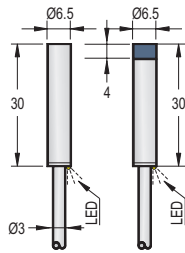


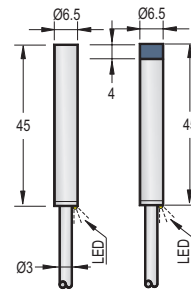


Features

- Ø6.5mm diameter
- Sn=1mm,shielded
2mm,non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO,NC,NO+NC Function
- Cable version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1BC6.5C01A	C1BD6.5C02A	C1BE6.5C01A	C1BF6.5C02A
	NPN-NC	C1BC6.5D01A	C1BD6.5D02A	C1BE6.5D01A	C1BF6.5D02A
	PNP-NO	C1BC6.5A01A	C1BD6.5A02A	C1BE6.5A01A	C1BF6.5A02A
	PNP-NC	C1BC6.5B01A	C1BD6.5B02A	C1BE6.5B01A	C1BF6.5B02A
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1NC6.5C01A	C1ND6.5C02A	C1NE6.5C01A	C1NF6.5C02A
	NPN-NC	C1NC6.5D01A	C1ND6.5D02A	C1NE6.5D01A	C1NF6.5D02A
	PNP-NO	C1NC6.5A01A	C1ND6.5A02A	C1NE6.5A01A	C1NF6.5A02A
	PNP-NC	C1NC6.5B01A	C1ND6.5B02A	C1NE6.5B01A	C1NF6.5B02A
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	Ø6.5mm		Ø6.5mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	Ø6.5mm		Ø6.5mm	
Installation type				
Sensing distance(Sn: mm)	1mm	2mm	1mm	2mm
Standard sensing object	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC		10 ... 30VDC	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	10mA		10mA	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

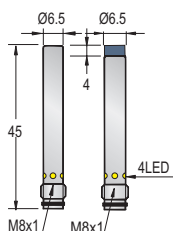
Mechanical Data

Sensing surface material	POB		POB	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	2m PVC cable (Ø3 3x0.15mm ²)		2m PVC cable (Ø3 3x0.15mm ²)	
Weight	Approx. 36g/35g		Approx. 40g/38g	

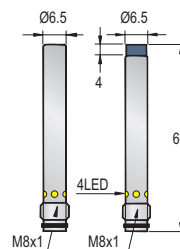


Features

- Ø6.5mm diameter
- Sn=1mm,shielded
2mm,non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO,NC,NO+NC Function
- M8 connector version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1BC6.5C01F	C1BD6.5C02F	C1BE6.5C01F	C1BF6.5C02F
	NPN-NC	C1BC6.5D01F	C1BD6.5D02F	C1BE6.5D01F	C1BF6.5D02F
	PNP-NO	C1BC6.5A01F	C1BD6.5A02F	C1BE6.5A01F	C1BF6.5A02F
	PNP-NC	C1BC6.5B01F	C1BD6.5B02F	C1BE6.5B01F	C1BF6.5B02F
	NPN-NO+NC				
PNP-NO+NC					
PBT Case	NPN-NO	C1NC6.5C01F	C1ND6.5C02F	C1NE6.5C01F	C1NF6.5C02F
	NPN-NC	C1NC6.5D01F	C1ND6.5D02F	C1NE6.5D01F	C1NF6.5D02F
	PNP-NO	C1NC6.5A01F	C1ND6.5A02F	C1NE6.5A01F	C1NF6.5A02F
	PNP-NC	C1NC6.5B01F	C1ND6.5B02F	C1NE6.5B01F	C1NF6.5B02F
	NPN-NO+NC				
	PNP-NO+NC				

General Data

Housing size	Ø6.5mm		Ø6.5mm	
Installation type	Shielded	Non-shielded	Shielded	Non-shielded
Sensing distance(Sn: mm)	1mm	2mm	1mm	2mm
Standard sensing object	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC		10 ... 30VDC	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	10mA		10mA	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

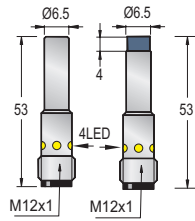
Mechanical Data

Sensing surface material	POB		POB	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	Pico-style 3 Pin M8 Connector		Pico-style 3 Pin M8 Connector	
Weight	Approx. 14g		Approx. 15g	

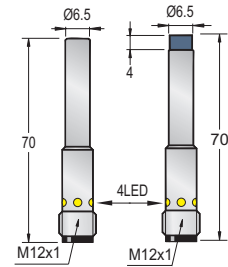


Features

- Ø6.5mm diameter
- Sn=1mm, shielded
2mm, non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO, NC, NO+NC Function
- M12 connector version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1BC6.5C01H	C1BD6.5C02H	C1BE6.5C01H	C1BF6.5C02H
	NPN-NC	C1BC6.5D01H	C1BD6.5D02H	C1BE6.5D01H	C1BF6.5D02H
	PNP-NO	C1BC6.5A01H	C1BD6.5A02H	C1BE6.5A01H	C1BF6.5A02H
	PNP-NC	C1BC6.5B01H	C1BD6.5B02H	C1BE6.5B01H	C1BF6.5B02H
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1NC6.5C01H	C1ND6.5C02H	C1NE6.5C01H	C1NF6.5C02H
	NPN-NC	C1NC6.5D01H	C1ND6.5D02H	C1NE6.5D01H	C1NF6.5D02H
	PNP-NO	C1NC6.5A01H	C1ND6.5A02H	C1NE6.5A01H	C1NF6.5A02H
	PNP-NC	C1NC6.5B01H	C1ND6.5B02H	C1NE6.5B01H	C1NF6.5B02H
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	Ø6.5mm		Ø6.5mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	Ø6.5mm		Ø6.5mm	
Installation type				
Sensing distance(Sn: mm)	1mm	2mm	1mm	2mm
Standard sensing object	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC		10 ... 30VDC	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	10mA		10mA	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

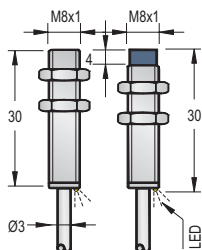
Mechanical Data

Sensing surface material	POB		POB	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	Euro-style 4 Pin M12 Connector		Euro-style 4 Pin M12 Connector	
Weight	Approx. 20g		Approx. 25g	

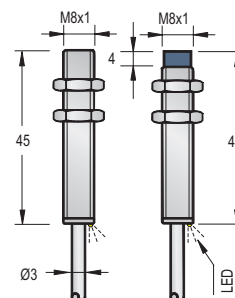


Features

- M8mm diameter
- Sn=1mm, shielded
2mm, non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO, NC, NO+NC Function
- Cable version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1AC08C01A	C1AD08C02A	C1AC08C01A	C1AD08C02A
	NPN-NC	C1AC08D01A	C1AD08D02A	C1AC08D01A	C1AD08D02A
	PNP-NO	C1AC08A01A	C1AD08A02A	C1AC08A01A	C1AD08A02A
	PNP-NC	C1AC08B01A	C1AD08B02A	C1AC08B01A	C1AD08B02A
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1MC08C01A	C1MD08C02A	C1MC08C01A	C1MD08C02A
	NPN-NC	C1MC08D01A	C1MD08D02A	C1MC08D01A	C1MD08D02A
	PNP-NO	C1MC08A01A	C1MD08A02A	C1MC08A01A	C1MD08A02A
	PNP-NC	C1MC08B01A	C1MD08B02A	C1MC08B01A	C1MD08B02A
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	M8mm		M8mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	M8mm		M8mm	
Installation type				
Sensing distance(Sn: mm)	1mm	2mm	1mm	2mm
Standard sensing object	Steel 8x8x1mm	Steel 8x8x1mm	Steel 8x8x1mm	Steel 8x8x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC		10 ... 30VDC	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	10mA		10mA	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

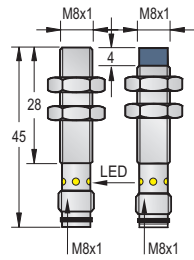
Mechanical Data

Sensing surface material	POB		POB	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	2m PVC cable (Ø3 3x0.15mm ²)		2m PVC cable (Ø3 3x0.15mm ²)	
Weight	Approx. 36g/35g		Approx. 40g/38g	

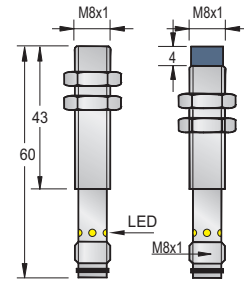


Features

- M8mm diameter
- Sn=1mm, shielded
2mm, non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO, NC, NO+NC Function
- M8 connector version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1AC08C01F	C1AD08C02F	C1AE08C01F	C1AF08C02F
	NPN-NC	C1AC08D01F	C1AD08D02F	C1AE08D01F	C1AF08D02F
	PNP-NO	C1AC08A01F	C1AD08A02F	C1AE08A01F	C1AF08A02F
	PNP-NC	C1AC08B01F	C1AD08B02F	C1AE08B01F	C1AF08B02F
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1MC08C01F	C1MD08C02F	C1ME08C01F	C1MF08C02F
	NPN-NC	C1MC08D01F	C1MD08D02F	C1ME08D01F	C1MF08D02F
	PNP-NO	C1MC08A01F	C1MD08A02F	C1ME08A01F	C1MF08A02F
	PNP-NC	C1MC08B01F	C1MD08B02F	C1ME08B01F	C1MF08B02F
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	M8mm		M8mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	M8mm		M8mm	
Installation type				
Sensing distance(Sn: mm)	1mm	2mm	1mm	2mm
Standard sensing object	Steel 8x8x1mm	Steel 8x8x1mm	Steel 8x8x1mm	Steel 8x8x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC		10 ... 30VDC	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	10mA		10mA	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

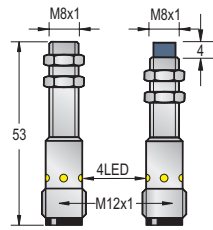
Mechanical Data

Sensing surface material	POB		POB	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	Pico-style 3 Pin M8 connector		Pico-style 3 Pin M8 connector	
Weight	Approx. 13g/11g		Approx. 15g/12g	

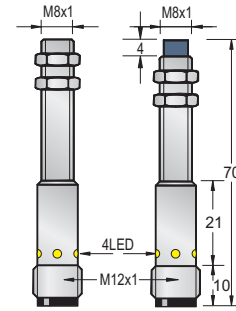


Features

- M8mm diameter
- Sn=1mm, shielded
2mm, non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO, NC, NO+NC Function
- M8 connector version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1AC08C01H	C1AD08C02H	C1AE08C01H	C1AF08C02H
	NPN-NC	C1AC08D01H	C1AD08D02H	C1AE08D01H	C1AF08D02H
	PNP-NO	C1AC08A01H	C1AD08A02H	C1AE08A01H	C1AF08A02H
	PNP-NC	C1AC08B01H	C1AD08B02H	C1AE08B01H	C1AF08B02H
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1MC08C01H	C1MD08C02H	C1ME08C01H	C1MF08C02H
	NPN-NC	C1MC08D01H	C1MD08D02H	C1ME08D01H	C1MF08D02H
	PNP-NO	C1MC08A01H	C1MD08A02H	C1ME08A01H	C1MF08A02H
	PNP-NC	C1MC08B01H	C1MD08B02H	C1ME08B01H	C1MF08B02H
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	M8mm		M8mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	M8mm		M8mm	
Installation type				
Sensing distance(Sn: mm)	1mm	2mm	1mm	2mm
Standard sensing object	Steel 8x8x1mm	Steel 8x8x1mm	Steel 8x8x1mm	Steel 8x8x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC		10 ... 30VDC	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	10mA		10mA	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

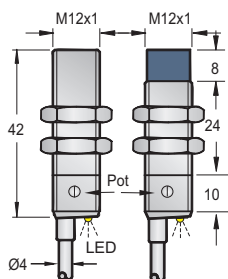
Mechanical Data

Sensing surface material	POB		POB	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	Euro-style 4 Pin M12 connector		Euro-style 4 Pin M12 connector	
Weight	Approx. 18g/17g		Approx. 23g/22g	

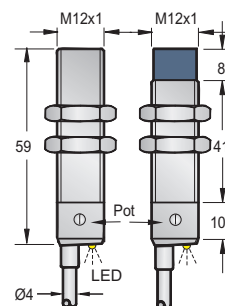


Features

- M12mm diameter
- Sn=1 ... 3mm, shielded
2 ... 6mm, non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO, NC, NO+NC Function
- Cable version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1AC12C03A	C1AD12C06A	C1AE12C03A	C1AF12C06A
	NPN-NC	C1AC12D03A	C1AD12D06A	C1AE12D03A	C1AF12D06A
	PNP-NO	C1AC12A03A	C1AD12A06A	C1AE12A03A	C1AF12A06A
	PNP-NC	C1AC12B03A	C1AD12B06A	C1AE12B03A	C1AF12B06A
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1MC12C03A	C1MD12C06A	C1ME12C03A	C1MF12C06A
	NPN-NC	C1MC12D03A	C1MD12D06A	C1ME12D03A	C1MF12D06A
	PNP-NO	C1MC12A03A	C1MD12A06A	C1ME12A03A	C1MF12A06A
	PNP-NC	C1MC12B03A	C1MD12B06A	C1ME12B03A	C1MF12B06A
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	M12mm		M12mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	M12mm		M12mm	
Installation type				
Sensing distance(Sn: mm)	1...3mm adjustable	2...6mm adjustable	1...3mm adjustable	2...6mm adjustable
Standard sensing object	Steel 12x12x1mm	Steel 18x18x1mm	Steel 12x12x1mm	Steel 18x18x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC		10 ... 30VDC	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	10mA		10mA	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

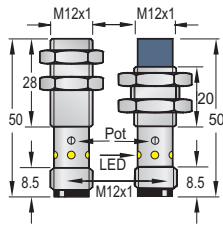
Mechanical Data

Sensing surface material	PBT		PBT	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	2m PVC cable (Ø4 3x0.34mm ²)		2m PVC cable (Ø4 3x0.34mm ²)	
Weight	Approx. 60g/58g		Approx. 66g/65g	

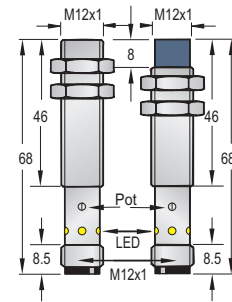


Features

- M12mm diameter
- Sn=1 ... 3mm, shielded
2 ... 6mm, non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO, NC, NO+NC Function
- M12 Connector version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1AC12C03H	C1AD12C06H	C1AE12C03H	C1AF12C06H
	NPN-NC	C1AC12D03H	C1AD12D06H	C1AE12D03H	C1AF12D06H
	PNP-NO	C1AC12A03H	C1AD12A06H	C1AE12A03H	C1AF12A06H
	PNP-NC	C1AC12B03H	C1AD12B06H	C1AE12B03H	C1AF12B06H
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1MC12C03H	C1MD12C06H	C1ME12C03H	C1MF12C06H
	NPN-NC	C1MC12D03H	C1MD12D06H	C1ME12D03H	C1MF12D06H
	PNP-NO	C1MC12A03H	C1MD12A06H	C1ME12A03H	C1MF12A06H
	PNP-NC	C1MC12B03H	C1MD12B06H	C1ME12B03H	C1MF12B06H
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	M12mm		M18mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	M12mm		M18mm	
Installation type				
Sensing distance(Sn: mm)	1...3mm adjustable	2...6mm adjustable	1...3mm adjustable	2...6mm adjustable
Standard sensing object	Steel 12x12x1mm	Steel 18x18x1mm	Steel 12x12x1mm	Steel 18x18x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC		10 ... 30VDC	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	10mA		10mA	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

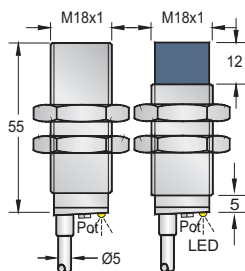
Mechanical Data

Sensing surface material	PBT		PBT	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	Euro-style 4 Pin M12 Connector		Euro-style 4 Pin M12 Connector	
Weight	Approx. 60g/58g		Approx. 66g/65g	

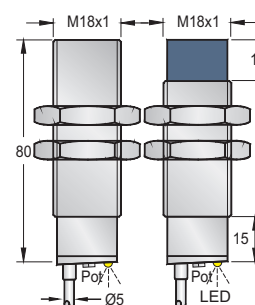


Features

- M18mm diameter
- Sn=2 ... 8mm, shielded
2 ... 15mm, non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO, NC, NO+NC Function
- Cable version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1AC18C08A	C1AD18C15A	C1AE18C08A	C1AF18C15A
	NPN-NC	C1AC18D08A	C1AD18D15A	C1AE18D08A	C1AF18D15A
	PNP-NO	C1AC18A08A	C1AD18A15A	C1AE18A08A	C1AF18A15A
	PNP-NC	C1AC18B08A	C1AD18B15A	C1AE18B08A	C1AF18B15A
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1MC18C08A	C1MD18C15A	C1ME18C08A	C1MF18C15A
	NPN-NC	C1MC18D08A	C1MD18D15A	C1ME18D08A	C1MF18D15A
	PNP-NO	C1MC18A08A	C1MD18A15A	C1ME18A08A	C1MF18A15A
	PNP-NC	C1MC18B08A	C1MD18B15A	C1ME18B08A	C1MF18B15A
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	M18mm		M18mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	M18mm		M18mm	
Installation type	Shielded	Non-shielded	Shielded	Non-shielded
Sensing distance(Sn: mm)	2...8mm adjustable	2...15mm adjustable	2...8mm adjustable	2...15mm adjustable
Standard sensing object	Steel 24x24x1mm	Steel 45x45x1mm	Steel 24x24x1mm	Steel 45x45x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC(55Vdc can also be customized)		10 ... 30VDC(55Vdc can also be customized)	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	10mA		10mA	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

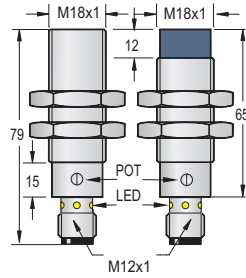
Mechanical Data

Sensing surface material	PBT		PBT	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	2m PVC cable (Ø5 3x0.5mm ² /4x0.5mm ²)		2m PVC cable (Ø5 3x0.5mm ² /4x0.5mm ²)	
Weight	Approx. 110g/115g		Approx. 153g/144g	

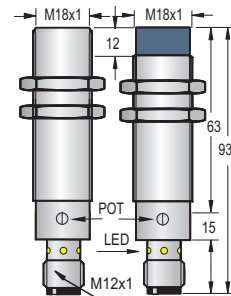


Features

- M18mm diameter
- Sn=2 ... 8mm, shielded
2 ... 15mm, non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO, NC, NO+NC Function
- M12 connector version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1AC18C08H	C1AD18C15H	C1AE18C08H	C1AF18C15H
	NPN-NC	C1AC18D08H	C1AD18D15H	C1AE18D08H	C1AF18D15H
	PNP-NO	C1AC18A08H	C1AD18A15H	C1AE18A08H	C1AF18A15H
	PNP-NC	C1AC18B08H	C1AD18B15H	C1AE18B08H	C1AF18B15H
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1MC18C08H	C1MD18C15H	C1ME18C08H	C1MF18C15H
	NPN-NC	C1MC18D08H	C1MD18D15H	C1ME18D08H	C1MF18D15H
	PNP-NO	C1MC18A08H	C1MD18A15H	C1ME18A08H	C1MF18A15H
	PNP-NC	C1MC18B08H	C1MD18B15H	C1ME18B08H	C1MF18B15H
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	M18mm		M18mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	M18mm		M18mm	
Installation type				
Sensing distance(Sn: mm)	2...8mm adjustable	2...15mm adjustable	2...8mm adjustable	2...15mm adjustable
Standard sensing object	Steel 24x24x1mm	Steel 45x45x1mm	Steel 24x24x1mm	Steel 45x45x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC(55Vdc can also be customized)		10 ... 30VDC(55Vdc can also be customized)	

Electrical Data

	M18mm		M18mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	10mA		10mA	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

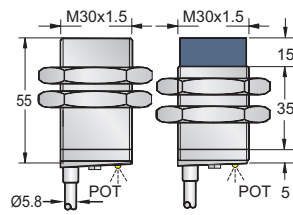
Mechanical Data

	M18mm		M18mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Sensing surface material	PBT		PBT	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	Euro-style 4 Pin M12 Connector		Euro-style 4 Pin M12 Connector	
Weight	Approx. 94g/48g		Approx. 94g/48g	

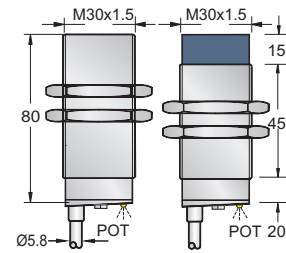


Features

- M30mm diameter
- Sn=2 ... 20mm, shielded
2 ... 30mm, non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO, NC, NO+NC Function
- Cable version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1AC30C20A	C1AD30C30A	C1AE30C20A	C1AF30C30A
	NPN-NC	C1AC30D20A	C1AD30D30A	C1AE30D20A	C1AF30D30A
	PNP-NO	C1AC30A20A	C1AD30A30A	C1AE30A20A	C1AF30A30A
	PNP-NC	C1AC30B20A	C1AD30B30A	C1AE30B20A	C1AF30B30A
	NPN-NO+NC				
PNP-NO+NC					
PBT Case	NPN-NO	C1MC30C20A	C1MD30C30A	C1ME30C20A	C1MF30C30A
	NPN-NC	C1MC30D20A	C1MD30D30A	C1ME30D20A	C1MF30D30A
	PNP-NO	C1MC30A20A	C1MD30A30A	C1ME30A20A	C1MF30A30A
	PNP-NC	C1MC30B20A	C1MD30B30A	C1ME30B20A	C1MF30B30A
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	M30mm		M30mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	M30mm		M30mm	
Installation type	Shielded	Non-shielded	Shielded	Non-shielded
Sensing distance(Sn: mm)	2...20mm adjustable	2...30mm adjustable	2...20mm adjustable	2...30mm adjustable
Standard sensing object	Steel 60x60x1mm	Steel 90x90x1mm	Steel 60x60x1mm	Steel 90x90x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC(55Vdc can also be customized)		10 ... 30VDC(55Vdc can also be customized)	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	<10mA		<10mA	
Max. Load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

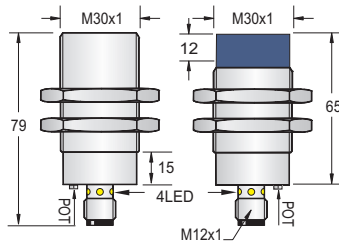
Mechanical Data

Sensing surface material	PBT		PBT	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	2m PVC cable (Ø5 3x0.5mm ² /4x0.5mm ²)		2m PVC cable (Ø5 3x0.5mm ² /4x0.5mm ²)	
Weight	Approx. 217g/207g		Approx. 231g/219g	

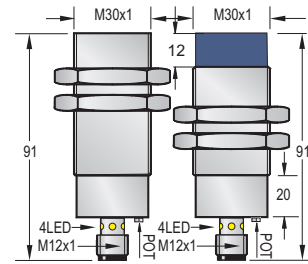


Features

- M30mm diameter
- Sn=2 ... 20mm, shielded
2 ... 30mm, non-shielded
- Brass housing case
PBT housing case
- Short circuit protection
Overload protection
Reverse-polarity protection
- NPN, PNP Output
- NO, NC, NO+NC Function
- M12 Connector version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO	C1AC30C20H	C1AD30C30H	C1AE30C20H	C1AF30C30H
	NPN-NC	C1AC30D20H	C1AD30D30H	C1AE30D20H	C1AF30D30H
	PNP-NO	C1AC30A20H	C1AD30A30H	C1AE30A20H	C1AF30A30H
	PNP-NC	C1AC30B20H	C1AD30B30H	C1AE30B20H	C1AF30B30H
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1MC30C20H	C1MD30C30H	C1ME30C20H	C1MF30C30H
	NPN-NC	C1MC30D20H	C1MD30D30H	C1ME30D20H	C1MF30D30H
	PNP-NO	C1MC30A20H	C1MD30A30H	C1ME30A20H	C1MF30A30H
	PNP-NC	C1MC30B20H	C1MD30B30H	C1ME30B20H	C1MF30B30H
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	M30mm		M30mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	M30mm		M30mm	
Installation type	Shielded	Non-shielded	Shielded	Non-shielded
Sensing distance(Sn: mm)	2...20mm adjustable	2...30mm adjustable	2...20mm adjustable	2...30mm adjustable
Standard sensing object	Steel 60x60x1mm	Steel 90x90x1mm	Steel 60x60x1mm	Steel 90x90x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage	10 ... 30VDC(55Vdc can also be customized)		10 ... 30VDC(55Vdc can also be customized)	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	<10mA		<10mA	
Max. Load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

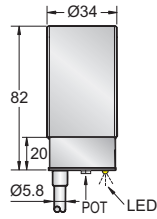
Mechanical Data

Sensing surface material	PBT		PBT	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	2 nuts		2 nuts	
Connection	Euro-style 4 Pin M12 Connector		Euro-style 4 Pin M12 Connector	
Weight	Approx. 187g/179g		Approx. 147g/137g	

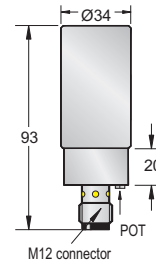


Features

- Ø34mm diameter
- Sn=2 ... 25mm, shielded
2 ... 35mm, non-shielded
- PBT housing case
- Short circuit protection
- Overload protection
- Reverse-polarity protection
- NPN, PNP Output
- NO, NC Function, NO+NC Function
- Cable connector version
Connector version
- IP67 protection



(Unit: mm)



(Unit: mm)

		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	NPN-NO				
	NPN-NC				
	PNP-NO				
	PNP-NC				
	NPN-NO+NC				
	PNP-NO+NC				
PBT Case	NPN-NO	C1NC34C25A	C1ND34C35A	C1NE34C25H	C1NF34C35H
	NPN-NC	C1NC34D25A	C1ND34D35A	C1NE34D25H	C1NF34D35H
	PNP-NO	C1NC34A25A	C1ND34A35A	C1NE34A25H	C1NF34A35H
	PNP-NC	C1NC34B25A	C1ND34B35A	C1NE34B25H	C1NF34B35H
	NPN-NO+NC				
	PNP-NO+NC				

General Data

	Ø34mm		Ø34mm	
	Shielded	Non-shielded	Shielded	Non-shielded
Housing size	Ø34mm		Ø34mm	
Installation type				
Sensing distance(Sn: mm)	2 ... 25mm adjustable	2 ... 35mm adjustable	2 ... 25mm adjustable	2 ... 35mm adjustable
Standard sensing object	Steel 75x75x1mm	Steel 105x105x1mm	Steel 75x75x1mm	Steel 105x105x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)	0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis	<15%		<15%	
Housing material	PBT Resin		PBT Resin	
Operating voltage	10 ... 30VDC(55Vdc can also be customized)		10 ... 30VDC(55Vdc can also be customized)	

Electrical Data

Rated operating voltage	24VDC		24VDC	
Repeated accuracy	±10%		±10%	
Ripple	<10%		<10%	
No load current	<10mA/10 ... 30VDC, <20mA/10 ... 55VDC		<10mA/10 ... 30VDC, <20mA/10 ... 55VDC	
Max. Load current	200mA		200mA	
Leakage current	0.01mA		0.01mA	
Voltage drop	<2VDC	<2VDC	<2VDC	<2VDC
Switching frequency	100Hz	100Hz	100Hz	100Hz
Response time	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms	1.5ms/1.5ms
Rated insulation voltage	75VDC		75VDC	
Operating temperature	-25°C ... +70°C		-25°C ... +70°C	
Storage temperature	-40°C ... +80°C		-40°C ... +80°C	
Temperature drift	<10%		<10%	
Power indicator	No		No	
Function indicator	Yellow LED		Yellow LED	
Reverse polarity protection	Yes		Yes	
Short-circuit protection	Yes		Yes	
Overload trip point	220mA		220mA	
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4	

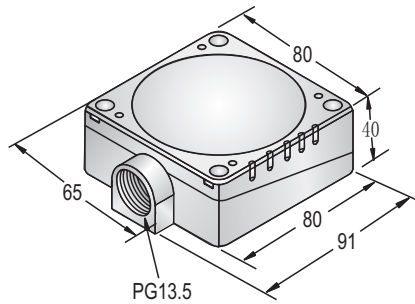
Mechanical Data

Sensing surface material	PBT		PBT	
Protection	IP67		IP67	
Shock rating	Shock, half-sinus, 30gn, 11ms		Shock, half-sinus, 30gn, 11ms	
Vibration rating	55Hz, 1mm ampl., 3x30min.		55Hz, 1mm ampl., 3x30min.	
EMC	IEC 60947-5-2		IEC 60947-5-2	
Accessory	/		/	
Connection	2m PVC Cable(Ø5.8 3x0.5mm ² /4x0.5mm ²)		Euro-style 4 Pin M12 Connector	
Weight	Approx. 251g		Approx. 162g	



Features

- 80x80x40mm diameter
- Sn=2 ... 40mm, shielded
2 ... 50mm, non-shielded
- ABS housing case
- Short circuit protection
- Overload protection
- Reverse-polarity protection
- NPN, PNP Output
- NO, NC Function, NO+NC Function
- PG connector version
- IP67 protection



(Unit: mm)

		Shielded	Non-shielded		
Brass Case	NPN-NO				
	NPN-NC				
	PNP-NO				
	PNP-NC				
	NPN-NO+NC				
	PNP-NO+NC				
ABS Case	NPN-NO	C1EE80C40T	C1EF80C50T		
	NPN-NC	C1EE80D40T	C1EF80D50T		
	PNP-NO	C1EE80A40T	C1EF80A50T		
	PNP-NC	C1EE80B40T	C1EF80B50T		
	NPN-NO+NC				
	PNP-NO+NC				

General Data					
Housing size	80x80x40mm				
Installation type	Shielded	Non-shielded			
Sensing distance(Sn: mm)	40mm	50mm			
Standard sensing object	Steel 120x120x1mm	Steel 150x150x1mm			
Effective sensing distance (Sr: mm)	90 ... 110% of Sn				
Assured operating distance(Sa: mm)	0 ... 80% of Sn				
Hysteresis	<15%				
Housing material	ABS Resin				
Operating voltage	10 ... 30VDC(55Vdc can also be customized)				
Electrical Data					
Rated operating voltage	24VDC				
Repeated accuracy	±10%				
Ripple	<10%				
No load current	<10mA/10 ... 30VDC, <20mA/10 ... 55VDC				
Max. Load current	200mA				
Leakage current	0.8mA				
Voltage drop	<2VDC	<2VDC			
Switching frequency	100Hz	100Hz			
Response time	1.5ms/1.5ms	1.5ms/1.5ms			
Rated insulation voltage	75VDC				
Operating temperature	-25°C ... +70°C				
Storage temperature	-40°C ... +80°C				
Temperature drift	<10%				
Power indicator	No				
Function indicator	Yellow LED				
Reverse polarity protection	Yes				
Short-circuit protection	Yes				
Overload trip point	220mA				
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/ copper approx. 0.4				
Mechanical Data					
Sensing surface material	ABS				
Protection	IP67				
Shock rating	Shock, half-sinus, 30gn, 11ms				
Vibration rating	55Hz, 1mm ampl., 3x30min.				
EMC	IEC 60947-5-2				
Accessory	/				
Connection	Cable Terminal with PG13.5 Connector				
Weight	Approx. 262g				