

INDUCTIVE

INDUCTIVE SENSORS

Square DC



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AUTOMATICA

p-u-l-s-o-t-r-o-n-i-c

About us

In the traditional and strive industry region Chemnitz-Zwickau, directly at the freeway A72 you will find the new location of the Pulsotronic GmbH & Co.KG.

As a worldwide active company we develop and produce according to ISO 9001 proximity switches and electronic components for the following product ranges:

- > Inductive and Capacitive Sensors
- > Metal separation and Metal detection
- > Picture Processing
- > Optical Sensors
- > Magnetoresistive Sensors
- > Laser Systems
- > Colour Detection
- > Ultrasonic Sensors
- > X-Ray- Scanner

We guarantee customized solutions by our high-performance profile in the area. The available wide palette of key technologies is an ideal condition for the realization of your application.

You find the Pulsotronic everywhere there, where are to set standards and to solve task positions on the far side of well known standing types.

With innovation and individualism our competent team will advise also on place to solve your problem.

Demand us, than you will also find out:

„Pulsotronic - Here is the solution.“

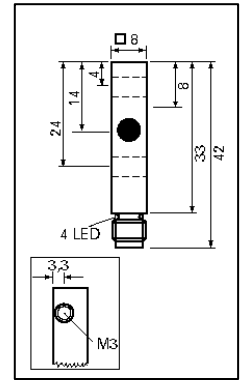
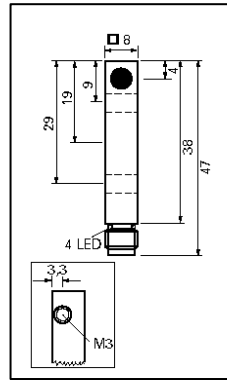
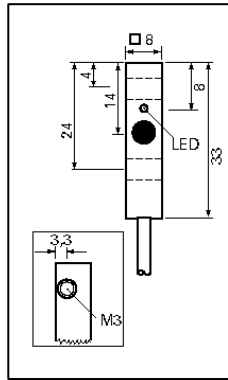
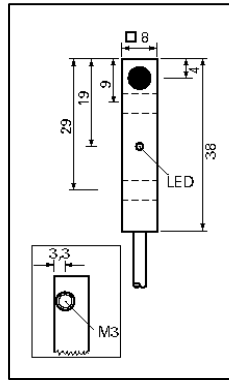


K J 10 - M 30 M B 45 - D P S - V1 - X0000
T T T T T T T T T T T T
1 2 3 4 5 6 7 8 9 10 11 12

1= Working principle:	J	inductive	JR	inductive ring
			JF	inductive surface
			JG	inductive slot
			JD	full metal
	C	capacitive		
	M	magneto-resistive		
2= Switching distance / range				
3= Design:	M	cylindrical housings with metrical thread		
	G	cylindrical housings without thread		
	Q	square housings		
	D	ring housings		
4=Housing diameter / edge length				
5= Housing material:	M	brass, nickel plated	11= Kind of Connection:	V1 M8 screw / snap in
	E	stainless steel 1.4305		V2 M12 metal
	K	plastic		V2/1 M12 plastic
	A	aluminium		V3 M5 metal
				V4 Amphenol Tuchel
6= installation type:	B	shielded		V6 Brad Harrison
	N	non shielded		V7 valve connector type A
7= Tube length:		for cylindrical devices in mm		V8 M8 only snap in
				V9 M12 only snap in
8= Operating voltage:	D	DC direct-current voltage		V10 valve connector type C
	AZ	AC alternating-current voltage		V11 AC-connector 1/2" UNF
	VZ	AC/DC all voltages		V12 M18 plastic
				VE Euchner connector
9= Type of the output signal:	P	PNP		ZW termination box 90°
	N	NPN		RS232 data interface
	AN	analog	ANI	current output
			ANU	voltage output
	NA	Namur		PG thread joint PG
				Mxx thread joint metrical
				more at inquiry
10= Function:	S	N.O.		
	Ö	N.C.		
	A	changeover		
	U	switchable		
	I	impulse output		
	D	data interface		
12= Addition mark:	SF	weld field immune		
	T	high temperature		
	FE	reduction 1 to steel/iron		
	NF	reduction 1 to aluminium		
	X	customized design		
	W	angled sensing face / angled cable exit		
	AM	middle sensing face		

Proximity switch - Connection pictures

wiring diagrams	cable- / clampconnection	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 DIN 19234		
DZS DC 2-wire N.O.		
DZÖ DC 2-wire N.C.		
AZS / VZS AC/DC 2-wire N.O.		
AZÖ / VZÖ AC/DC 2-wire N.C.		
Analog		



Switching Distance
Mounting

2,0 mm
Shielded

2,0 mm
Shielded

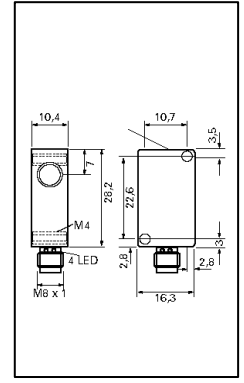
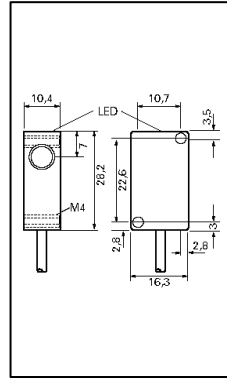
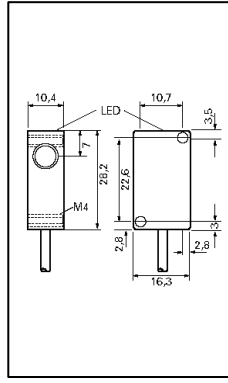
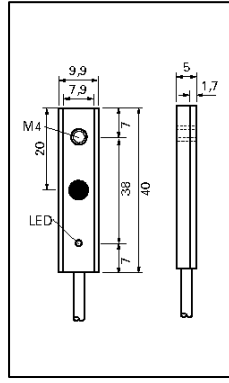
2,0 mm
Shielded

2,0 mm
Shielded

	Type	Type	Type	Type
PNP Normally Open	KJ2-Q8AB-DPS	KJ2-Q8AB-DPS-AM	KJ2-Q8AB-DPS-V1	KJ2-Q8AB-DPS-V1-AM
PNP Normally Close	KJ2-Q8AB-DPÖ	KJ2-Q8AB-DPÖ-AM	KJ2-Q8AB-DPÖ-V1	KJ2-Q8AB-DPÖ-V1-AM
NPN Normally Open				
NPN Normally Close				
PNP Changeover				
NPN Changeover				
Operating Voltage U_b	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Ripple Voltage U_b	$\leq 10 \%$	$\leq 10 \%$	$\leq 10 \%$	10 %
Voltage Drop U_d	$\leq 3,0 \text{ V}$	$\leq 3,0 \text{ V}$	$\leq 3,0 \text{ V}$	$\leq 3,0 \text{ V}$
Max. Load Current I_e	200 mA	200 mA	200 mA	200 mA
Off-State Current I_o	$\leq 15 \text{ mA}$	$\leq 15 \text{ mA}$	$\leq 15 \text{ mA}$	$\leq 15 \text{ mA}$
Leakge Current I_r	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$
Switching Frequency f	1000 Hz	1000 Hz	1000 Hz	1000 Hz
Hysteresis H	$\leq 15 \%$ (Sr)	$\leq 15 \%$ (Sr)	$\leq 15 \%$ (Sr)	$\leq 15 \%$ (Sr)
Operating Temperature T_a	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C
Temperature Drift	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)
Repeat Accuracy R	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)
Protection Class	IP 67	IP 67	IP 67	IP 67
Switching State	LED	LED	LED	LED
EMC-Standard	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2
Housing Material	Aluminium	Aluminium	Aluminium	Aluminium
Front Cap	PA 6.6	PA 6.6	PA 6.6	PA 6.6
Termination	Cable 3 x 0,14	Cable 3 x 0,14	M8 3-pol. Connector	M8 3-pol. Connector

More special versions by separate inquiries!

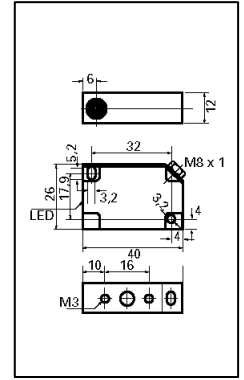
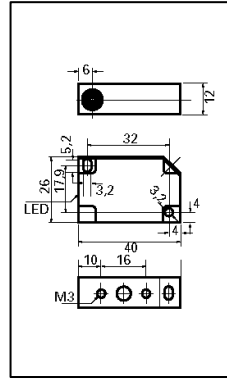
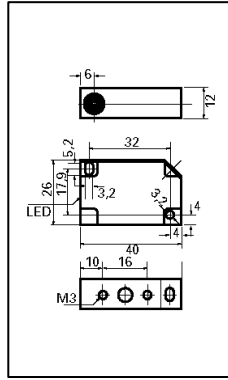
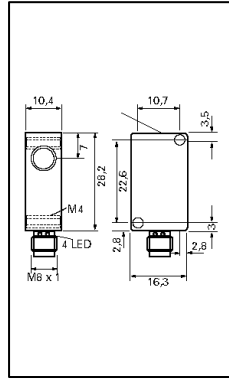
Connection and Termination picture at page 3.



Switching Distance	2,0 mm	2,0 mm	4,0 mm	2,0 mm
Mounting	Shielded	Shielded	Non - Shielded	Shielded
	Type	Type	Type	Type
PNP Normally Open	KJ2-Q9,9AB-DPS	KJ2-Q28KB-DPS	KJ4-Q28KN-DPS	KJ2-Q28KB-DPS-V1
PNP Normally Close	KJ2-Q9,9AB-DPÖ	KJ2-Q28KB-DPÖ	KJ4-Q28KN-DPÖ	KJ2-Q28KB-DPÖ-V1
NPN Normally Open				
NPN Normally Close				
PNP Changeover				
NPN Changeover				
Operating Voltage U_b	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Ripple Voltage U_b	$\leq 10 \%$	$\leq 10 \%$	$\leq 10 \%$	10 %
Voltage Drop U_d	$\leq 3,0 \text{ V}$	$\leq 3,0 \text{ V}$	$\leq 3,0 \text{ V}$	$\leq 3,0 \text{ V}$
Max. Load Current I_e	200 mA	200 mA	200 mA	200 mA
Off-State Current I_o	$\leq 15 \text{ mA}$	$\leq 15 \text{ mA}$	$\leq 15 \text{ mA}$	$\leq 15 \text{ mA}$
Leakge Current I_r	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$
Switching Frequency f	1000 Hz	400 Hz	400 Hz	400 Hz
Hysteresis H	$\leq 15 \%$ (Sr)	$\leq 15 \%$ (Sr)	$\leq 15 \%$ (Sr)	$\leq 15 \%$ (Sr)
Operating Temperature T_a	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C
Temperature Drift	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)
Repeat Accuracy R	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)
Protection Class	IP 67	IP 67	IP 67	IP 67
Switching State	LED	LED	LED	LED
EMC-Standard	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2
Housing Material	Aluminium	Polycarbonate	Polycarbonate	Polycarbonate
Front Cap	PA 6.6	-	-	-
Termination	Cable 3 x 0,14	Cable 3 x 0,14	Cable 3 x 0,14	M8 3-pol. Connector

More special versions by separate inquiries!

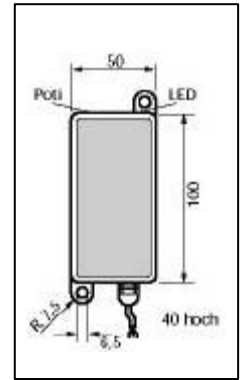
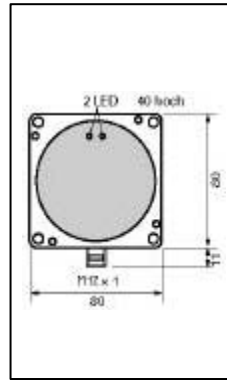
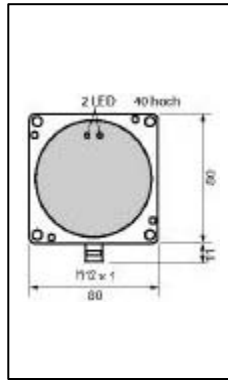
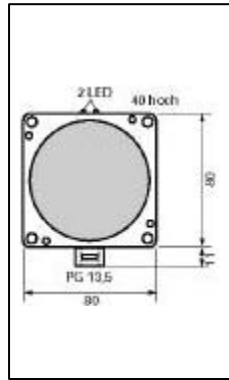
Connection and Termination picture at page 3.



Switching Distance	4,0 mm	2,0 mm	4,0 mm	2,0 mm
Mounting	Non - Shielded	Shielded	Non - Shielded	Shielded
	Type	Type	Type	Type
PNP Normally Open	KJ4-Q28KN-DPS-V1	KJ2-Q12KB-DPS	KJ4-Q12KN-DPS	KJ2-Q12KB-DPS-V1
PNP Normally Close	KJ4-Q28KN-DPÖ-V1	KJ2-Q12KB-DPÖ	KJ4-Q12KN-DPÖ	KJ2-Q12KB-DPÖ-V1
NPN Normally Open		KJ2-Q12KB-DNS	KJ4-Q12KN-DNS	
NPN Normally Close				
PNP Changeover				
NPN Changeover				
Operating Voltage U_b	10 - 30 VDC	10 - 35 VDC	10 - 35 VDC	10 - 35 VDC
Ripple Voltage U_b	$\leq 10 \%$	$\leq 10 \%$	$\leq 10 \%$	10 %
Voltage Drop U_d	$\leq 3,0 \text{ V}$	$\leq 2,4 \text{ V}$	$\leq 2,4 \text{ V}$	$\leq 2,4 \text{ V}$
Max. Load Current I_e	200 mA	200 mA	200 mA	200 mA
Off-State Current I_o	$\leq 15 \text{ mA}$	$\leq 10 \text{ mA}$	$\leq 10 \text{ mA}$	$\leq 10 \text{ mA}$
Leakge Current I_r	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$
Switching Frequency f	400 Hz	1500 Hz	1000 Hz	1500 Hz
Hysteresis H	$\leq 15 \%$ (Sr)	$\leq 15 \%$ (Sr)	$\leq 15 \%$ (Sr)	$\leq 15 \%$ (Sr)
Operating Temperature T_a	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C
Temperature Drift	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)
Repeat Accuracy R	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)
Protection Class	IP 67	IP 67	IP 67	IP 67
Switching State	LED	LED	LED	LED
EMC-Standard	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2
Housing Material	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Front Cap	-	-	-	-
Termination	M8 3-pol. Connector	Cable 3 x 0,14	Cable 3 x 0,14	M8 3-pol. Connector

More special versions by separate inquiries!

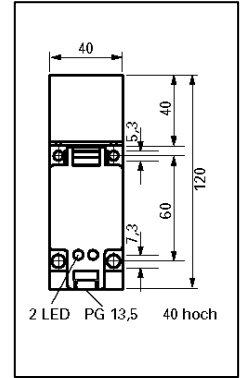
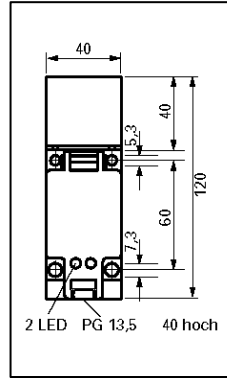
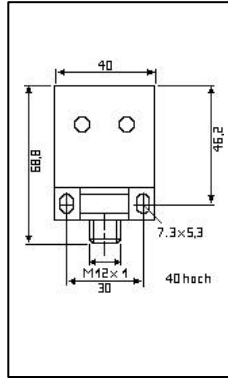
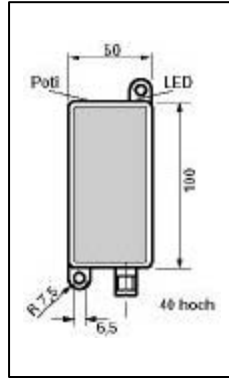
Connection and Termination picture at page 3.



Switching Distance	50,0 mm	40,0 mm	50,0 mm	70,0 mm
Mounting	Non - Shielded	Shielded	Non - Shielded	Non - Shielded
	Type	Type	Type	Type
PNP Normally Open				KJ70-Q100AN-DPS-F1
PNP Normally Close				
NPN Normally Open				KJ70-Q100AN-DNS-F1
NPN Normally Close				
PNP Changeover	KJ50-Q80KN-DPA	SJ40-Q80KB-DPA-V2	SJ50-Q80KN-DPA-V2	
NPN Changeover				
Operating Voltage U_b	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Ripple Voltage U_b	$\leq 10 \%$	$\leq 10 \%$	$\leq 10 \%$	10 %
Voltage Drop U_d	$\leq 2,4 \text{ V}$	$\leq 2,4 \text{ V}$	$\leq 2,4 \text{ V}$	$\leq 2,4 \text{ V}$
Max. Load Current I_e	200 mA	200 mA	200 mA	400 mA
Off-State Current I_o	$\leq 22 \text{ mA}$	$\leq 22 \text{ mA}$	$\leq 22 \text{ mA}$	$\leq 12 \text{ mA}$
Leakge Current I_r	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$
Switching Frequency f	100 Hz	100 Hz	100 Hz	300 Hz
Hysteresis H	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 15 \%$ (Sr)
Operating Temperature T_a	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C
Temperature Drift	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)
Repeat Accuracy R	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)
Protection Class	IP 67	IP 67	IP 67	IP 67
Switching State	LED	LED	LED	LED
EMC-Standard	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2
Housing Material	Polycarbonate	Polycarbonate	Polycarbonate	Aluminium
Front Cap	-	-	-	-
Termination	Cable 3 x 0,34	M12 4-pol. Connector	M12 4-pol. Connector	Cable 3 x 0,34

More special versions by separate inquiries!

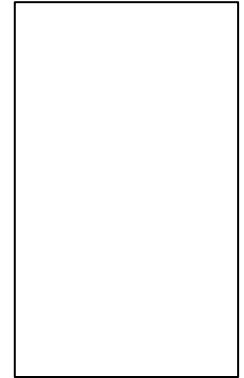
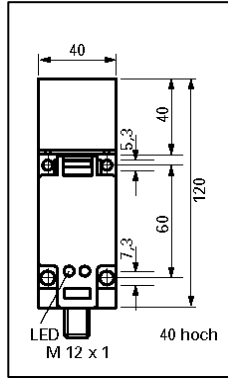
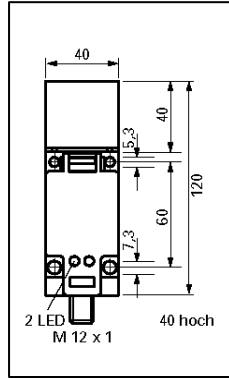
Connection and Termination picture at page 3.



Switching Distance	70,0 mm	15,0 mm	20,0 mm	20,0 mm
Mounting	Non - Shielded	Shielded	Shielded	Shielded
Type				
PNP Normally Open	KJ70-Q100AN-DPS-V2-F1			
PNP Normally Close				
NPN Normally Open	KJ70-Q100AN-DNS-V2-F1			
NPN Normally Close				
PNP Changeover		SJ15-Q40KB40-DPA-V2	KJ20-Q40KB-DPA	KJ20-Q40KB-DPA-V2
NPN Changeover			KJ20-Q40KB-DNA	KJ20-Q40KB-DNA-V2
Operating Voltage U_b	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Ripple Voltage U_b	$\leq 10 \%$	$\leq 10 \%$	$\leq 10 \%$	10 %
Voltage Drop U_d	$\leq 2,4 \text{ V}$	$\leq 1,5 \text{ V}$	$\leq 2,4 \text{ V}$	$\leq 2,4 \text{ V}$
Max. Load Current I_e	400 mA	200 mA	200 mA	200 mA
Off-State Current I_o	$\leq 12 \text{ mA}$	$\leq 10 \text{ mA}$	$\leq 15 \text{ mA}$	$\leq 15 \text{ mA}$
Leakge Current I_r	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$
Switching Frequency f	300 Hz	100 Hz	100 Hz	100 Hz
Hysteresis H	$\leq 15 \%$ (Sr)	$\leq 15 \%$ (Sr)	$\leq 20 \%$ (Sr)	$\leq 20 \%$ (Sr)
Operating Temperature T_a	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C	-25°C ... +70°C
Temperature Drift	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)
Repeat Accuracy R	$\leq 2 \%$ (Sr)	$\leq 1 \%$ (Sr)	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)
Protection Class	IP 67	IP 67	IP 67	IP 67
Switching State	LED	LED	LED	LED
EMC-Standard	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2
Housing Material	Aluminium	Polycarbonatet	Polycarbonate	Polycarbonate
Front Cap	-	PBT	-	-
Termination	M12 4-pol. Connector	M12 4-pol. Connector	Terminal 2,5 mm ²	M12 4-pol. Connector

More special versions by separate inquiries!

Connection and Termination picture at page 3.



Switching Distance	40,0 mm	40,0 mm		
Mounting	Non - Shielded	Non - Shielded		
	Type	Type		
PNP Normally Open				
PNP Normally Close				
NPN Normally Open				
NPN Normally Close				
PNP Changeover	KJ40-Q40KN-DPA	KJ40-Q40KN-DPA-V2		
NPN Changeover	KJ40-Q40KN-DNA	KJ40-Q40KN-DNA-V2		
Operating Voltage U_b	10 - 30 VDC	10 - 30 VDC		
Ripple Voltage U_b	$\leq 10 \%$	$\leq 10 \%$		
Voltage Drop U_d	$\leq 2,4 \text{ V}$	$\leq 2,4 \text{ V}$		
Max. Load Current I_e	200 mA	200 mA		
Off-State Current I_o	$\leq 15 \text{ mA}$	$\leq 15 \text{ mA}$		
Leakge Current I_r	$\leq 10 \mu\text{A}$	$\leq 10 \mu\text{A}$		
Switching Frequency f	100 Hz	100 Hz		
Hysteresis H	$\leq 20 \%$ (Sr)	$\leq 20 \%$ (Sr)		
Operating Temperature T_a	-25°C ... +70°C	-25°C ... +70°C		
Temperature Drift	$\leq 10 \%$ (Sr)	$\leq 10 \%$ (Sr)		
Repeat Accuracy R	$\leq 2 \%$ (Sr)	$\leq 2 \%$ (Sr)		
Protection Class	IP 67	IP 67		
Switching State	LED	LED		
EMC-Standard	IEC 60947-5-2	IEC 60947-5-2		
Housing Material	Polycarbonate	Polycarbonate		
Front Cap	-	-		
Termination	Terminal 2,5 mm ²	M12 4-pol. Connector		

More special versions by separate inquiries!

Connection and Termination picture at page 3.

Table of Contents

Type	Art-Nr.	Site	Type	Art-Nr.	Site
Q8			Q28		
KJ2-Q8AB-DPS	08310000475	4	KJ2-Q28KB-DPS	08310000042	5
KJ2-Q8AB-DPÖ	08310020475	4	KJ2-Q28KB-DPÖ	08310000437	5
KJ2-Q8AB-DPS-AM	08310000054	4	KJ2-Q28KB-DPS-V1	08310000608	5
KJ2-Q8AB-DPÖ-AM	08310000074	4	KJ2-Q28KB-DPÖ-V1	08310000632	5
KJ2-Q8AB-DPS-V1	08310000509	4	KJ4-Q28KN-DPS	08310000610	5
KJ2-Q8AB-DPÖ-V1	08310000409	4	KJ4-Q28KN-DPÖ	08310020076	5
KJ2-Q8AB-DPS-V1-AM	08310000369	4	KJ4-Q28KN-DPS-V1	08310000609	6
KJ2-Q8AB-DPÖ-V1-AM	08310021369	4	KJ4-Q28KN-DPÖ-V1	08310020184	6
Q9			Q40		
KJ2-Q9,9AB-DPS	08310000208	5	SJ15-Q40KB40-DPA-V2	08313401551	10
KJ2-Q9,9AB-DPÖ	08310000544	5	KJ20-Q40KB-DPA	08310002040	10
Q12			KJ20-Q40KB-DNA	08310004040	10
KJ2-Q12KB-DPS	08317613000	6	KJ20-Q40KB-DPA-V2	08310000038	11
KJ2-Q12KB-DPÖ	08317613400	6	KJ20-Q40KB-DNA-V2	08310021138	11
KJ2-Q12KB-DNS	08317613100	6	KJ40-Q40KN-DPA	08310020327	10
KJ2-Q12KB-DPS-V1	08317613064	6	KJ40-Q40KN-DNA	08310000050	10
KJ2-Q12KB-DPÖ-V1	08317613464	6	KJ40-Q40KN-DPA-V2	08310000039	11
KJ4-Q12KN-DPS	08317613200	6	KJ40-Q40KN-DNA-V2	08310021139	11
KJ4-Q12KN-DPÖ	08317613600	6	Q50		
KJ4-Q12KN-DNS	08317613300	6	KJ40-Q50AB-DPS	08317070900	8
KJ4-Q12KN-DPS-V1	08317613264	7	KJ40-Q50AB-DNS	08317070100	8
KJ4-Q12KN-DPÖ-V1	08317613664	7	KJ40-Q50AB-DPS-V2	08317070965	8
Q25			KJ40-Q50AB-DNS-V2	08317070165	8
KJ5-Q25KB-DPS	08310000772	7	Q80		
KJ5-Q25KB-DPÖ	08310020772	7	KJ40-Q80KB-DPA	08317651100	8
KJ8-Q25KN-DPS	08310000056	7	SJ40-Q80KB-DPA-V2	08317651165	9
KJ8-Q25KN-DPÖ	08310000348	7	KJ50-Q80KN-DPA	08317651000	9
KJ5-Q25KB-DPS-V1	08310000203	7	SJ50-Q80KN-DPA-V2	08317651065	9
KJ5-Q25KB-DPÖ-V1	08310000472	7	Q100		
KJ8-Q25KN-DPS-V1	08310000508	8	KJ70-Q100AN-DPS-F1	08316090100	9
KJ8-Q25KN-DPÖ-V1	08310020508	8	KJ70-Q100AN-DNS-F1	08317090300	9
			KJ70-Q100AN-DPS-V2-F1	08317090165	10
			KJ70-Q100AN-DNS-V2-F1	08317090365	10