

Special-Sensors for Automation



DESF
Inductive Sensors



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Linking your system



Inductive Proximity Sensors

Inductive proximity sensors are essential to modern applications in the field of industrial automation. Compared to mechanical proximity switches, inductive sensors offer several advantages: Non-contact and non-abrasion working, high switching frequency, and high accuracy. Besides, the units are resistant to shake, dust, and damp. Mostly common application: Position recognition in automation procedure. Inductive proximity sensors can detect all kinds of metals.



Inductive Proximity Sensors

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High temperature 125 °C

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Series A4TS-125 - Proximity Sensors

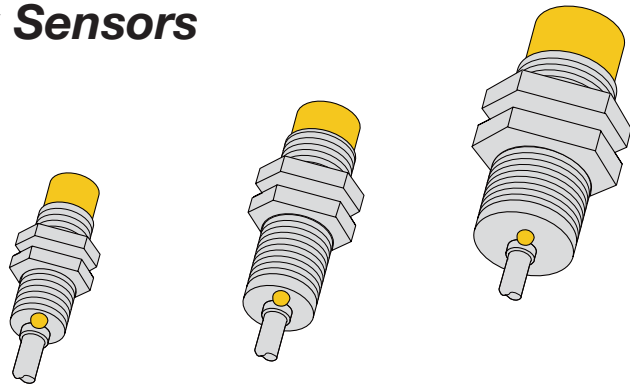
M12 / M18 / M30

DC 10...30 V

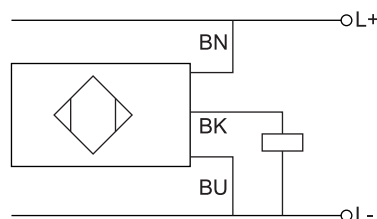
PNP DC-3-Wire

temperature range

-25 °C ... +125 °C



Design	DC PNP M12x1		DC PNP M18x1		DC PNP M30x1.5	
Dimensions						
Installation flush (f) non flush (nf)						
Operating distance sn [mm]	2 f		5 f		10 f	
Switching output PNP						
ID-No.	DF4001	DF4002	DF4003	DF4004	DF4005	DF4006
Type	A4TS-M12-P2-125 A4TS-M12-P4-125		A4TS-M18-P5-125 A4TS-M18-P8-125		A4TS-M30-P10-125 A4TS-M30-P15-125	
Supply voltage [V]	10...30 DC					
Switching current [mA]	200					
Short circuit proof	•					
Reverse protection	•					
Voltage drop max. [V]	2					
Current consumption [mA]	4					
Switching frequency [Hz]	500					
Ambient temperature [°C]	-25...+125					
EMC-class	A					
Protection [EN 60529]	IP 67					
LED display	•					
Housing material	AISI 316					
Connection	2 m PTFE 3x0.34 mm2					



High temperature 125 °C

Series A4TS-125 - Proximity Sensors

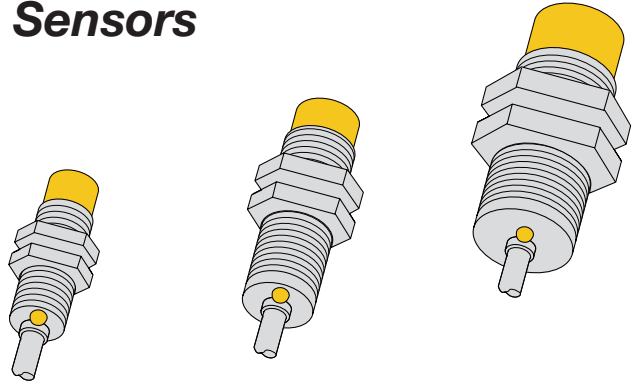
M12 / M18 / M30

DC 10...30 V

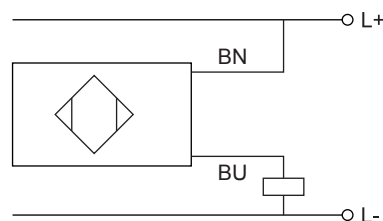
DC-2-Wire

temperature range

-25 °C ...+125 °C



Design	DC-2-Wire M12x1		DC-2-Wire M18x1		DC-2-Wire M30x1.5	
Dimensions						
Installation flush (f) non flush (nf)						
Operating distance sn [mm]	2 f	4 nf	5 f	8 nf	10 f	15 nf
Switching output PNP						
ID-No.	DF4007	DF4008	DF4009	DF4010	DF4011	DF4012
Type	A4TS-M12-D2-125	A4TS-M12-D4-125	A4TS-M18-D5-125	A4TS-M18-D8-125	A4TS-M30-D10-125	A4TS-M30-D15-125
Supply voltage [V]	10...30 DC					
Switching current [mA]	200					
Short circuit proof	•					
Reverse protection	•					
Voltage drop max. [V]	2					
Current consumption [mA]	4					
Switching frequency [Hz]	300					
Ambient temperature [°C]	-25...+125					
EMC-class	A					
Protection [EN 60529]	IP 67					
LED display	•					
Housing material	AISI 316					
Connection	2 m PTFE 3x0.34 mm2					



High temperature 125 °C

Series A4TS-125 - Proximity Sensors

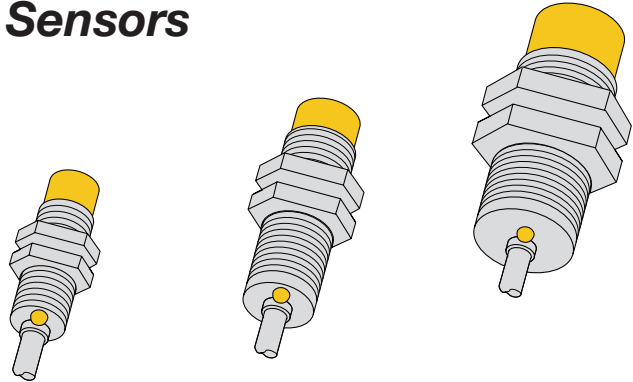
M18 / M30

AC 90...250 V

AC-2-Wire

temperature range

-25 °C ... +125 °C



Design	AC • M18x1		AC • M30x1.5	
Dimensions				
Installation flush (f) non flush (nf)				
Operating distance sn [mm]	5 f	8 nf	10 f	15 nf
Switching output				
ID-No.	DF4013	DF4014	DF4015	DF4016
Type	A4TS-M18-A5-125	A4TS-M18-A8-125	A4TS-M30-A10-125	A4TS-M30-A15-125
Supply voltage [V]	90...250 AC			
Switching current [mA]	200			
Short circuit proof	-			
Reverse protection	-			
Voltage drop max. [V]	5 eff.			
Minimum load current [mA]	5			
Current consumption [mA]	2.5			
Switching frequency [Hz]	25			
Ambient temperature [°C]	-25...+125			
EMC-class	A			
Protection [EN 60529]	IP 67			
LED display	•			
Housing material	AISI 316			
Connection	2 m PTFE 3x0.34 mm ²			

High temperature 180 °C

Series A4TS-180 - Proximity Sensors

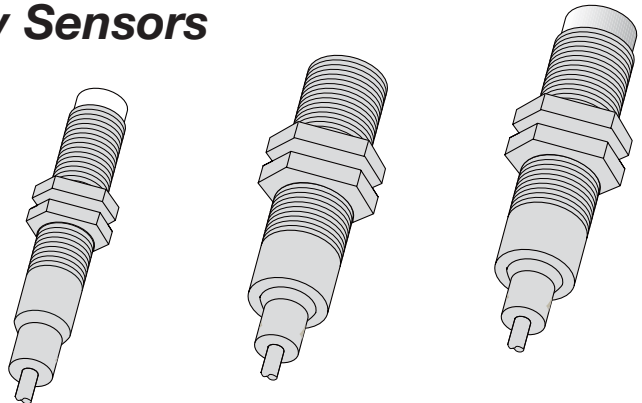
M18 / M30

DC 10...30 V

PNP DC-3-Wire

temperature range

-25 °C ...+180 °C



Design	DC PNP M18x1	DC PNP M30x1.5
Dimensions Installation flush (f) non flush (nf)		
Operating distance sn [mm]	5 f	10 f
Switching output PNP		
ID-No.	DF4017	DF4019
Type	A4TS-M18-P5-180	A4TS-M30-P10-180
Supply voltage [V]	10...30 DC	
Switching current [mA]	200	
Short circuit proof	•	
Reverse protection	•	
Voltage drop max. [V]	2	
Residual current max. [mA]	0.02	
Current consumption (not actuated) [mA]	7	
Switching frequency [Hz]	200	
Temperature deviation [%]	15	
Ambient temperature [°C]	-25...+180	
EMC-class	A	
Protection [EN 60529]	IP 67	
LED display	-	
Housing material	AISI 316	
Connection	2 m PTFE 3x0.34 mm ²	

High temperature 250 °C

Series A4TSL-250 - Proximity Sensors

M18 / M30

DC 10...30 V

PNP DC-3-Wire

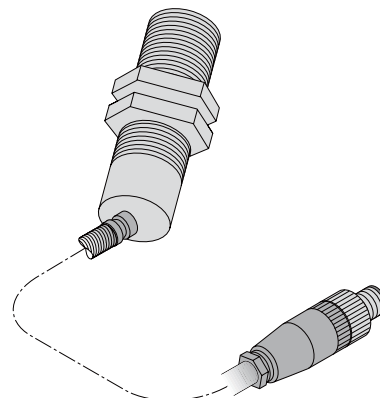
Armoured cable

With connector for

Cable amplifier and sensor

temperature range

0 °C ... +250 °C



Design	DC PNP M18x1		DC PNP M30x1.5	
Dimensions				
Installation non flush (nf)				
Operating distance sn [mm]	5 f		10 f	
Switching output PNP				
ID-No.	DF4021		DF4023	
Type	A4TSL-M18-P5-250		A4TSL-M30-P10-250	
Supply voltage [V]	10...30 DC			
Switching current [mA]	100			
Ambient temperature [°C]	0...+250			
Short circuit proof	-			
Reverse protection	-			
EMC-class	A			
Switching frequency [Hz]	30			
Protection [EN 60529]	IP 67			
Housing material	AISI 316			
Connection cable	2 m FEP-cable, Ø8 mm armoured cable			

Demanding environment

Series U4TS - Proximity Sensors

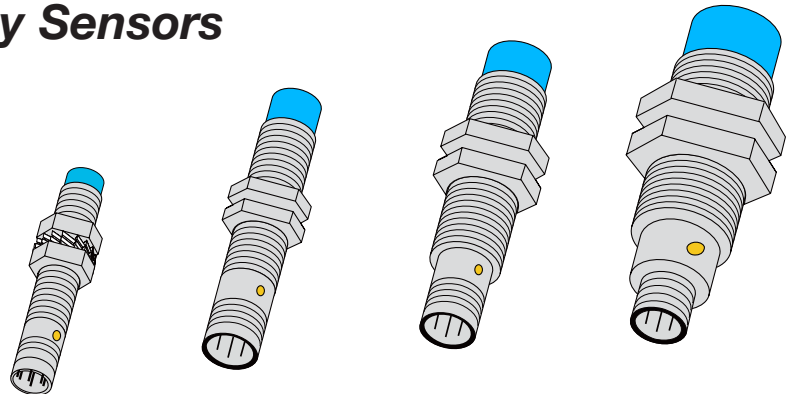
M12 / M18 / M30

DC 10...30 V

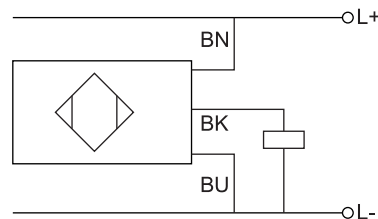
PNP DC-3-Wire

Increased EMC

M12 Connector



Design	DC PNP M12x1	DC PNP M18x1	DC PNP M30x1.5
Dimensions			
Installation flush (f) non flush (nf)	LED	LED	LED
Operating distance sn [mm]	2 f	4 nf	5 f
Switching output PNP			
ID-No.	DF4025	DF4026	DF4027
Type	U4TS-M12-P2-V	U4TS-M12-P4-V	U4TS-M18-P5-V
Supply voltage [V]	10...30 DC		
Switching current [mA]	200		
Short circuit proof	•		
Reverse protection	•		
Voltage drop max. [V]	2		
Current consumption [mA]	2.5		
Switching frequency [Hz]	500		
Ambient temperature [°C]	-25...+55		
EMC-class	A		
Protection [EN 60529]	IP 67		
LED display	•		
Housing material	Br-Ni		
Connection	M12 connector		



Demanding environment

Series U4TS - Proximity Sensors

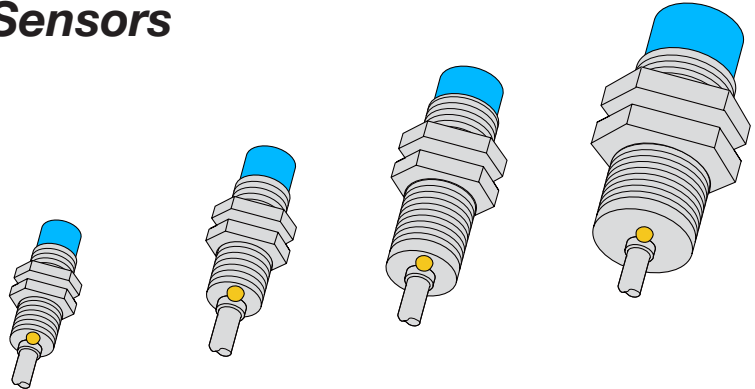
M12 / M18 / M30

DC 10...30 V

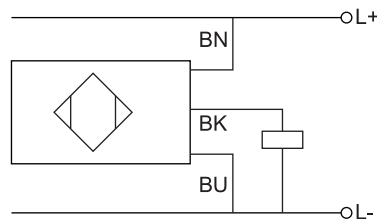
PNP DC-3-Wire

Increased EMC

M12 Connector



Design	DC PNP M12x1	DC PNP M18x1	DC PNP M30x1.5
Dimensions			
Installation flush (f) non flush (nf)	LED	LED	LED
Operating distance sn [mm]	2 f	4 nf	5 f
Switching output PNP			
ID-No.	DF4031	DF4032	DF4033
Type	U4TS-M12-P2	U4TS-M12-P4	U4TS-M18-P5
Supply voltage [V]	10...30 DC		
Switching current [mA]	200		
Short circuit proof	•		
Reverse protection	•		
Voltage drop max. [V]	2		
Current consumption [mA]	2.5		
Switching frequency [Hz]	500		
Ambient temperature [°C]	-25...+55		
EMC-class	A		
Protection [EN 60529]	IP 67		
LED display	•		
Housing material	Br-Ni		
Connection	2 m PVC-cable 3x0.34 mm2		



Demanding environment

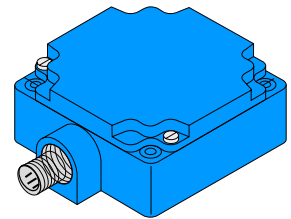
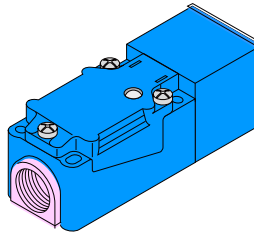
Series R4TS-E40 - Proximity Sensors

40*40 mm

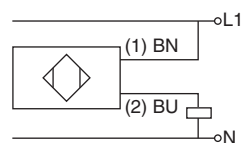
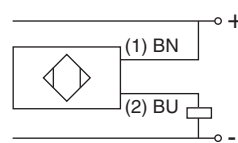
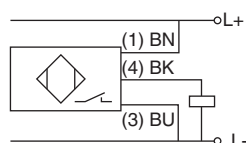
PNP / DC-2 / AC-2

Sensing range adjustable

Increased EMC



Design	PNP	DC-2	AC-2
Dimensions 40*40 Installation non flush (nf)			
Operating distance sn [mm]	25 f	25 f	25 f
Switching output PNP			
ID-No.	DF4060	DF4061	DF4062
Type	R4TS-E40-P25-V	R4TS-E40-D25-V	R4TS-E40-A25-V
Supply voltage [V]	10...30 DC	10...30 DC	90...250 DC
Switching current [mA]	100	200	400
Short circuit proof	•	•	•
Reverse protection	•	•	•
Voltage drop max. [V]	2	2	2
Current consumption [mA]	2.5	2.5	2.5
Switching frequency [Hz]	200	200	20
Ambient temperature [°C]	-25...+55	-25...+55	-25...+55
EMC-class	A	A	A
Protection [EN 60529]	IP 67	IP 67	IP 67
LED display	•	•	•
Housing material	PBT	PBT	PBT
Connection	Terminal connection	Terminal connection	Terminal connection



Demanding environment

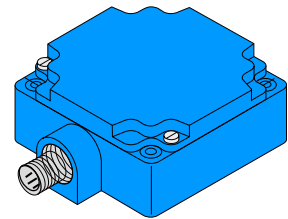
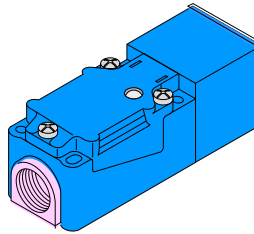
Series R4TS-E80 - Proximity Sensors

80*80 mm

PNP / DC-2 / AC-2

Sensing range adjustable

Increased EMC



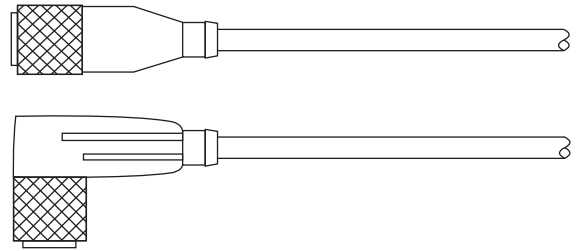
Design	PNP	DC-2	AC-2
Dimensions 80*80 Installation non flush (nf)			
Operating distance sn [mm]	40 f	40 f	40 f
Switching output PNP			
ID-No.	DF4063	DF4064	DF4065
Type	R4TS-E80-P40-V	R4TS-E80-D40-V	R4TS-E80-A40-V
Supply voltage [V]	10...30 DC	10...30 DC	90...250 DC
Switching current [mA]	100	200	400
Short circuit proof	•	•	•
Reverse protection	•	•	•
Voltage drop max. [V]	2	2	2
Current consumption [mA]	2.5	2.5	2.5
Switching frequency [Hz]	200	200	20
Ambient temperature [°C]	-25...+55	-25...+55	-25...+55
EMC-class	A	A	A
Protection [EN 60529]	IP 67	IP 67	IP 67
LED display	•	•	•
Housing material	PBT	PBT	PBT
Connection	Terminal connection	Terminal connection	Terminal connection

Inductive Sensors

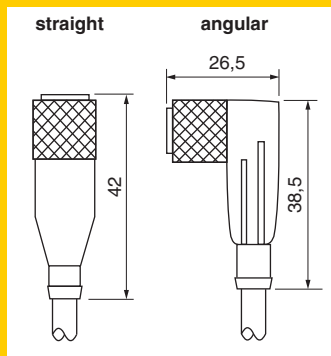
Accessories • M12 connector

Series SP/SPL-M12

Finished cable plug housing
Self locking screw plug
IP 67



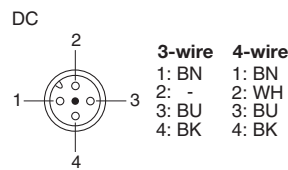
Cable plug housing



SP-M12

SPL-M12

Pin-assignment



TYPE

DESIGN

SP-M12-3-2M	Cable plug housing straight, 2 m cable 3x0.34 mm ² max. 250 V / 4 A
SP-M12-3-5M	Cable plug housing straight, 5 m cable 3x0.34 mm ² max. 250 V / 4 A
SPL-M12-3-2M	Cable plug housing angular, 2 m cable 3x0.34 mm ² max. 250 V / 4 A
SPL-M12-3-5M	Cable plug housing angular, 5 m cable 3x0.34 mm ² max. 250 V / 4 A
SPL-M12-3-LED-2M	Cable plug housing angular, 2 m cable 3x0.34 mm ² max. 250 V / 4 A PNP with LED
SP-M12-3-2M	Cable plug housing straight, 2 m cable 4x0.34 mm ² max. 250 V / 4 A
SP-M12-3-5M	Cable plug housing straight, 5 m cable 4x0.34 mm ² max. 250 V / 4 A
SPL-M12-3-2M	Cable plug housing angular, 2 m cable 4x0.34 mm ² max. 250 V / 4 A
SPL-M12-3-5M	Cable plug housing angular, 5 m cable 4x0.34 mm ² max. 250 V / 4 A
SPL-M12-3-LED-2M	Cable plug housing angular, 2 m cable 4x0.34 mm ² max. 250 V / 4 A PNP with LED



DESF-Elektronik Sensors Gmbh

Add: Str.16 , DE-91300 , Munich Germany

Tel : +49 77203806 - 0

Fax: +49 77203715 - 0



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