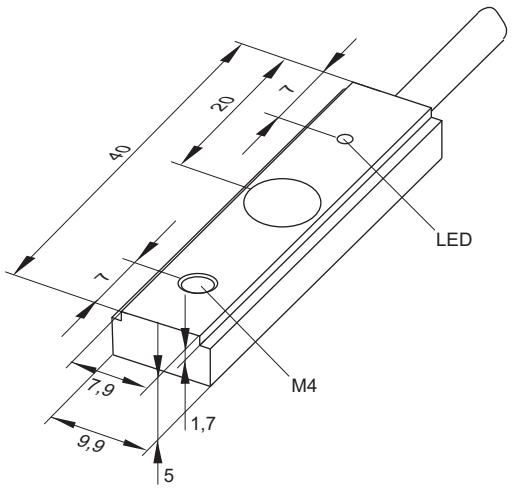
Mounting	shielded
Switching distance	2mm
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	1000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 2%
Operating temperature T_a	-25°C ... +75°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	aluminium
Front cap	polyamide 6.6
Connection	2m cable PVC 3 x 0,14mm²

Design NPN and other cable lengths as requested.

Selection chart

Article number	Designation	Output signal
08310000208	**KJ2-Q9,9AB-DPS**	PNP ⎍
08310000454	**KJ2-Q9,9AB-DPÖ**	PNP ⎍

Dimensions



all data in mm

SQUARE Q12

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	1000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 2%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	PBT

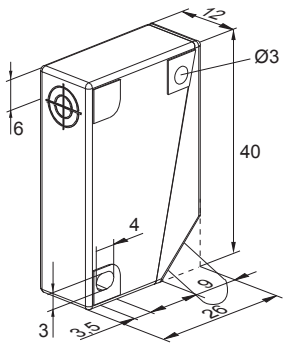
Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing
08317613000	**KJ2-Q12KB-DPS**	shielded	PNP ⎍	2	2m cable PVC 3 x 0,34mm²	A
08317613400	**KJ2-Q12KB-DPÖ**	shielded	PNP ⎍	2	2m cable PVC 3 x 0,34mm²	A
08317613064	**KJ2-Q12KB-DPS-V1**	shielded	PNP ⎍	2	connector M8 3-pole	B
08317613464	**KJ2-Q12KB-DPÖ-V1**	shielded	PNP ⎍	2	connector M8 3-pole	B
08317613200	**KJ4-Q12KN-DPS**	non shielded	PNP ⎍	4	2m cable PVC 3 x 0,34mm²	A
08317613600	**KJ4-Q12KN-DPÖ**	non shielded	PNP ⎍	4	2m cable PVC 3 x 0,34mm²	A
08317613264	**KJ4-Q12KN-DPS-V1**	non shielded	PNP ⎍	4	connector M8 3-pole	B
08317613664	**KJ4-Q12KN-DPÖ-V1**	non shielded	PNP ⎍	4	connector M8 3-pole	B
08310000527	**KJ4-Q12KN-DPA**	non shielded	PNP ⎍	4	2m cable PVC 4 x 0,34mm²	A
0831xxxxxxx	**KJ6-Q12KN-DPS**	non shielded	PNP ⎍	6	2m cable PVC 4 x 0,34mm²	A
0831xxxxxxx	**KJ6-Q12KN-DPS-V1**	non shielded	PNP ⎍	6	connector M8 3-pole	B

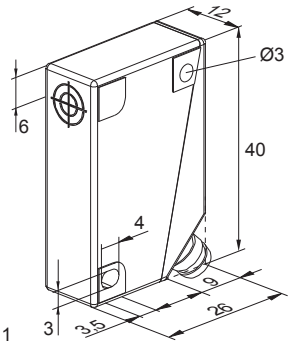
Design NPN and other cable lengths as requested.

Dimensions

A)



B)



connector M8 x 1

all data in mm

SQUARE Q25

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	1000Hz (KJ8... 800Hz)
Hysteresis H	≤ 15%
Repeatability R	≤ 2%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	polyamide 6.6, aluminium

Selection chart polyamide

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08310000772	**KJ5-Q25KB-DPS**	shielded	PNP	5	2m cable PVC 3 x 0,34mm²	A
0831xxxxxxx	**KJ5-Q25KB-DPÖ**	shielded	PNP	5	2m cable PVC 3 x 0,34mm²	A
08310000203	**KJ5-Q25KB-DPS-V1**	shielded	PNP	5	connector M8 3-pole	B
08310000472	**KJ5-Q25KB-DPÖ-V1**	shielded	PNP	5	connector M8 3-pole	B
08310000901	**KJ5-Q25KB-DPA**	shielded	PNP	5	2m cable PVC 4 x 0,25mm²	A
08310000056	**KJ8-Q25KN-DPS**	non shielded	PNP	8	2m cable PVC 3 x 0,34mm²	A
0831xxxxxx	**KJ8-Q25KN-DPÖ**	non shielded	PNP	8	2m cable PVC 3 x 0,34mm²	A
08310000508	**KJ8-Q25KN-DPS-V1**	non shielded	PNP	8	connector M8 3-pole	B
08310001883	**KJ8-Q25KN-DPÖ-V1**	non shielded	PNP	8	connector M8 3-pole	B
08310001079	**KJ8-Q25KN-DPA**	non shielded	PNP	8	2m cable PVC 4 x 0,25mm²	A

Design NPN and other cable lengths as requested.

Selection chart aluminium

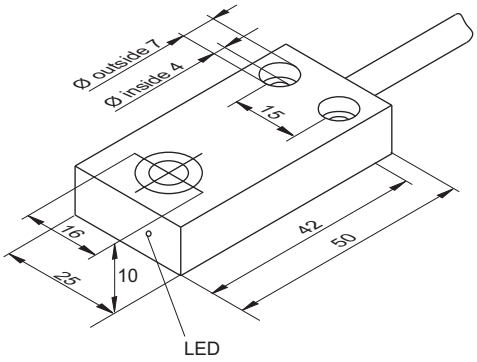
Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing (next page)
08310000229	**KJ5-Q25AB-DPS**	shielded	PNP	5	2m cable PVC 3 x 0,34mm²	A
0831xxxxxxx	**KJ5-Q25AB-DPÖ**	shielded	PNP	5	2m cable PVC 3 x 0,34mm²	A

Design NPN and other cable lengths as requested.

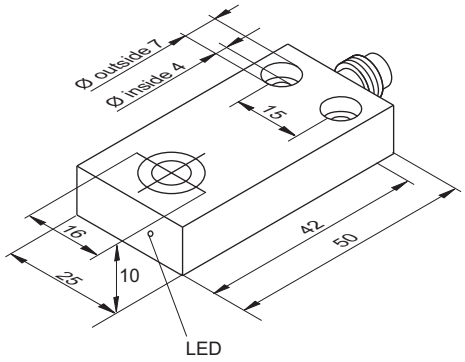
SQUARE Q25

Dimensions

A)



B)



connector M8 x 1

all data in mm

SQUARE Q28

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	200mA
Off-state current I_0	≤ 13mA
Residual current I_r	≤ 10µA
Max. switching frequency f	1000Hz (KJ4... 800Hz)
Hysteresis H	≤ 15%
Repeatability R	≤ 2%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	polyamide 6.6

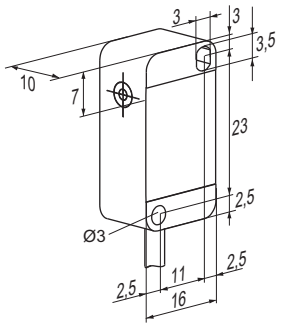
Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing
08310000042	**KJ2-Q28KB-DPS**	shielded	PNP ⎍	2	2m cable PVC 3 x 0,14mm²	A
08310000437	**KJ2-Q28KB-DPÖ**	shielded	PNP ⎍	2	2m cable PVC 3 x 0,14mm²	A
08310000608	**KJ2-Q28KB-DPS-V1**	shielded	PNP ⎍	2	connector M8 3-pole	B
08310000632	**KJ2-Q28KB-DPÖ-V1**	shielded	PNP ⎍	2	connector M8 3-pole	B
08310006008	**KJ2-Q28KB-DPS-AMP**	shielded	PNP ⎍	2	3 x plug connector AMP	C
08310001094	**KJ2-Q28KB-DNS-AMP**	shielded	NPN ⎍	2	3 x plug connector AMP	C
08310000610	**KJ4-Q28KN-DPS**	non shielded	PNP ⎍	4	2m cable PVC 3 x 0,14mm²	A
08310002041	**KJ4-Q28KN-DPÖ**	non shielded	PNP ⎍	4	2m cable PVC 3 x 0,14mm²	A
08310000609	**KJ4-Q28KN-DPS-V1**	non shielded	PNP ⎍	4	connector M8 3-pole	B
08310020184	**KJ4-Q28KN-DPÖ-V1**	non shielded	PNP ⎍	4	connector M8 3-pole	B
08310000100	**KJ6-Q28KN-DPS-V1**	non shielded	PNP ⎍	6	connector M8 3-pole	B
08310001247	**KJ6-Q28KN-DPÖ-V1**	non shielded	PNP ⎍	6	connector M8 3-pole	B

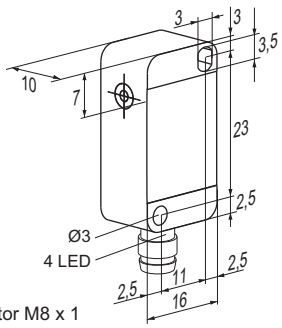
Design NPN and other cable lengths as requested.

Dimensions

A)

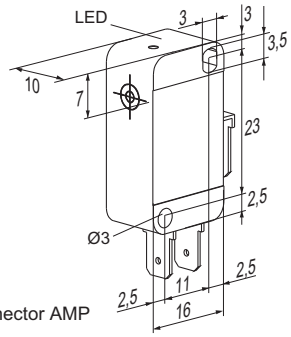


B)



connector M8 x 1

C)



plug connector AMP

all data in mm

SQUARE Q40

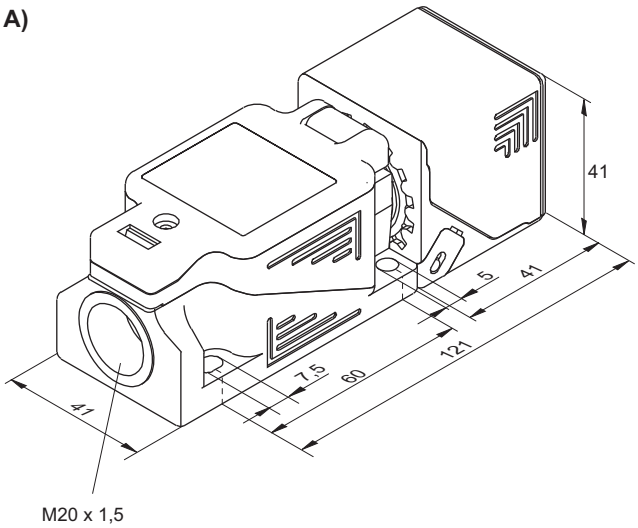
General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	see selection chart
Off-state current I_0	see selection chart
Residual current I_r	≤ 10µA
Max. switching frequency f	150Hz (KJ40... 70Hz)
Hysteresis H	≤ 20%
Repeatability R	≤ 5%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67 / see enclosed label*
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	trogamit T, polyamide 6.6

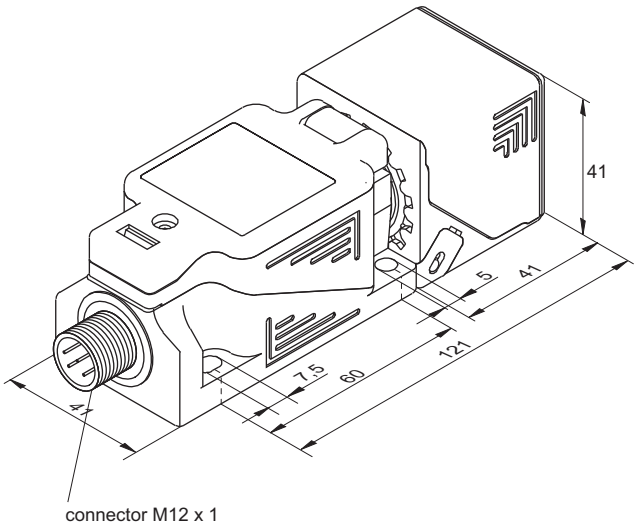
* When fixing the cover with the enclosed screw and sealed cable gland IP67 (without using the enclosed screw IP65)

Dimensions

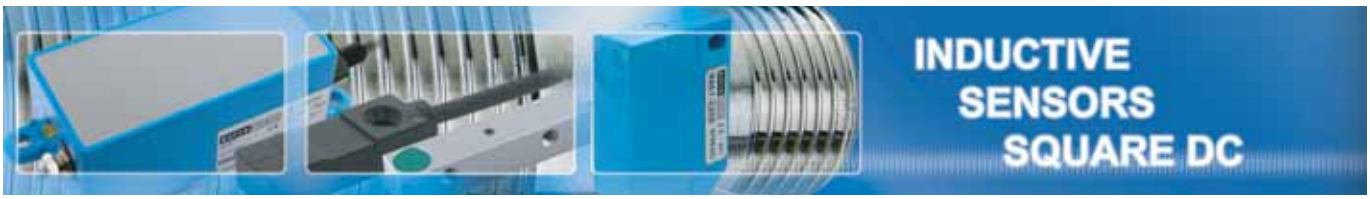
A)



B)



all data in mm
Selection chart on the next page



SQUARE Q40

Selection chart trogamit T

Article number	Designation	Former order number	Mounting	Output signal	Switching distance in mm	Connection	Drawing
08317633000	**KJ15-Q40KB-DPU**	9863-3000	shielded	PNP	15	clamps 1,5mm²	A
08317633300	**KJ15-Q40KB-DNU**	9863-3300	shielded	NPN	15	clamps 1,5mm²	A
08317633065	**KJ15-Q40KB-DPU-V2**	9863-3065	shielded	PNP	15	connector M12 4-pole	B
08317633365	**KJ15-Q40KB-DNU-V2**	9863-3365	shielded	NPN	15	connector M12 4-pole	B
08317633100	**KJ25-Q40KT-DPU**	9863-3100	quasi-shielded	PNP	25	clamps 1,5mm²	A
08317633400	**KJ25-Q40KT-DNU**	9863-3400	quasi-shielded	NPN	25	clamps 1,5mm²	A
08317633165	**KJ25-Q40KT-DPU-V2**	9863-3165	quasi-shielded	PNP	25	connector M12 4-pole	B
08317633465	**KJ25-Q40KT-DNU-V2**	9863-3465	quasi-shielded	NPN	25	connector M12 4-pole	B
08317633200	**KJ40-Q40KN-DPU**	9863-3200	non shielded	PNP	40	clamps 1,5mm²	A
08317633500	**KJ40-Q40KN-DNU**	9863-3500	non shielded	NPN	40	clamps 1,5mm²	A
08317633265	**KJ40-Q40KN-DPU-V2**	9863-3265	non shielded	PNP	40	connector M12 4-pole	B
08317633565	**KJ40-Q40KN-DNU-V2**	9863-3565	non shielded	NPN	40	connector M12 4-pole	B

Max. load current 400mA
Off-state current ≤ 34mA

Selection chart polyamide 6.6

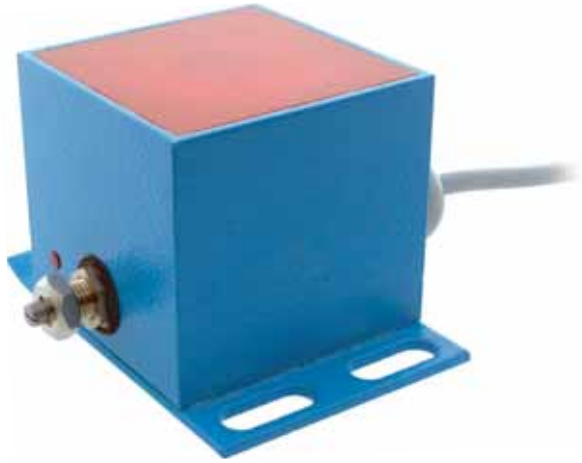
Article number	Designation	Former order number	Mounting	Output signal	Switching distance in mm	Connection	Drawing
08317832000	**KJ20-Q40KB-DPU**	9883-2000	shielded	PNP	20	clamps 2,5mm²	A
08317832300	**KJ20-Q40KB-DNU**	9883-2300	shielded	NPN	20	clamps 2,5mm²	A
08317832065	**KJ20-Q40KB-DPU-V2**	9883-2065	shielded	PNP	20	connector M12 4-pole	B
08317832365	**KJ20-Q40KB-DNU-V2**	9883-2365	shielded	NPN	20	connector M12 4-pole	B
08317832200	**KJ40-Q40KN-DPU**	9883-2200	non shielded	PNP	40	clamps 2,5mm²	A
08317832500	**KJ40-Q40KN-DNU**	9883-2500	non shielded	NPN	40	clamps 2,5mm²	A
08317832265	**KJ40-Q40KN-DPU-V2**	9883-2265	non shielded	PNP	40	connector M12 4-pole	B
08317832565	**KJ40-Q40KN-DNU-V2**	9883-2565	non shielded	NPN	40	connector M12 4-pole	B

Max. load current 120mA
Off-state current ≤ 10mA

SQUARE Q50

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	400mA
Off-state current I_0	≤ 18mA
Residual current I_r	≤ 10µA
Max. switching frequency f	300Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 2%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	aluminium
Front cap	dropvidur



Switching distance adjustable via potentiometer.

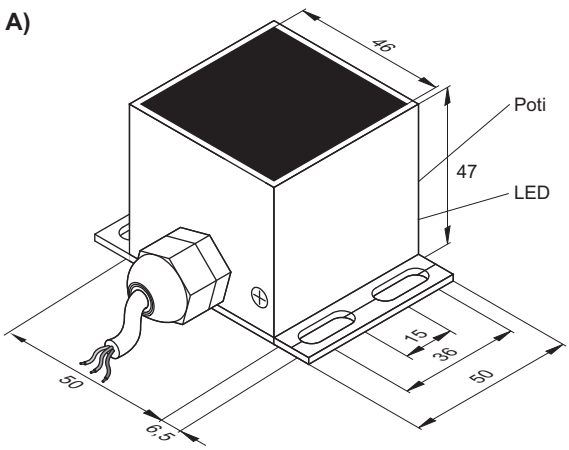
Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing
08317070900	**KJ40-Q50AB-DPS**	shielded	PNP ⎍	40	2m cable PVC 3 x 0,34mm²	A
08317070100	**KJ40-Q50AB-DNS**	shielded	NPN ⎍	40	2m cable PVC 3 x 0,34mm²	A
08317070965	**KJ40-Q50AB-DPS-V2**	shielded	PNP ⎍	40	connector M12 4-pole	B
08317070165	**KJ40-Q50AB-DNS-V2**	shielded	NPN ⎍	40	connector M12 4-pole	B

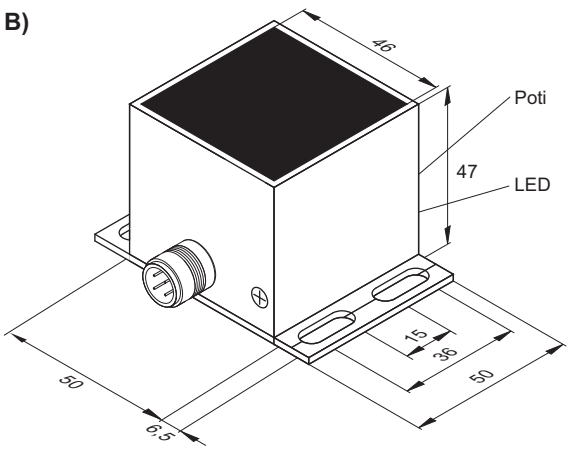
Other cable lengths as requested.

Dimensions

A)



B)



connector M12 x 1

all data in mm

SQUARE Q80

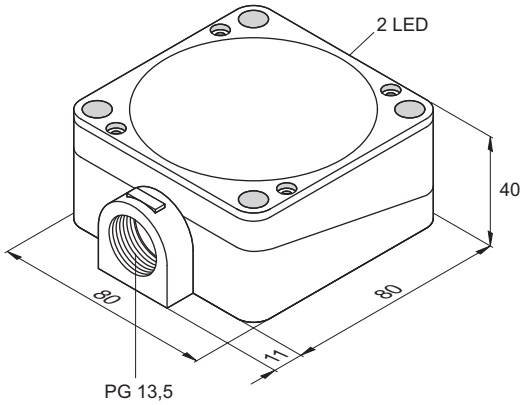
General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 3,0V (KJ50... ≤ 2,4V)
Max. load current	200mA
Off-state current I_0	≤ 22mA
Residual current I_r	≤ 10µA
Max. switching frequency f	100Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 2%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	polycarbonate

Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection
08317651100	**KJ40-Q80KB-DPA**	shielded	PNP	40	clamping space
08317651000	**KJ50-Q80KN-DPA**	non shielded	PNP	50	clamping space

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

SQUARE Q100

General data

Mounting	non shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 2,4V
Max. load current	400mA
Off-state current I_0	≤ 12mA
Residual current I_r	≤ 10µA
Max. switching frequency f	300Hz*
Hysteresis H	≤ 15%
Repeatability R	≤ 2%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	aluminium

* For parallel mounting these sensors are available in 5 different frequencies.

Switching distance adjustable via potentiometer.

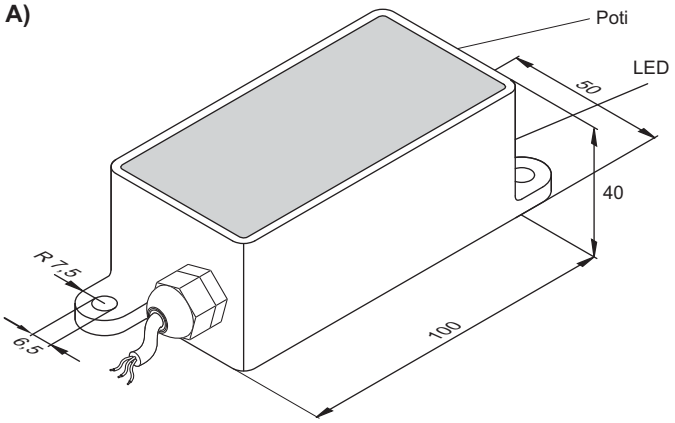
Selection chart

Article number	Designation	Output signal	Switching distance in mm	Connection	Drawing
08316090100	**KJ70-Q100AN-DPS-F1**	PNP ⎍	70	2m cable PVC 3 x 0,34mm²	A
08316090300	**KJ70-Q100AN-DNS-F1**	NPN ⎍	70	2m cable PVC 3 x 0,34mm²	A
08316090165	**KJ70-Q100AN-DPS-V2-F1**	PNP ⎍	70	connector M12 4-pole	B
08316090365	**KJ70-Q100AN-DNS-V2-F1**	NPN ⎍	70	connector M12 4-pole	B

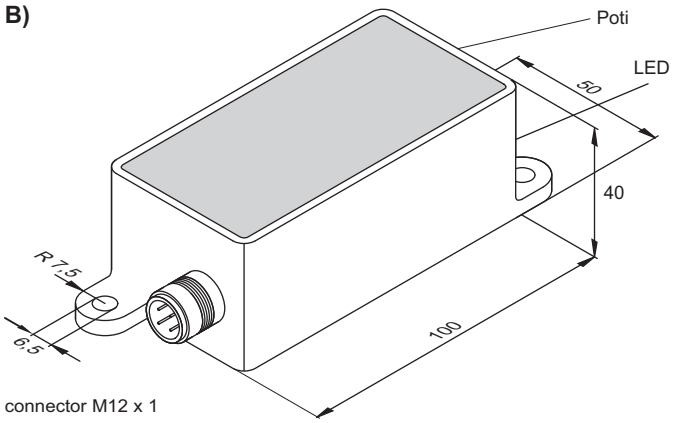
Other cable lengths as requested.

Dimensions

A)



B)



connector M12 x 1

all data in mm

MICRO SQUARE Q6

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1,0V
Max. load current	100mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	400Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 0,04mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	polycarbonate

Mounting clamp included in delivery.

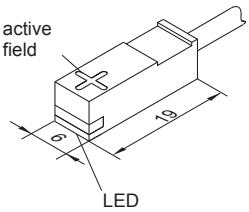
Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing
08313661210	**SJ1,2-Q6KN19-DPS**	non shielded	PNP	1,2	2m cable PVC 3 x 0,15mm²	A
08313661220	**SJ1,2-Q6KN19-DPÖ**	non shielded	PNP	1,2	2m cable PVC 3 x 0,15mm²	A
08313661230	**SJ1,2-Q6KN19-DNS**	non shielded	NPN	1,2	2m cable PVC 3 x 0,15mm²	A
08313661240	**SJ1,2-Q6KN19-DNÖ**	non shielded	NPN	1,2	2m cable PVC 3 x 0,15mm²	A
08313661219	**SJ1,2W-Q6KN19-DPS**	non shielded	PNP	1,2	2m cable PVC 3 x 0,15mm²	B
08313661229	**SJ1,2W-Q6KN19-DPÖ**	non shielded	PNP	1,2	2m cable PVC 3 x 0,15mm²	B
08313661239	**SJ1,2W-Q6KN19-DNS**	non shielded	NPN	1,2	2m cable PVC 3 x 0,15mm²	B
08313661249	**SJ1,2W-Q6KN19-DNÖ**	non shielded	NPN	1,2	2m cable PVC 3 x 0,15mm²	B

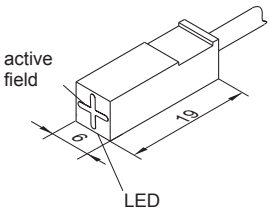
Other cable lengths as requested.

Dimensions

A)



B)



all data in mm

MICRO SQUARE Q8

General data

Mounting	non shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1,0V
Max. load current	100mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	500Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 0,04 mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	polycarbonate

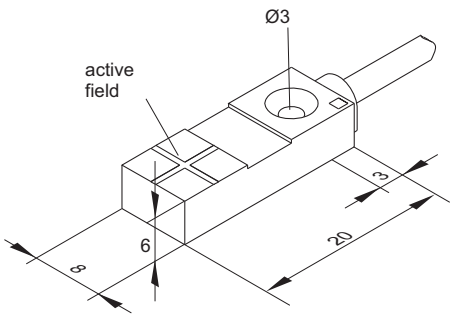
Selection chart

Article number	Designation	Output signal	Switching distance in mm	Connection	Drawing
08313881512	**SJ1,5-Q8KN20-DPS**	PNP	1,5	2m cable PVC 3 x 0,15mm²	A
08313881522	**SJ1,5-Q8KN20-DPÖ**	PNP	1,5	2m cable PVC 3 x 0,15mm²	A
08313881532	**SJ1,5-Q8KN20-DNS**	NPN	1,5	2m cable PVC 3 x 0,15mm²	A
08313881542	**SJ1,5-Q8KN20-DNÖ**	NPN	1,5	2m cable PVC 3 x 0,15mm²	A
08313881519	**SJ1,5W-Q8KN23-DPS**	PNP	1,5	2m cable PVC 3 x 0,15mm²	B
08313881529	**SJ1,5W-Q8KN23-DPÖ**	PNP	1,5	2m cable PVC 3 x 0,15mm²	B
08313881539	**SJ1,5W-Q8KN23-DNS**	NPN	1,5	2m cable PVC 3 x 0,15mm²	B
08313881549	**SJ1,5W-Q8KN23-DNÖ**	NPN	1,5	2m cable PVC 3 x 0,15mm²	B

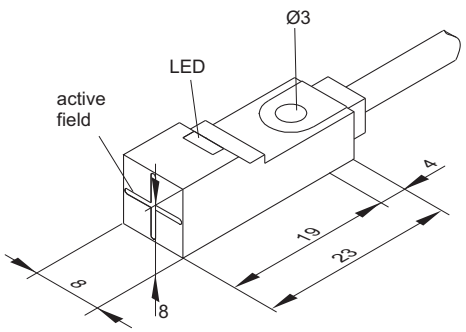
Other cable lengths as requested.

Dimensions

A)



B)



all data in mm

MICRO SQUARE Q10/Q12

General data

Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1,0V
Max. load current	100mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	250Hz (version Q12: 500Hz)
Hysteresis H	≤ 15%
Repeatability R	≤ 0,04mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	polycarbonate

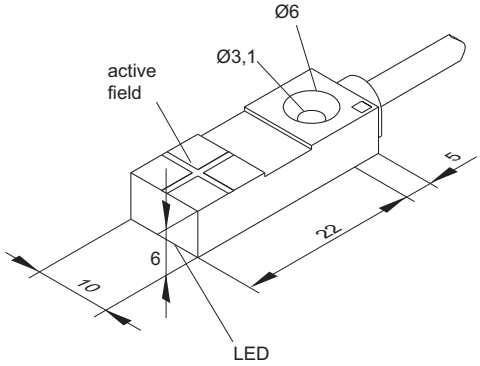
Selection chart

Article number	Designation	Mounting	Output signal	Switching distance in mm	Connection	Drawing
08313021010	**SJ2-Q10KN27-DPS**	non shielded	PNP	2	2m cable PVC 3 x 0,15mm²	A
0831xxxxxxx	**SJ2-Q10KN27-DPÖ**	non shielded	PNP	2	2m cable PVC 3 x 0,15mm²	A
0831xxxxxxx	**SJ2-Q10KN27-DNS**	non shielded	NPN	2	2m cable PVC 3 x 0,15mm²	A
0831xxxxxxx	**SJ2-Q10KN27-DNÖ**	non shielded	NPN	2	2m cable PVC 3 x 0,15mm²	A
0831xxxxxxx	**SJ2-Q12KN27-DPS**	non shielded	PNP	2	2m cable PVC 3 x 0,15mm²	B
0831xxxxxxx	**SJ2-Q12KN27-DPÖ**	non shielded	PNP	2	2m cable PVC 3 x 0,15mm²	B
0831xxxxxxx	**SJ2-Q12KN27-DNS**	non shielded	NPN	2	2m cable PVC 3 x 0,15mm²	B
0831xxxxxxx	**SJ2-Q12KN27-DNÖ**	non shielded	NPN	2	2m cable PVC 3 x 0,15mm²	B

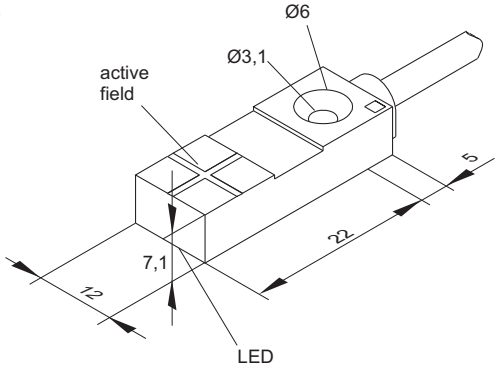
Other cable lengths as requested.

Dimensions

A)



B)



all data in mm

MICRO SQUARE Q15

General data

Mounting	non shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1,0V
Max. load current	100mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	250Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 0,04 mm
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	polycarbonate

Selection chart

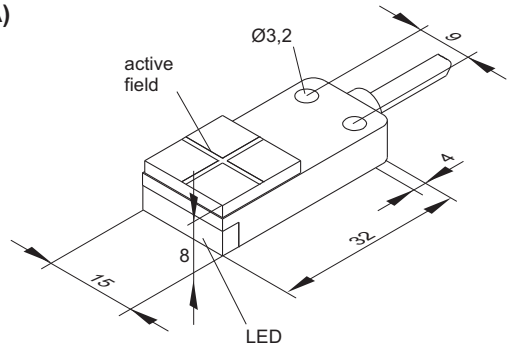
Article number	Designation	Output signal	Switching distance in mm	Connection	Drawing (next page)
08313150410	**SJ4-Q15KN32-DPS**	PNP	4	2m cable PVC 3 x 0,15mm²	A
08313150420	**SJ4-Q15KN32-DPÖ**	PNP	4	2m cable PVC 3 x 0,15mm²	A
08313150430	**SJ4-Q15KN32-DNS**	NPN	4	2m cable PVC 3 x 0,15mm²	A
08313150440	**SJ4-Q15KN32-DNÖ**	NPN	4	2m cable PVC 3 x 0,15mm²	A
08313150419	**SJ4W-Q15KN30-DPS**	PNP	4	2m cable PVC 3 x 0,15mm²	B
08313150429	**SJ4W-Q15KN30-DPÖ**	PNP	4	2m cable PVC 3 x 0,15mm²	B
08313150439	**SJ4W-Q15KN30-DNS**	NPN	4	2m cable PVC 3 x 0,15mm²	B
08313150449	**SJ4W-Q15KN30-DNÖ**	NPN	4	2m cable PVC 3 x 0,15mm²	B
08313156410	**SJ6,4-Q15KN32-DPS**	PNP	6,4	2m cable PVC 3 x 0,15mm²	A
08313156420	**SJ6,4-Q15KN32-DPÖ**	PNP	6,4	2m cable PVC 3 x 0,15mm²	A
08313156430	**SJ6,4-Q15KN32-DNS**	NPN	6,4	2m cable PVC 3 x 0,15mm²	A
08313156440	**SJ6,4-Q15KN32-DNÖ**	NPN	6,4	2m cable PVC 3 x 0,15mm²	A
08313156419	**SJ6,4W-Q15KN30-DPS**	PNP	6,4	2m cable PVC 3 x 0,15mm²	B
08313156429	**SJ6,4W-Q15KN30-DPÖ**	PNP	6,4	2m cable PVC 3 x 0,15mm²	B
08313156439	**SJ6,4W-Q15KN30-DNS**	NPN	6,4	2m cable PVC 3 x 0,15mm²	B
08313156449	**SJ6,4W-Q15KN30-DNÖ**	NPN	6,4	2m cable PVC 3 x 0,15mm²	B

Other cable lengths as requested.

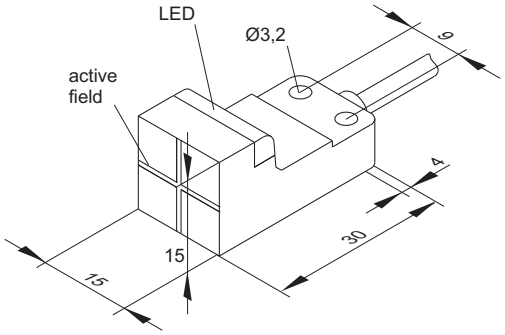
MICRO SQUARE Q15

Dimensions

A)



B)



all data in mm

INHALTSVERZEICHNIS

Bezeichnungsschlüssel

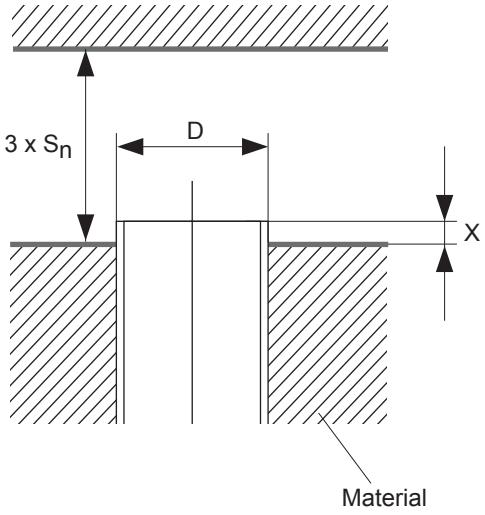
Schaltbilder

Sensoren

p·u·l·s·o·t·r·o·n·i·c
Pulsotronic GmbH & Co. KG
Neue Schichtstraße 14b
D-09366 Niederdorf
& 037 296 / 930 - 200
037 296 / 930 - 280
info@pulsotronic.de
www.pulsotronic.de

MOUNTING

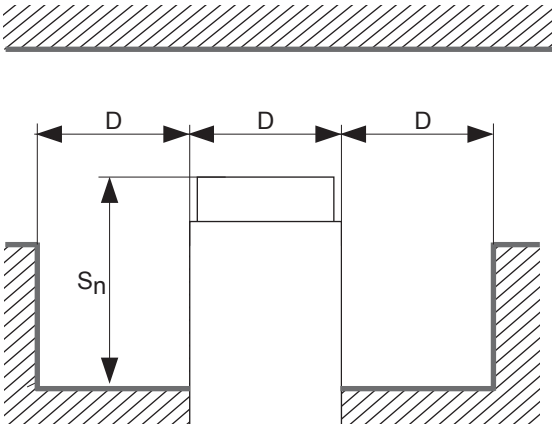
Quasi-flush mounting



The sensors in this catalogue must not be mounted flush into conductive materials, but have to protrude by X. Flush mounting in non-conductive materials is allowed.

Steel	X = 0,2D
Other metals	X = 0,1D
Other material	X = 0

Non-flush mounting



S_n = Switching distance
D = Diameter of the sensors

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	Metalface
M	Magnetoresistive		
N	Inclination sensor		
R	Reed-contact		
W	Angle sensor		

2 = Switching distance / range

3 = Design

D	Ring housing
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 = Connection

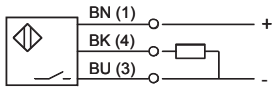
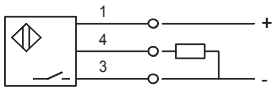
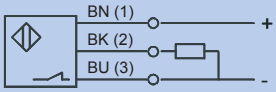
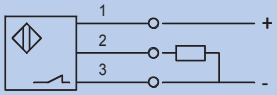
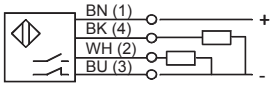
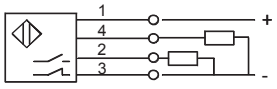
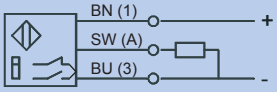
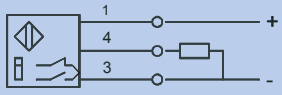
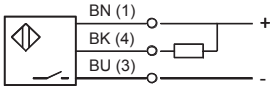
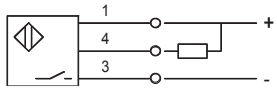
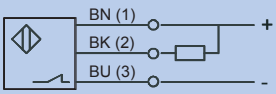
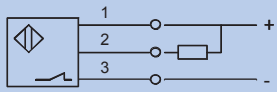
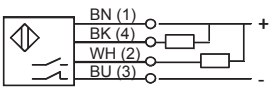
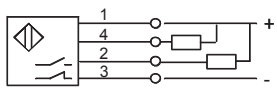
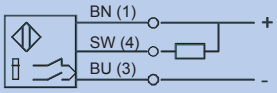
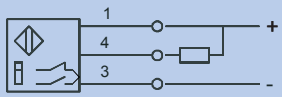
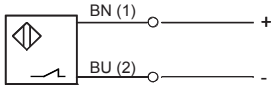
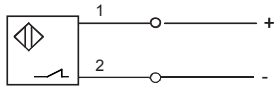
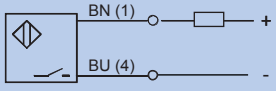
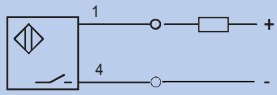
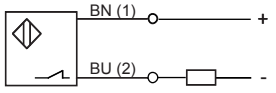
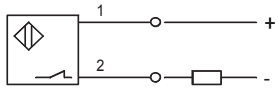
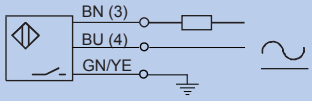
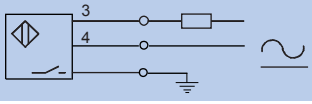
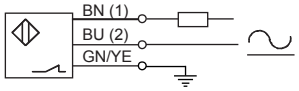
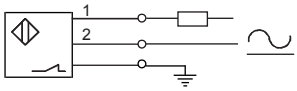
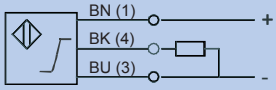
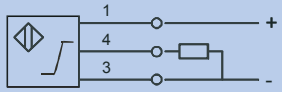
V1	M8 screw-/snap-in
V2	M12 metal
V2/1	M12 plastic
V3	M5 metal
V4	Amphenol Tuchel
V6	Brad Harrison
V7	Valve connector type A
V8	M8 snap-in only
V9	Torson
V10	Valve connector type C
V11	AC connector 1/2" UNF
V12	M18 plastic
VE	Euchner connector
RS232	Data interface
PG	Thread joint PG
Mxx	Thread joint 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 detailled description

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		

CYLINDER G6,5

General data

Operating voltage U_b	10V ... 30V DC
Ripple voltage of U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current	≤ 10µA
Max. switching frequency f	1000Hz
Hysteresis H	≤ 15% (Sr)
Repeatability R	≤ 2% (Sr)
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10% (Sr)
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	brass, nickel-plated
Front cap	POM

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

Selection chart

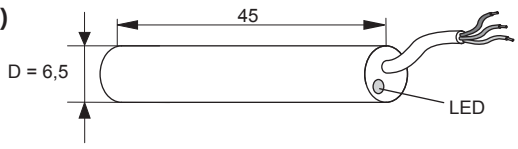
Article number	Designation switching distance 3mm	Mounting	Output signal	Connection	Drawing (next page)
08313650317	**SJ3-G6,5MB45-DPS**	shielded	PNP	2m cable PVC 3 x 0,15mm²	A
08313650327	**SJ3-G6,5MB45-DPÖ**	shielded	PNP	2m cable PVC 3 x 0,15mm²	A
08313650337	**SJ3-G6,5MB45-DNS**	shielded	NPN	2m cable PVC 3 x 0,15mm²	A
08313650347	**SJ3-G6,5MB45-DNÖ**	shielded	NPN	2m cable PVC 3 x 0,15mm²	A
08313036511	**SJ3-G6,5MB60-DPS-V1**	shielded	PNP	connector M8 3-pole	A1
08313036521	**SJ3-G6,5MB60-DPÖ-V1**	shielded	PNP	connector M8 3-pole	A1
08313036531	**SJ3-G6,5MB60-DNS-V1**	shielded	NPN	connector M8 3-pole	A1
08313036541	**SJ3-G6,5MB60-DNÖ-V1**	shielded	NPN	connector M8 3-pole	A1
	Designation switching distance 6mm				
08313650617	**SJ6-G6,5MN45-DPS**	non shielded	PNP	2m cable PVC 3 x 0,15mm²	B
08313650627	**SJ6-G6,5MN45-DPÖ**	non shielded	PNP	2m cable PVC 3 x 0,15mm²	B
08313650637	**SJ6-G6,5MN45-DNS**	non shielded	NPN	2m cable PVC 3 x 0,15mm²	B
08313650647	**SJ6-G6,5MN45-DNÖ**	non shielded	NPN	2m cable PVC 3 x 0,15mm²	B
08313066511	**SJ6-G6,5MN60-DPS-V1**	non shielded	PNP	connector M8 3-pole	B1
08313066521	**SJ6-G6,5MN60-DPÖ-V1**	non shielded	PNP	connector M8 3-pole	B1
08313066531	**SJ6-G6,5MN60-DNS-V1**	non shielded	NPN	connector M8 3-pole	B1
08313066541	**SJ6-G6,5MN60-DNÖ-V1**	non shielded	NPN	connector M8 3-pole	B1

Other cable lengths are available in the online-catalogue.

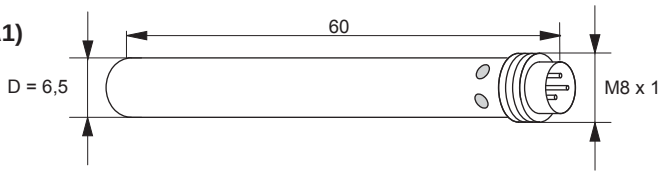
CYLINDER G6,5

Dimensions

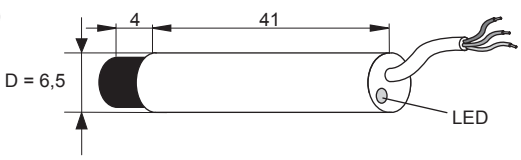
A)



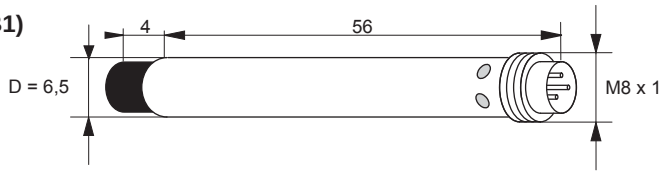
A1)



B)



B1)



all data in mm

CYLINDER M8

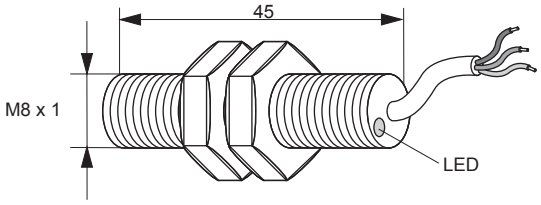
General data

Operating voltage U_b	10V ... 30V DC
Ripple voltage of U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current	≤ 10µA
Max. switching frequency f	1000Hz
Hysteresis H	≤ 15% (Sr)
Repeatability R	≤ 2% (Sr)
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10% (Sr)
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switchiung state	LED
Housing material	brass, nickel-plated (except for KJ3-M8EB... stainless steel)
Front cap	KJ3... PA 6.6 KJ6... POM SJ6... POM

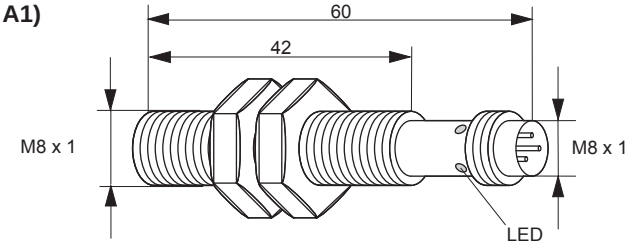
The selection chart of these sensors is shown on the following page.

Dimensions

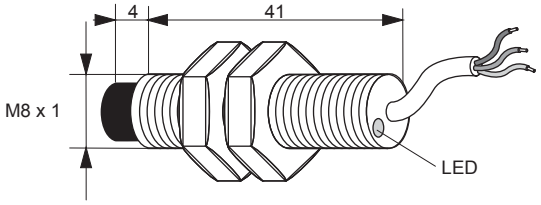
A)



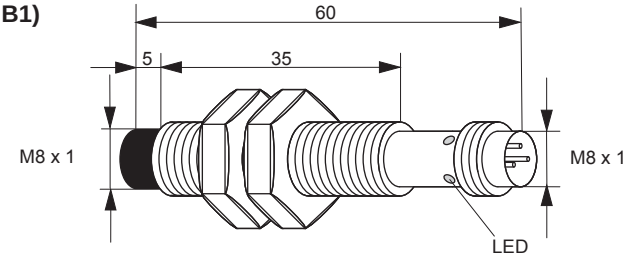
A1)



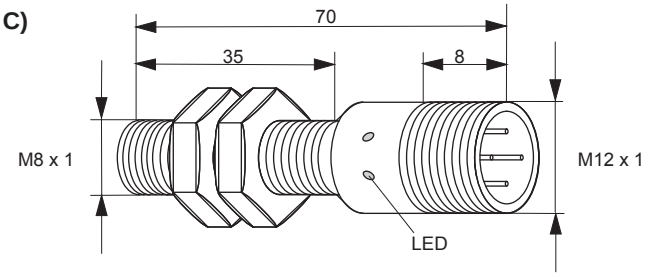
B)



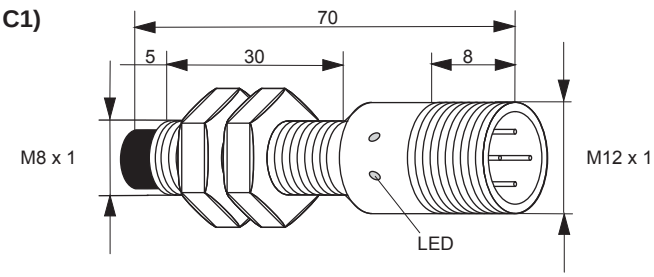
B1)



C)



C1)



all data in mm

CYLINDER M8

Selection chart

Article number	Designation switching distance 3mm	Mounting	Output signal	Connection	Drawing (front page)
08317815000	**KJ3-M8MB45-DPS**	shielded	PNP	2m cable PVC 3 x 0,15mm²	A
08317815400	**KJ3-M8MB45-DPÖ**	shielded	PNP	2m cable PVC 3 x 0,15mm²	A
08317815100	**KJ3-M8MB45-DNS**	shielded	NPN	2m cable PVC 3 x 0,15mm²	A
08317815500	**KJ3-M8MB45-DNÖ**	shielded	NPN	2m cable PVC 3 x 0,15mm²	A
08317815064	**KJ3-M8EB60-DPS-V1**	shielded	PNP	connector M8 3-pole	A1
08317815464	**KJ3-M8EB60-DPÖ-V1**	shielded	PNP	connector M8 3-pole	A1
08310001155	**KJ3-M8EB60-DNS-V1**	shielded	NPN	connector M8 3-pole	A1
08317815564	**KJ3-M8EB60-DNÖ-V1**	shielded	NPN	connector M8 3-pole	A1
08317815065	**KJ3-M8MB70-DPS-V2**	shielded	PNP	connector M12 4-pole	C
08313030822	**SJ3-M8MB70-DPÖ-V2**	shielded	PNP	connector M12 4-pole	C
08313030832	**SJ3-M8MB70-DNS-V2**	shielded	NPN	connector M12 4-pole	C
08313030842	**SJ3-M8MB70-DNÖ-V2**	shielded	NPN	connector M12 4-pole	C

	Designation switching distance 6mm				
08317815200	**KJ6-M8MN45-DPS**	non shielded	PNP	2m cable PVC 3 x 0,15mm²	B
08317815600	**SJ6-M8MN45-DPÖ**	non shielded	PNP	2m cable PVC 3 x 0,15mm²	B
08317815300	**KJ6-M8MN45-DNS**	non shielded	NPN	2m cable PVC 3 x 0,15mm²	B
08313080647	**SJ6-M8MN45-DNÖ**	non shielded	NPN	2m cable PVC 3 x 0,15mm²	B
08317815264	**KJ6-M8MN60-DPS-V1**	non shielded	PNP	connector M8 3-pole	B1
08313060821	**SJ6-M8MN60-DPÖ-V1**	non shielded	PNP	connector M8 3-pole	B1
08313060831	**SJ6-M8MN60-DNS-V1**	non shielded	NPN	connector M8 3-pole	B1
08313060841	**SJ6-M8MN60-DNÖ-V1**	non shielded	NPN	connector M8 3-pole	B1
08317815265	**KJ6-M8MN70-DPS-V2**	non shielded	PNP	connector M12 4-pole	D
08313060822	**SJ6-M8MN70-DPÖ-V2**	non shielded	PNP	connector M12 4-pole	D
08317815365	**KJ6-M8MN70-DNS-V2**	non shielded	NPN	connector M12 4-pole	D
08313060842	**SJ6-M8MN70-DNÖ-V2**	non shielded	NPN	connector M12 4-pole	D

Other cable lengths are available in the online-catalogue.

SQUARE Q8

General data

Mounting	shielded
Operating voltage U_b	10V ... 30V DC
Ripple voltage of U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current	≤ 10µA
Max. switching frequency f	1000Hz
Switching distance	3mm
Hysteresis H	≤ 15% (Sr)
Repeatability R	≤ 2% (Sr)
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10% (Sr)
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	brass, nickel-plated
Front cap	POM

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

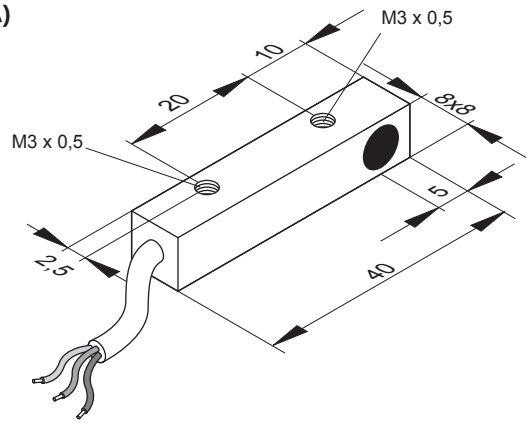
Selection chart

Article number	Designation	Output signal	Connection	Drawing (next page)
08317612000	**KJ3-Q8MB40-DPS**	PNP	2m cable PVC 3 x 0,15mm²	A
08313880327	**SJ3-Q8MB40-DPÖ**	PNP	2m cable PVC 3 x 0,15mm²	A
08317612100	**KJ3-Q8MB40-DNS**	NPN	2m cable PVC 3 x 0,15mm²	A
08313880342	**SJ3-Q8MB40-DNÖ**	NPN	2m cable PVC 3 x 0,15mm²	A
08317612064	**KJ3-Q8MB60-DPS-V1**	PNP	connector M8 3-pole	A1
08313880321	**SJ3-Q8MB60-DPÖ-V1**	PNP	connector M8 3-pole	A1
08317612164	**KJ3-Q8MB60-DNS-V1**	NPN	connector M8 3-pole	A1
08313880341	**SJ3-Q8MB60-DNÖ-V1**	NPN	connector M8 3-pole	A1

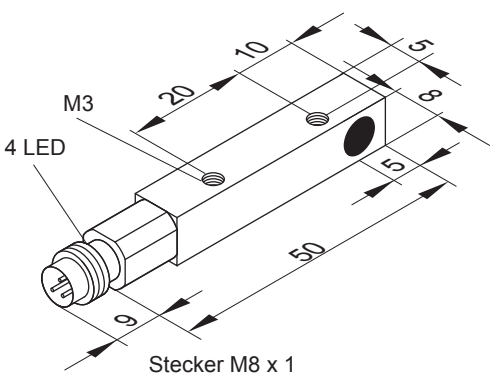
Other cable lenghts are available in the online-catalogue.

Dimensions

A)



A1)



CYLINDER M12

General data

Operating voltage U_b	10V ... 30V DC
Ripple voltage of U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current	≤ 10µA
Max. switching frequency f	KJ6... 1000Hz SJ6... 1000Hz KJ10... 500Hz SJ10... 500Hz
Switching distance	3mm
Hysteresis H	≤ 15% (Sr)
Repeatability R	≤ 2% (Sr)
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10% (Sr)
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switchiung state	LED
Housing material	brass, nickel-plated
Front cap	KJ6.... POM SJ6.... POM KJ10... PBT SJ10... PBT

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

Selection chart

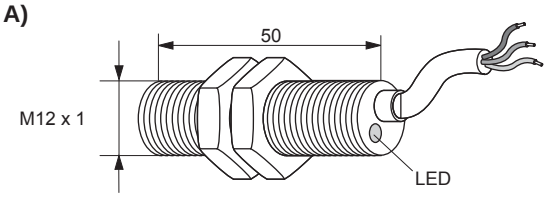
Article number	Designation switching distance 6mm	Mounting	Output signal	Connection	Drawing (next page)
08317825000	**KJ6-M12MB50-DPS**	shielded	PNP	2m cable PVC 3 x 0,34mm²	A
08313120627	**SJ6-M12MB50-DPÖ**	shielded	PNP	2m cable PVC 3 x 0,34mm²	A
08317825100	**KJ6-M12MB50-DNS**	shielded	NPN	2m cable PVC 3 x 0,34mm²	A
08313120647	**SJ6-M12MB50-DNÖ**	shielded	NPN	2m cable PVC 3 x 0,34mm²	A
08317825065	**KJ6-M12MB68-DPS-V2**	shielded	PNP	connector M12 4-pole	A1
08313061222	**SJ6-M12MB68-DPÖ-V2**	shielded	PNP	connector M12 4-pole	A1
08317825165	**KJ6-M12MB68-DNS-V2**	shielded	NPN	connector M12 4-pole	A1
08317825565	**SJ6-M12MB68-DNÖ-V2**	shielded	NPN	connector M12 4-pole	A1

	Designation switching distance 10mm				
08317825200	**KJ10-M12MN50-DPS**	non shielded	PNP	2m cable PVC 3 x 0,34mm²	B
08313121027	**KJ10-M12MN50-DPÖ**	non shielded	PNP	2m cable PVC 3 x 0,34mm²	B
08317825300	**KJ10-M12MN50-DNS**	non shielded	NPN	2m cable PVC 3 x 0,34mm²	B
08313121047	**KJ10-M12MN50-DNÖ**	non shielded	NPN	2m cable PVC 3 x 0,34mm²	B
08317825265	**KJ10-M12MN68-DPS-V2**	non shielded	PNP	connector M12 4-pole	B1
08313101222	**KJ10-M12MN68-DPÖ-V2**	non shielded	PNP	connector M12 4-pole	B1
08313101232	**KJ10-M12MN68-DNS-V2**	non shielded	NPN	connector M12 4-pole	B1
08313101242	**KJ10-M12MN68-DNÖ-V2**	non shielded	NPN	connector M12 4-pole	B1

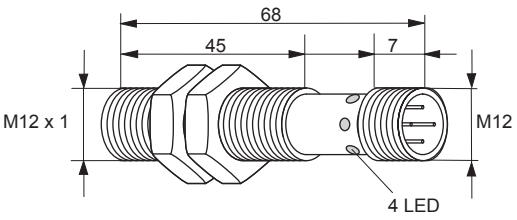
CYLINDER M12

Dimensions

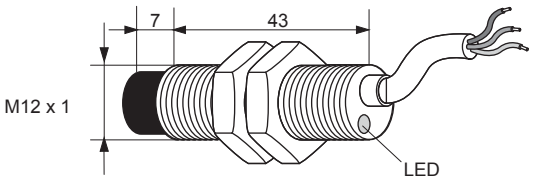
A)



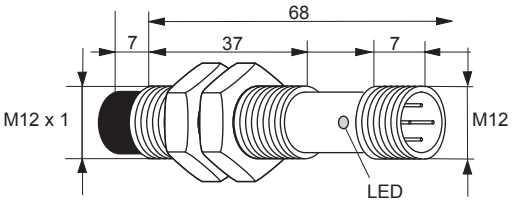
A1)



B)



B1)



all data in mm

SQUARE Q12

General data

Mounting	shielded
Operating voltage U_b	10V ... 30V DC
Ripple voltage of U_b	≤ 10%
Voltage drop U_d	≤ 2V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current	≤ 10µA
Max. switching frequency f	1000Hz
Switching distance	6mm
Hysteresis H	≤ 15% (Sr)
Repeatability R	≤ 2% (Sr)
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10% (Sr)
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switchung state	LED
Housing material	brass, nickel-plated
Front cap	POM

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

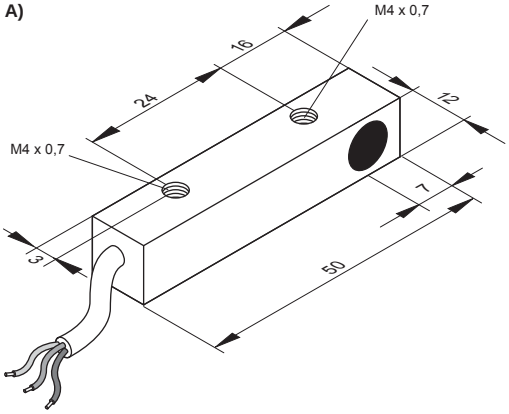
Selection chart

Article number	Designation	Output signal	Connection	Drawing (next page)
08313620617	**SJ6-Q12MB50-DPS**	PNP	2m cable PVC 3 x 0,15mm²	A
08313620627	**SJ6-Q12MB50-DPÖ**	PNP	2m cable PVC 3 x 0,15mm²	A
08313620637	**SJ6-Q12MB50-DNS**	NPN	2m cable PVC 3 x 0,15mm²	A
08313620647	**SJ6-Q12MB50-DNÖ**	NPN	2m cable PVC 3 x 0,15mm²	A
08313661211	**SJ6-Q12MB60-DPS-V1**	PNP	connector M8 3-pole	A1
08313661221	**SJ6-Q12MB60-DPÖ-V1**	PNP	connector M8 3-pole	A1
08313661231	**SJ6-Q12MB60-DNS-V1**	NPN	connector M8 3-pole	A1
08313661241	**SJ6-Q12MB60-DNÖ-V1**	NPN	connector M8 3-pole	A1

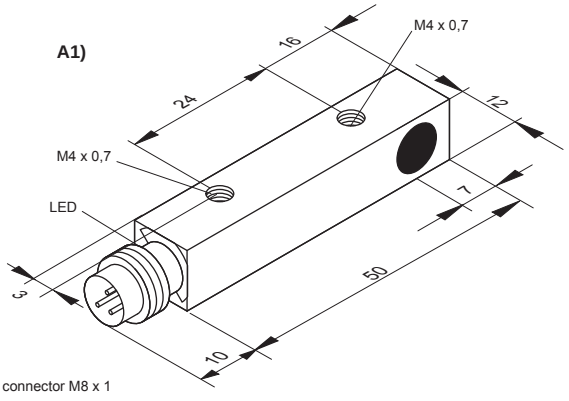
Other cable lengths are available in the online-catalogue.

Dimensions

A)



A1)



CYLINDER M18

General data

Operating voltage U_b	10V ... 30V DC
Ripple voltage of U_b	≤ 10%
Voltage drop U_d	≤ 2V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current	≤ 50µA
Max. switching frequency f	KJ12... 300Hz SJ12... 300Hz KJ20... 100Hz SJ20... 100Hz
Hysteresis H	≤ 15% (Sr)
Repeatability R	≤ 2% (Sr)
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10% (Sr)
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	brass, nickel-plated
Front cap	PBT

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

Selection chart

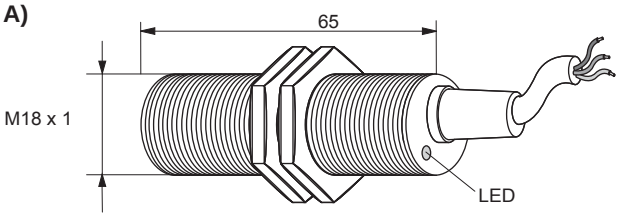
Article number	Designation switching distance 12mm	Mounting	Output signal	Connection	Drawing (next page)
08317845000	**KJ12-M18MB65-DPS**	shielded	PNP ⎍	2m cable PVC 3 x 0,34mm²	A
08313181227	**SJ12-M18MB65-DPÖ**	shielded	PNP ⎍	2m cable PVC 3 x 0,34mm²	A
08317845100	**KJ12-M18MB65-DNS**	shielded	NPN ⎍	2m cable PVC 3 x 0,34mm²	A
08313181247	**SJ12-M18MB65-DNÖ**	shielded	NPN ⎍	2m cable PVC 3 x 0,34mm²	A
08317845065	**KJ12-M18MB76-DPS-V2**	shielded	PNP ⎍	connector M12 4-pole	A1
08313121822	**SJ12-M18MB76-DPÖ-V2**	shielded	PNP ⎍	connector M12 4-pole	A1
08313121832	**SJ12-M18MB76-DNS-V2**	shielded	NPN ⎍	connector M12 4-pole	A1
08313121842	**SJ12-M18MB76-DNÖ-V2**	shielded	NPN ⎍	connector M12 4-pole	A1
	Designation switching distance 20mm				
08317845200	**KJ20-M18MN65-DPS**	non shielded	PNP ⎍	2m cable PVC 3 x 0,34mm²	B
08313182027	**SJ20-M18MN65-DPÖ**	non shielded	PNP ⎍	2m cable PVC 3 x 0,34mm²	B
08317845300	**KJ20-M18MN65-DNS**	non shielded	NPN ⎍	2m cable PVC 3 x 0,34mm²	B
08313182047	**SJ20-M18MN65-DNÖ**	non shielded	NPN ⎍	2m cable PVC 3 x 0,34mm²	B
08317845265	**KJ20-M18MN76-DPS-V2**	non shielded	PNP ⎍	connector M12 4-pole	B1
08313201822	**SJ20-M18MN76-DPÖ-V2**	non shielded	PNP ⎍	connector M12 4-pole	B1
08317845365	**KJ20-M18MN76-DNS-V2**	non shielded	NPN ⎍	connector M12 4-pole	B1
08313201842	**SJ20-M18MN76-DNÖ-V2**	non shielded	NPN ⎍	connector M12 4-pole	B1

Other cable lengths are available in the online-catalogue.

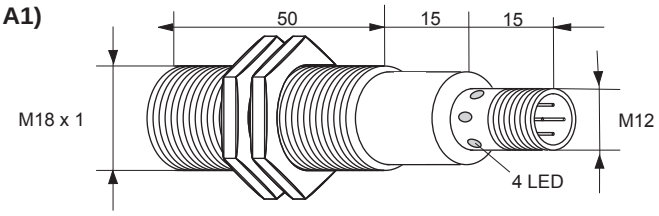
CYLINDER M18

Dimensions

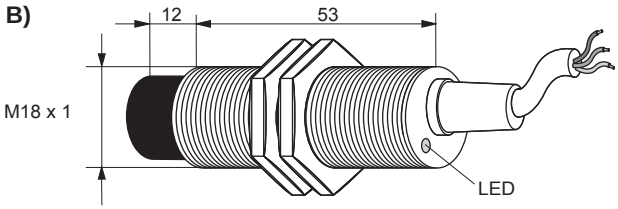
A)



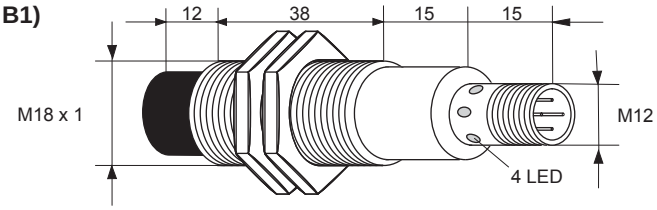
A1)



B)



B1)



all data in mm

CYLINDER M30

General data

Operating voltage U_b	10V ... 30V DC
Ripple voltage of U_b	≤ 10%
Voltage drop U_d	≤ 2V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current	≤ 50µA
Max. switching frequency f	KJ22... 300Hz SJ22... 300Hz KJ40... 100Hz SJ40... 100Hz
Hysteresis H	≤ 15% (Sr)
Repeatability R	≤ 2% (Sr)
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10% (Sr)
Protection class	IP67
EMV-standard	according to IEC 60947-5-2
Switching state	LED
Housing material	brass, nickel-plated
Front cap	PBT

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

Selection chart

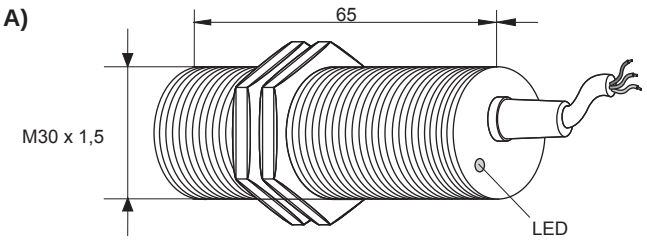
Article number	Designation switching distance 22mm	Mounting	Output signal	Connection	Drawing (next page)
08317865000	**KJ22-M30MB65-DPS**	shielded	PNP ⎍	2m cable PVC 3 x 0,5mm²	A
08317865400	**KJ22-M30MB65-DPÖ**	shielded	PNP ⎍	2m cable PVC 3 x 0,5mm²	A
08317865100	**KJ22-M30MB65-DNS**	shielded	NPN ⎍	2m cable PVC 3 x 0,5mm²	A
08313302247	**SJ22-M30MB65-DNÖ**	shielded	NPN ⎍	2m cable PVC 3 x 0,5mm²	A
08317865065	**KJ22-M30MB80-DPS-V2**	shielded	PNP ⎍	connector M12 4-pole	A1
08313223022	**SJ22-M30MB80-DPÖ-V2**	shielded	PNP ⎍	connector M12 4-pole	A1
08313223032	**SJ22-M30MB80-DNS-V2**	shielded	NPN ⎍	connector M12 4-pole	A1
08323223042	**SJ22-M30MB80-DNÖ-V2**	shielded	NPN ⎍	connector M12 4-pole	A1
	Designation switching distance 40mm				
08317865200	**KJ40-M30MN80-DPS**	non shielded	PNP ⎍	2m cable PVC 3 x 0,5mm²	B
08313304027	**SJ40-M30MN80-DPÖ**	non shielded	PNP ⎍	2m cable PVC 3 x 0,5mm²	B
08317865300	**KJ40-M30MN80-DNS**	non shielded	NPN ⎍	2m cable PVC 3 x 0,5mm²	B
08313304047	**SJ40-M30MN80-DNÖ**	non shielded	NPN ⎍	2m cable PVC 3 x 0,5mm²	B
08317865265	**KJ40-M30MN95-DPS-V2**	non shielded	PNP ⎍	connector M12 4-pole	B1
08313403022	**SJ40-M30MN95-DPÖ-V2**	non shielded	PNP ⎍	connector M12 4-pole	B1
08317865365	**SJ40-M30MN95-DNS-V2**	non shielded	NPN ⎍	connector M12 4-pole	B1
08313403042	**SJ40-M30MN95-DNÖ-V2**	non shielded	NPN ⎍	connector M12 4-pole	B1

Other cable lengths are available in the online-catalogue.

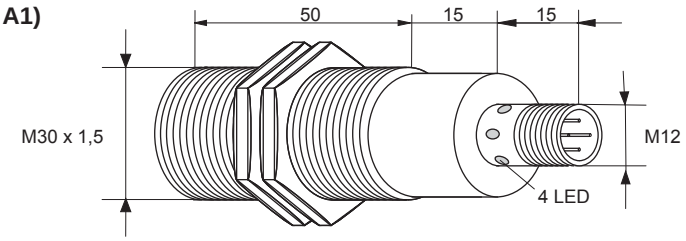
CYLINDER M30

Dimensions

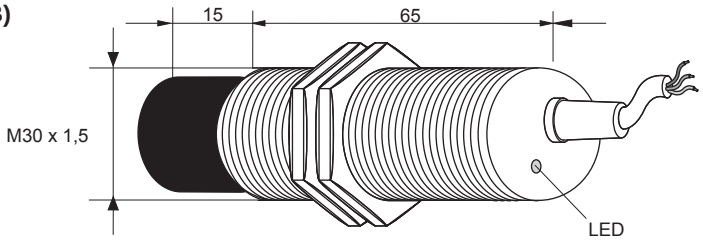
A)



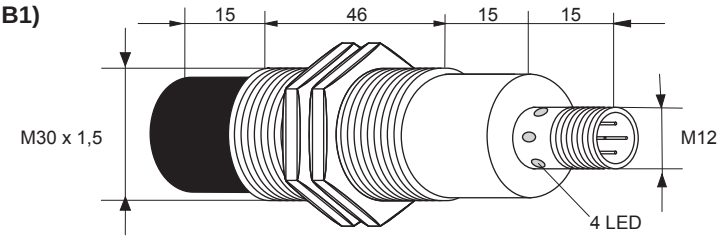
A1)



B)



B1)



all data in mm

TABLE OF CONTENT

Designation code

Circuit diagrams

Sensors

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

NOTES

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	Metalface
M	Magnetoresistive		
N	Inclination sensor		
R	Reed-contact		
W	Angle sensor		

2 = Switching distance / range

3 = Design

D	Ring housing
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 = Connection

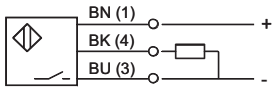
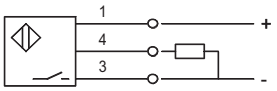
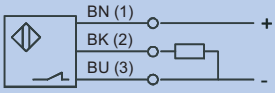
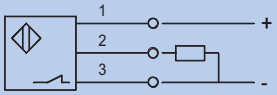
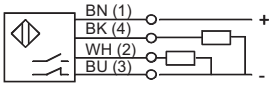
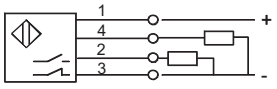
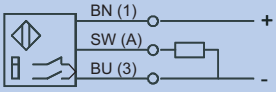
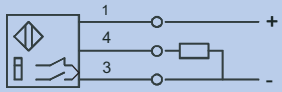
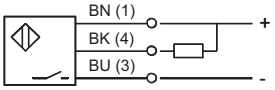
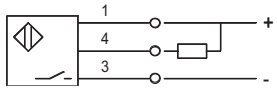
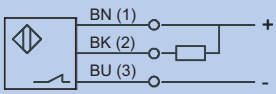
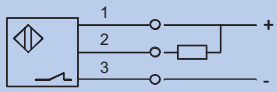
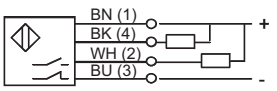
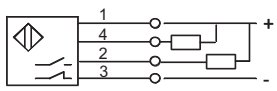
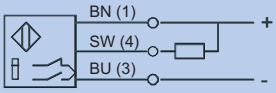
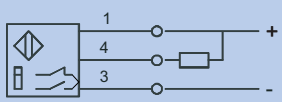
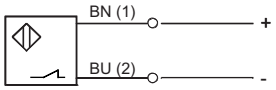
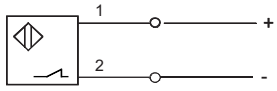
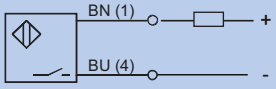
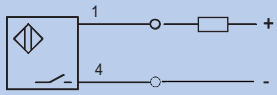
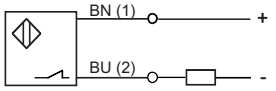
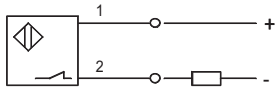
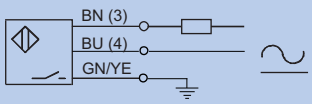
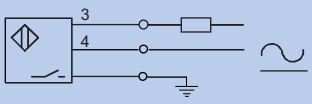
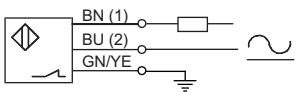
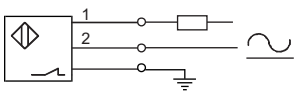
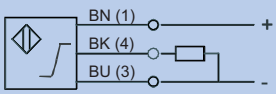
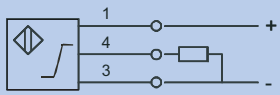
V1	M8 screw-/snap-in
V2	M12 metal
V2/1	M12 plastic
V3	M5 metal
V4	Amphenol Tuchel
V6	Brad Harrison
V7	Valve connector type A
V8	M8 snap-in only
V9	Torson
V10	Valve connector type C
V11	AC connector 1/2" UNF
V12	M18 plastic
VE	Euchner connector
RS232	Data interface
PG	Thread joint PG
Mxx	Thread joint 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 detailled description

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		

CYLINDER G3

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	2000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 1%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM
Connection	2m cable PUR 3 x 0,15mm²

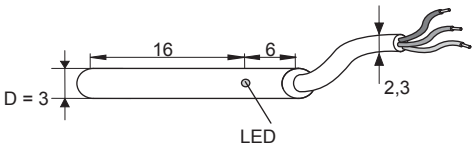
Other cable lengths as requested.

Selection chart

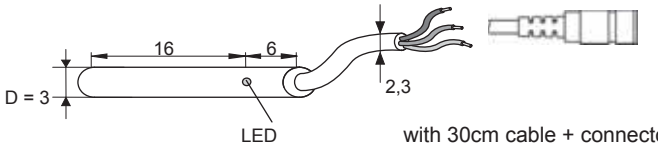
Article number	Designation	Output signal	Switching distance	Drawing
08313030081	**SJ0,8-G3EB22-DPS**	PNP	0,8mm	A
08313030082	**SJ0,8-G3EB22-DPÖ**	PNP	0,8mm	A
08313030083	**SJ0,8-G3EB22-DNS**	NPN	0,8mm	A
08313030084	**SJ0,8-G3EB22-DNÖ**	NPN	0,8mm	A
08313030086	**SJ0,8-G3EB22-DPS-X0429**	PNP	0,8mm	A1

Dimensions

A)



A1)



with 30cm cable + connector

all data in mm

CYLINDER M4

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	2000Hz
Hysteresis H	< 15%
Repeatability R	≤ 1%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM
Connection	2m cable PUR 3 x 0,15mm²

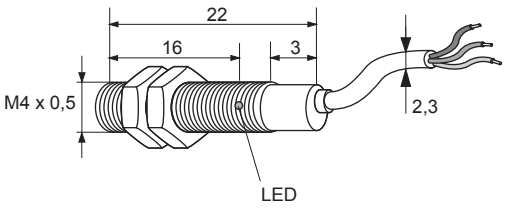
Other cable lengths as requested.

Selection chart

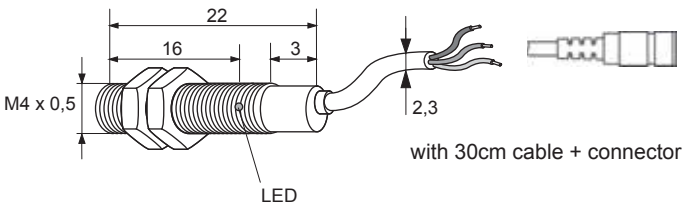
Article number	Designation	Output signal	Switching distance	Drawing
08313040085	**SJ0,8-M4EB22-DPS**	PNP ⎍	0,8mm	A
08313040086	**SJ0,8-M4EB22-DPÖ**	PNP ⎍	0,8mm	A
08313040087	**SJ0,8-M4EB22-DNS**	PNP ⎍	0,8mm	A
08313040088	**SJ0,8-M4EB22-DNÖ**	NPN ⎍	0,8mm	A
08313040089	**SJ0,8-M4EB22-DPS-X0429**	NPN ⎍	0,8mm	A1

Dimensions

A)



A1)



with 30cm cable + connector

all data in mm

CYLINDER G4

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	2000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 1%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM

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

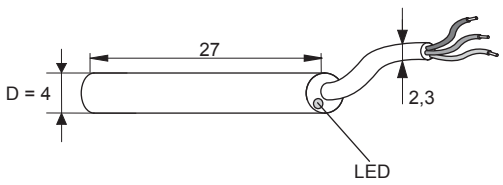
Selection chart

Article number	Designation standard	Output signal	Connection	Switching distance	Drawing
08317801010	**KJ0,8-G4EB27-DPS**	PNP ⎍	2m cable PUR 3 x 0,15mm²	0,8mm	A
08317801110	**KJ0,8-G4EB27-DNS**	NPN ⎍	2m cable PUR 3 x 0,15mm²	0,8mm	A
08317801064	**KJ0,8-G4EB38-DPS-V1**	PNP ⎍	connector M8 3-pole	0,8mm	A1
08316801164	**KJ0,8-G4EB38-DNS-V1**	NPN ⎍	connector M8 3-pole	0,8mm	A1
	Designation double switching distance				
08313041510	**SJ1,5-G4EB25-DPS**	PNP ⎍	2m cable PUR 3 x 0,15mm²	1,5mm	A
08313041511	**SJ1,5-G4EB40-DPS-V1**	PNP ⎍	connector M8 3-pole	1,5mm	A1

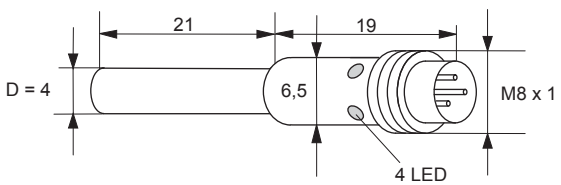
Other cable lengths and output configuations on request.

Dimensions

A)



A1)



CYLINDER M5

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	2000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 1%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM (except SJ0,8... PCP)

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

Selection chart

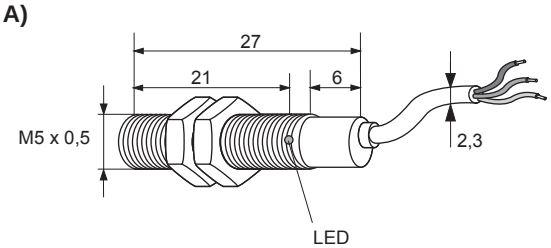
Article number	Designation standard	Output signal	Switching distance	Connection	Drawing
08310000023	**KJ0,8-M5EB27-DPS**	PNP	0,8mm	2m cable PUR 3 x 0,15mm²	A
08317802110	**KJ0,8-M5EB27DNS**	NPN	0,8mm	2m cable PUR 3 x 0,15mm²	A
08317802064	**KJ0,8-M5EB38-DPS-V1**	PNP	0,8mm	connector M8 3-pole	A1
08317802464	**KJ0,8-M5EB38-DPÖ-V1**	NPN	0,8mm	connector M8 3-pole	A1

	Designation double switching distance				
08313051590	**SJ1,5-M5EB25-DPS**	PNP	1,5mm	2m cable PUR 3 x 0,15mm²	A
08313050197	**SJ1,5-M5EB40-DPS-V1**	PNP	1,5mm	connector M8 3-pole	A1

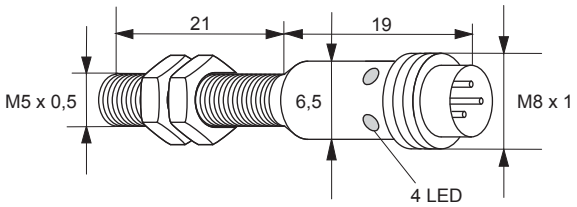
Other cable lengths and output configurations as requested.

Dimensions

A)



A1)



CYLINDER G6,5

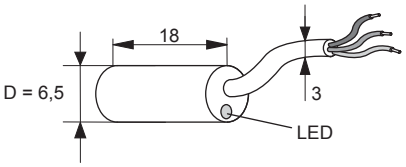
General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	2000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 1%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM

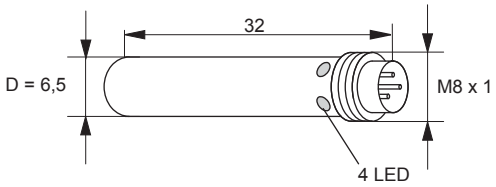
The selection chart for these sensors is shown on the following page.

Dimensions

A)



A1)



all data in mm

CYLINDER G6,5

Selection chart

Article number	Designation standard	Output signal	Switching distance	Connection	Drawing (previous page)
08313650151	**KJ1,5-G6,5EB16-DPS**	PNP	1,5mm	2m cable PUR 3 x 0,15mm²	A
08313650152	**K1,5-G6,5EB16-DPÖ**	PNP	1,5mm	2m cable PUR 3 x 0,15mm²	A
08313650153	**KJ1,5-G6,5EB16-DNS**	NPN	1,5mm	2m cable PUR 3 x 0,15mm²	A
08313650154	**KJ1,5-G6,5EB16-DNÖ**	NPN	1,5mm	2m cable PUR 3 x 0,15mm²	A
08313651511	**KJ1,5-G6,5EB30-DPS-V1**	PNP	1,5mm	connector M8 3-pole	A1
08313651521	**KJ1,5-G6,5EB30-DPÖ-V1**	PNP	1,5mm	connector M8 3-pole	A1
08313651531	**KJ1,5-G6,5EB30-DNS-V1**	NPN	1,5mm	connector M8 3-pole	A1
08313651541	**KJ1,5-G6,5EB30-DNÖ-V1**	NPN	1,5mm	connector M8 3-pole	A1
08313650210	**KJ2-G6,5EB16-DPS**	PNP	2mm	2m cable PUR 3 x 0,15mm²	A
08313650220	**KJ2-G6,5EB16-DPÖ**	PNP	2mm	2m cable PUR 3 x 0,15mm²	A
08313650230	**KJ2-G6,5EB16-DNS**	NPN	2mm	2m cable PUR 3 x 0,15mm²	A
08313650240	**KJ2-G6,5EB16-DNÖ**	NPN	2mm	2m cable PUR 3 x 0,15mm²	A
08313650211	**KJ2-G6,5EB30-DPS-V1**	PNP	2mm	connector M8 3-pole	A1
08313650221	**KJ2-G6,5EB30-DPÖ-V1**	PNP	2mm	connector M8 3-pole	A1
08313650231	**KJ2-G6,5EB30-DNS-V1**	NPN	2mm	connector M8 3-pole	A1
08313650241	**KJ2-G6,5EB30-DNÖ-V1**	NPN	2mm	connector M8 3-pole	A1
08313650310	**SJ3-G6,5EB18-DPS**	PNP	3mm	2m cable PUR 3 x 0,15mm²	A
08313650320	**SJ3-G6,5EB18-DPÖ**	PNP	3mm	2m cable PUR 3 x 0,15mm²	A
08313650330	**SJ3-G6,5EB18-DNS**	NPN	3mm	2m cable PUR 3 x 0,15mm²	A
08313650340	**SJ3-G6,5EB18-DNÖ**	NPN	3mm	2m cable PUR 3 x 0,15mm²	A
08313650311	**SJ3-G6,5EB32-DPS-V1**	PNP	3mm	connector M8 3-pole	A1
08313650321	**SJ3-G6,5EB32-DPÖ-V1**	PNP	3mm	connector M8 3-pole	A1
08313650331	**SJ3-G6,5EB32-DNS-V1**	NPN	3mm	connector M8 3-pole	A1
08313650341	**SJ3-G6,5EB32-DNÖ-V1**	NPN	3mm	connector M8 3-pole	A1

Other cable lengths as requested.

CYLINDER M8

General data

Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	2000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 1%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	stainless steel
Front cap	POM

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

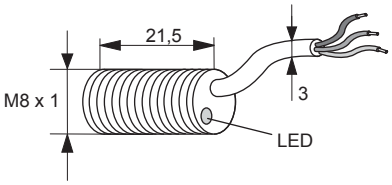
Selection chart

Article number	Designation standard	Output signal	Switching distance	Connection	Drawing (next page)
08313080151	**KJ1,5-M8EB16-DPS**	PNP ⎍	1,5mm	2m cable PUR 3 x 0,15mm²	A
08313080152	**KJ1,5-M8EB16-DPÖ**	PNP ⎍	1,5mm	2m cable PUR 3 x 0,15mm²	A
08313080153	**KJ1,5-M8EB16-DNS**	NPN ⎍	1,5mm	2m cable PUR 3 x 0,15mm²	A
08313080154	**KJ1,5-M8EB16-DNÖ**	NPN ⎍	1,5mm	2m cable PUR 3 x 0,15mm²	A
08310000027	**KJ1,5-M8EB30-DPS-V1**	PNP ⎍	1,5mm	connector M8 3-pole	A1
08310000482	**KJ1,5-M8EB30-DPÖ-V1**	PNP ⎍	1,5mm	connector M8 3-pole	A1
08313080157	**KJ1,5-M8EB30-DNS-V1**	NPN ⎍	1,5mm	connector M8 3-pole	A1
08313080158	**KJ1,5-M8EB30-DNÖ-V1**	NPN ⎍	1,5mm	connector M8 3-pole	A1
08313080210	**KJ2-M8EB16-DPS**	PNP ⎍	2mm	2m cable PUR 3 x 0,15mm²	A
08313080220	**KJ2-M8EB16-DPÖ**	PNP ⎍	2mm	2m cable PUR 3 x 0,15mm²	A
08313080230	**KJ2-M8EB16-DNS**	NPN ⎍	2mm	2m cable PUR 3 x 0,15mm²	A
08313080240	**KJ2-M8EB16-DNÖ**	NPN ⎍	2mm	2m cable PUR 3 x 0,15mm²	A
08313080231	**KJ2-M8EB30-DNS-V1**	NPN ⎍	2mm	connector M8 3-pole	A1
08313080241	**KJ2-M8EB30-DNÖ-V1**	NPN ⎍	2mm	connector M8 3-pole	A1
08313080310	**SJ3-M8EB18-DPS**	PNP ⎍	3mm	2m cable PUR 3 x 0,15mm²	A
08313080320	**SJ3-M8EB18-DPÖ**	PNP ⎍	3mm	2m cable PUR 3 x 0,15mm²	A
08313080330	**SJ3-M8EB18-DNS**	NPN ⎍	3mm	2m cable PUR 3 x 0,15mm²	A
08313080340	**SJ3-M8EB18-DNÖ**	NPN ⎍	3mm	2m cable PUR 3 x 0,15mm²	A
08313080311	**SJ3-M8EB32-DPS-V1**	PNP ⎍	3mm	connector M8 3-pole	A1
08313080321	**SJ3-M8EB32-DPÖ-V1**	PNP ⎍	3mm	connector M8 3-pole	A1
08313080331	**SJ3-M8EB32-DNS-V1**	NPN ⎍	3mm	connector M8 3-pole	A1
08313080341	**SJ3-M8EB32-DNÖ-V1**	NPN ⎍	3mm	connector M8 3-pole	A1

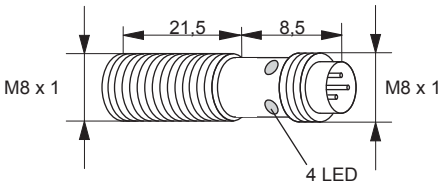
CYLINDER M8

Dimensions

A)



A1)



with two M8 screw nuts each

all data in mm

SQUARE Q5

General data

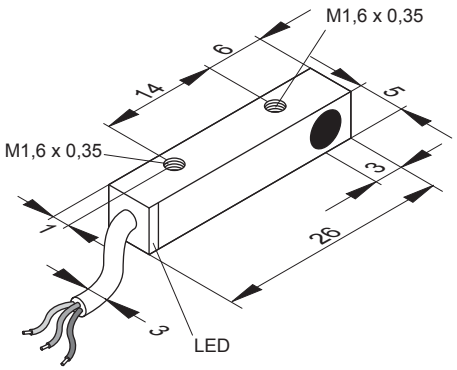
Mounting	shielded
Operating voltage U_b	10 ... 30V DC
Ripple voltage U_b	≤ 10%
Voltage drop U_d	≤ 1V
Max. load current	200mA
Off-state current I_0	≤ 10mA
Residual current I_r	≤ 10µA
Max. switching frequency f	2000Hz
Hysteresis H	≤ 15%
Repeatability R	≤ 1%
Operating temperature T_a	-25°C ... +70°C
Temperature drift	≤ 10%
Protection class	IP67
EMV-standard	according to EN 60947-5-2
Switching state	LED yellow
Housing material	brass, nickel-plated
Front cap	POM
Connection	2m cable PUR 3 x 0,15mm²

Other cable lengths as requested.

Selection chart

Article number	Designation	Output signal
08313550110	**KJ1-Q5MB26-DPS**	PNP
08313550120	**KJ1-Q5MB26-DPÖ**	PNP
08313550130	**K1-Q5MB26-DNS**	NPN
08313550140	**KJ1-Q5MB26-DNÖ**	NPN

Dimensions

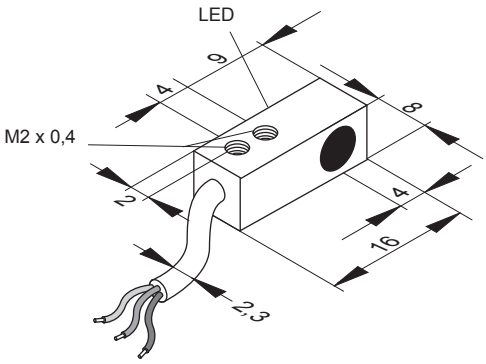


all data in mm

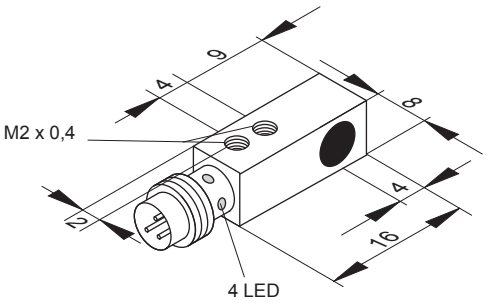
SQUARE Q8

Dimensions

A)



A1)



connector M8 x 1

all data in mm