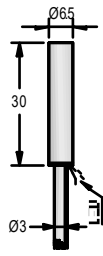




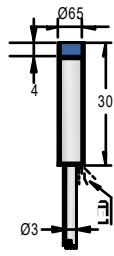
Features

- $\varnothing 6.5$ mm diameter
- Sn=1mm, 2mm, 3mm, shielded
2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- Cable version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 DC6.5C01A	L1 DC6.5C02A	L1 DC6.5C03A	L1 DD6.5C02A	L1 DD6.5C04A	L1 DD6.5C06A
	NPN-NC	L1 DC6.5D01A	L1 DC6.5D02A	L1 DC6.5D03A	L1 DD6.5D02A	L1 DD6.5D04A	L1 DD6.5D06A
	PNP-NO	L1 DC6.5A01A	L1 DC6.5A02A	L1 DC6.5A03A	L1 DD6.5A02A	L1 DD6.5A04A	L1 DD6.5A06A
	PNP-NC	L1 DC6.5B01A	L1 DC6.5B02A	L1 DC6.5B03A	L1 DD6.5B02A	L1 DD6.5B04A	L1 DD6.5B06A
	NPN-NO+NC						
	PNP-NO+NC						
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data

Housing size	$\varnothing 6.5$ mm			$\varnothing 6.5$ mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 9x9x1mm	Steel 6.5x6.5x1mm	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	Stainless steel			Stainless steel		
Operating voltage	10 ... 30 VDC			10 ... 30 VDC		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
Repeated accuracy	$\pm 10\%$			$\pm 10\%$		
Ripple	<10%			<10%		
No load current	10 mA			10 mA		
Max. Load current	200 mA			200 mA		
Leakage current	<0.01 mA			<0.01 mA		
Voltage drop	<1.5 VDC	<2.0 VDC	<2.0 VDC	<1.5 VDC	<2.0 VDC	<2.0 VDC
Switching frequency	2000 Hz	2000 Hz	1000 Hz	2000 Hz	1000 Hz	500 Hz
Response time	0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
Rated insulation voltage	75 VDC			75 VDC		
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	220 mA			220 mA		
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		

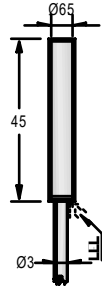
Mechanical Data

Sensing surface material	POM			POM		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30 gn, 11ms			Shock, half-sinus, 30 gn, 11ms		
Vibration rating	55 Hz, 1 mm ampl., 3x30 min.			55 Hz, 1 mm ampl., 3x30 min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	/			/		
Connection	2m PVC cable ($\varnothing 3 \times 0.15 \text{ mm}^2$)			2m PVC cable ($\varnothing 3 \times 0.15 \text{ mm}^2$)		
Weight	Approx. 36g			Approx. 36g		

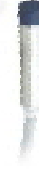
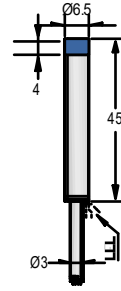
Features

- $\varnothing 6.5$ mm diameter
- Sn=1mm, 2mm, 3mm, shielded
2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- Cable version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 DE6.5C01A	L1 DE6.5C02A	L1 DE6.5C03A	L1 DF6.5C02A	L1 DF6.5C04A	L1 DF6.5C06A
	NPN-NC	L1 DE6.5D01A	L1 DE6.5D02A	L1 DE6.5D03A	L1 DF6.5D02A	L1 DF6.5D04A	L1 DF6.5D06A
	PNP-NO	L1 DE6.5A01A	L1 DE6.5A02A	L1 DE6.5A03A	L1 DF6.5A02A	L1 DF6.5A04A	L1 DF6.5A06A
	PNP-NC	L1 DE6.5B01A	L1 DE6.5B02A	L1 DE6.5B03A	L1 DF6.5B02A	L1 DF6.5B04A	L1 DF6.5B06A
	NPN-NO+NC						
	PNP-NO+NC						
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data

Housing size	$\varnothing 6.5$ mm			$\varnothing 6.5$ mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 9x9x1mm	Steel 6.5x6.5x1mm	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	Stainless steel			Stainless steel		
Operating voltage	10 ... 30 VDC			10 ... 30 VDC		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
Repeated accuracy	$\pm 10\%$			$\pm 10\%$		
Ripple	<10%			<10%		
No load current	10 mA			10 mA		
Max. Load current	200mA			200mA		
Leakage current	<0.01mA			<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	2000Hz	1000Hz	2000Hz	1000Hz	500Hz
Response time	0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
Rated insulation voltage	75 VDC			75 VDC		
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

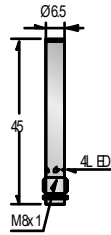
Sensing surface material	POM			POM		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30 gn, 11ms			Shock, half-sinus, 30 gn, 11ms		
Vibration rating	55 Hz, 1 mm ampl., 3x30min.			55 Hz, 1 mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	/			/		
Connection	2m PVC cable ($\varnothing 3 \times 0.15 \text{ mm}^2$)			2m PVC cable ($\varnothing 3 \times 0.15 \text{ mm}^2$)		
Weight	Approx. 37g			Approx. 37g		



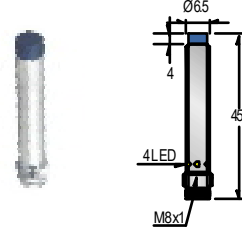
Features

- Ø6.5mm diameter
- Sn=1mm, 2mm, 3mm, shielded
- 2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- M8 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 DC6.5C01F	L1 DC6.5C02F	L1 DC6.5C03F	L1 DD6.5C02F	L1 DD6.5C04F	L1 DD6.5C06F
	NPN-NC	L1 DC6.5D01F	L1 DC6.5D02F	L1 DC6.5D03F	L1 DD6.5D02F	L1 DD6.5D04F	L1 DD6.5D06F
	PNP-NO	L1 DC6.5A01F	L1 DC6.5A02F	L1 DC6.5A03F	L1 DD6.5A02F	L1 DD6.5A04F	L1 DD6.5A06F
	PNP-NC	L1 DC6.5B01F	L1 DC6.5B02F	L1 DC6.5B03F	L1 DD6.5B02F	L1 DD6.5B04F	L1 DD6.5B06F
	NPN-NO+NC						
	PNP-NO+NC						
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

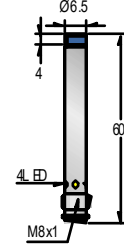
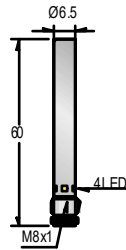
General Data						
Housing size	Ø6.5mm			Ø6.5mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 9x9x1mm	Steel 6.5x6.5x1mm	Steel 12x12x1mm	Steel 18x18x1mm
Effective sensing distance (Sr: mm)	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	Stainless steel			Stainless steel		
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	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	2000Hz	1000Hz	2000Hz	1000Hz	500Hz
Response time	0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
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	POM			POM		
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	3Pin M8 connector			3Pin M8 connector		
Weight	Approx. 15g			Approx. 15g		



Features

- Ø6.5mm diameter
- Sn=1mm, 2mm, 3mm, shielded
- 2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- M8 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



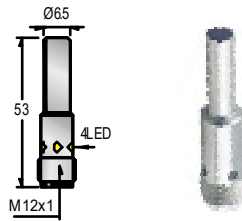
CE		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 DE6.5C01F	L1 DE6.5C02F	L1 DE6.5C03F	L1 DF6.5C02F	L1 DF6.5C04F	L1 DF6.5C06F
	NPN-NC	L1 DE6.5D01F	L1 DE6.5D02F	L1 DE6.5D03F	L1 DF6.5D02F	L1 DF6.5D04F	L1 DF6.5D06F
	PNP-NO	L1 DE6.5A01F	L1 DE6.5A02F	L1 DE6.5A03F	L1 DF6.5A02F	L1 DF6.5A04F	L1 DF6.5A06F
	PNP-NC	L1 DE6.5B01F	L1 DE6.5B02F	L1 DE6.5B03F	L1 DF6.5B02F	L1 DF6.5B04F	L1 DF6.5B06F
	NPN-NO+NC						
	PNP-NO+NC						
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						
General Data							
Housing size		Ø6.5mm			Ø6.5mm		
Installation type		Shielded			Non-shielded		
Sensing distance (Sn: mm)		1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object		Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 9x9x1mm	Steel 6.5x6.5x1mm	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		Stainless steel			Stainless steel		
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		<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency		2000Hz	2000Hz	1000Hz	2000Hz	1000Hz	500Hz
Response time		0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
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		POM			POM		
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		3Pin M8 connector			3Pin M8 connector		
Weight		Approx. 15g			Approx. 15g		



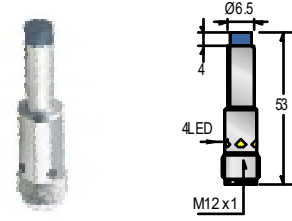
Features

- Ø6.5mm diameter
- Sn=1mm, 2mm, 3mm, shielded
- 2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 DC6.5C01H	L1 DC6.5C02H	L1 DC6.5C03H	L1 DD6.5C02H	L1 DD6.5C04H	L1 DD6.5C06H
	NPN-NC	L1 DC6.5D01H	L1 DC6.5D02H	L1 DC6.5D03H	L1 DD6.5D02H	L1 DD6.5D04H	L1 DD6.5D06H
	PNP-NO	L1 DC6.5A01H	L1 DC6.5A02H	L1 DC6.5A03H	L1 DD6.5A02H	L1 DD6.5A04H	L1 DD6.5A06H
	PNP-NC	L1 DC6.5B01H	L1 DC6.5B02H	L1 DC6.5B03H	L1 DD6.5B02H	L1 DD6.5B04H	L1 DD6.5B06H
	NPN-NO+NC						
Brass Case	PNP-NO+NC						
	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data

Housing size	Ø6.5mm			Ø6.5mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 9x9x1mm	Steel 6.5x6.5x1mm	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	Stainless steel			Stainless steel		
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	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	2000Hz	1000Hz	2000Hz	1000Hz	500Hz
Response time	0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
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

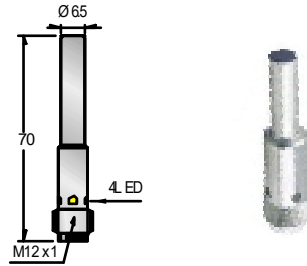
Sensing surface material	POM			POM		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	/			/		
Connection	4 Pin M12 connector			4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



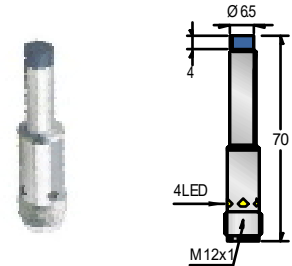
Features

- Ø6.5mm diameter
- Sn=1mm, 2mm, 3mm, shielded
2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 DE6.5C01H	L1 DE6.5C02H	L1 DE6.5C03H	L1 DF6.5C02H	L1 DF6.5C04H	L1 DF6.5C06H
	NPN-NC	L1 DE6.5D01H	L1 DE6.5D02H	L1 DE6.5D03H	L1 DF6.5D02H	L1 DF6.5D04H	L1 DF6.5D06H
	PNP-NO	L1 DE6.5A01H	L1 DE6.5A02H	L1 DE6.5A03H	L1 DF6.5A02H	L1 DF6.5A04H	L1 DF6.5A06H
	PNP-NC	L1 DE6.5B01H	L1 DE6.5B02H	L1 DE6.5B03H	L1 DF6.5B02H	L1 DF6.5B04H	L1 DF6.5B06H
	NPN-NO+NC						
Brass Case	PNP-NO+NC						
	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data

Housing size	Ø6.5mm			Ø6.5mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object	Steel 6.5x6.5x1mm	Steel 6.5x6.5x1mm	Steel 9x9x1mm	Steel 6.5x6.5x1mm	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	Stainless steel			Stainless steel		
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	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	2000Hz	1000Hz	2000Hz	1000Hz	500Hz
Response time	0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
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

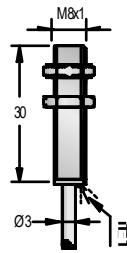
Sensing surface material	POM			POM		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	/			/		
Connection	4 Pin M12 connector			4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



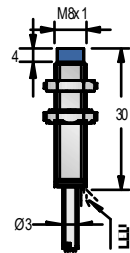
Features

- M8mm diameter
- Sn=1mm, 2mm, 3mm, shielded
2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- Cable version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 CC08C01A	L1 CC08C02A	L1 CC08C03A	L1 CD08C02A	L1 CD08C04A	L1 CD08C06A
	NPN-NC	L1 CC08D01A	L1 CC08D02A	L1 CC08D03A	L1 CD08D02A	L1 CD08D04A	L1 CD08D06A
	PNP-NO	L1 CC08A01A	L1 CC08A02A	L1 CC08A03A	L1 CD08A02A	L1 CD08A04A	L1 CD08A06A
	PNP-NC	L1 CC08B01A	L1 CC08B02A	L1 CC08B03A	L1 CD08B02A	L1 CD08B04A	L1 CD08B06A
	NPN-NO+NC						
	PNP-NO+NC						
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data

Housing size	M8mm			M8mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object	Steel 8x8x1mm	Steel 8x8x1mm	Steel 9x9x1mm	Steel 8x8x1mm	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	Stainless steel			Stainless steel		
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	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	1000Hz	500Hz	2000Hz	1000Hz	500Hz
Response time	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
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

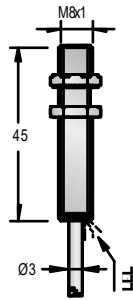
Sensing surface material	POM			POM		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	2 nuts			2 nuts		
Connection	2m PVC cable (Ø3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



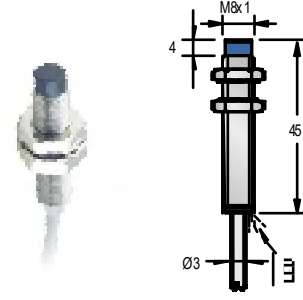
Features

- M8mm diameter
- Sn=1mm, 2mm, 3mm, shielded
2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- Cable version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 CE08 C01 A	L1 CE08 C02 A	L1 CE08 C03 A	L1 CF08C 02A	L1 CF08C 04A	L1 CF08C 06A
	NPN-NC	L1 CE08 D01 A	L1 CE08 D02 A	L1 CE08 D03 A	L1 CF08D 02A	L1 CF08D 04A	L1 CF08D 06A
	PNP-NO	L1 CE08 A01 A	L1 CE08 A02 A	L1 CE08 A03 A	L1 CF08A 02A	L1 CF08A 04A	L1 CF08A 06A
	PNP-NC	L1 CE08 B01 A	L1 CE08 B02 A	L1 CE08 B03 A	L1 CF08B 02A	L1 CF08B 04A	L1 CF08B 06A
	NPN-NO+NC						
	PNP-NO+NC						
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data

Housing size	M8 mm			M8 mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object	Steel 8x8x1mm	Steel 8x8x1mm	Steel 9x9x1mm	Steel 8x8x1mm	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	Stainless steel			Stainless steel		
Operating voltage	10 ... 30 VDC			10 ... 30 VDC		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
Repeated accuracy	±10%			±10%		
Ripple	<10%			<10%		
No load current	10 mA			10 mA		
Max. Load current	200mA			200mA		
Leakage current	<0.01mA			<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	1000Hz	500Hz	2000Hz	1000Hz	500Hz
Response time	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
Rated insulation voltage	75 VDC			75 VDC		
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

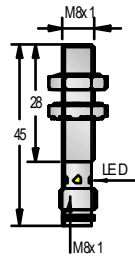
Sensing surface material	POM			POM		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	2 nuts			2 nuts		
Connection	2m PVC cable (Ø3 3x0.15mm ²)			2m PVC cable (Ø3 3x0.15mm ²)		
Weight	Approx. 4.7g			Approx. 4.7g		



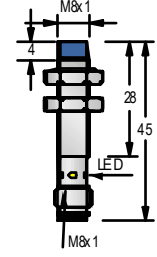
Features

- M8mm diameter
- Sn=1mm, 2mm, 3mm, shielded
2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- M8 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 CC08C01F	L1 CC08C02F	L1 CC08C03F	L1 CD08C02F	L1 CD08C04F	L1 CD08C06F
	NPN-NC	L1 CC08D01F	L1 CC08D02F	L1 CC08D03F	L1 CD08D02F	L1 CD08D04F	L1 CD08D06F
	PNP-NO	L1 CC08A01F	L1 CC08A02F	L1 CC08A03F	L1 CD08A02F	L1 CD08A04F	L1 CD08A06F
	PNP-NC	L1 CC08B01F	L1 CC08B02F	L1 CC08B03F	L1 CD08B02F	L1 CD08B04F	L1 CD08B06F
	NPN-NO+NC						
	PNP-NO+NC						
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data		Shielded			Non-shielded		
Housing size		M8 mm			M8 mm		
Installation type		Shielded			Non-shielded		
Sensing distance (Sn: mm)		1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object		Steel 8x8x1mm	Steel 8x8x1mm	Steel 9x9x1mm	Steel 8x8x1mm	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		Stainless steel			Stainless steel		
Operating voltage		10 ... 30 VDC			10 ... 30 VDC		

Electrical Data		Shielded			Non-shielded		
Rated operating voltage		24 VDC			24 VDC		
Repeated accuracy		±10%			±10%		
Ripple		<10%			<10%		
No load current		10 mA			10 mA		
Max. Load current		200mA			200mA		
Leakage current		<0.01mA			<0.01mA		
Voltage drop		<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency		2000Hz	1000Hz	500Hz	2000Hz	1000Hz	500Hz
Response time		0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
Rated insulation voltage		75 VDC			75 VDC		
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		

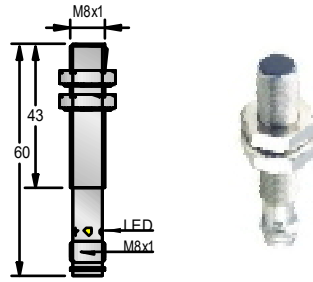
Mechanical Data		Shielded			Non-shielded		
Sensing surface material		POM			POM		
Protection		IP67			IP67		
Shock rating		Shock, half-sinus, 30 gn, 11ms			Shock, half-sinus, 30 gn, 11ms		
Vibration rating		55 Hz, 1 mm ampl., 3x30min.			55 Hz, 1 mm ampl., 3x30min.		
EMC		IEC 60947-5-2			IEC 60947-5-2		
Accessory		2 nuts			2 nuts		
Connection		3Pin M8 connector			3Pin M8 connector		
Weight		Approx. 12g			Approx. 12g		



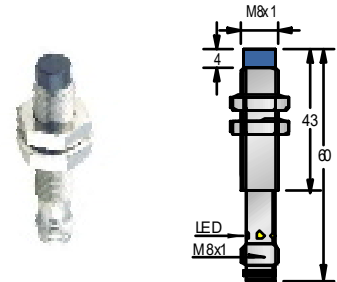
Features

- M8mm diameter
- Sn=1mm, 2mm, 3mm, shielded
2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- M8 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 CE08 C01 F	L1 CE08 C02 F	L1 CE08 C03 F	L1 CF08C 02F	L1 CF08C 04F	L1 CF08C 06F
	NPN-NC	L1 CE08 D01 F	L1 CE08 D02 F	L1 CE08 D03 F	L1 CF08D 02F	L1 CF08D 04F	L1 CF08D 06F
	PNP-NO	L1 CE08 A01 F	L1 CE08 A02 F	L1 CE08 A03 F	L1 CF08A 02F	L1 CF08A 04F	L1 CF08A 06F
	PNP-NC	L1 CE08 B01 F	L1 CE08 B02 F	L1 CE08 B03 F	L1 CF08B 02F	L1 CF08B 04F	L1 CF08B 06F
	NPN-NO+NC						
	PNP-NO+NC						
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data

Housing size	M8 mm			M8 mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object	Steel 8x8x1mm	Steel 8x8x1mm	Steel 9x9x1mm	Steel 8x8x1mm	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	Stainless steel			Stainless steel		
Operating voltage	10 ... 30 VDC			10 ... 30 VDC		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
Repeated accuracy	±10%			±10%		
Ripple	<10%			<10%		
No load current	10 mA			10 mA		
Max. Load current	200mA			200mA		
Leakage current	<0.01mA			<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	1000Hz	500Hz	2000Hz	1000Hz	500Hz
Response time	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
Rated insulation voltage	75 VDC			75 VDC		
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

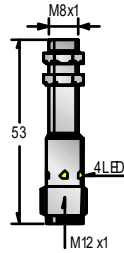
Sensing surface material	POM			POM		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	2 nuts			2 nuts		
Connection	3Pin M8 connector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



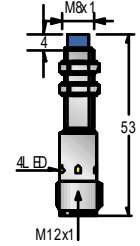
Features

- M8mm diameter
- Sn=1mm, 2mm, 3mm, shielded
2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 CC08C01H	L1 CC08C02H	L1 CC08C03H	L1 CD08C02H	L1 CD08C04H	L1 CD08C06H
	NPN-NC	L1 CC08D01H	L1 CC08D02H	L1 CC08D03H	L1 CD08D02H	L1 CD08D04H	L1 CD08D06H
	PNP-NO	L1 CC08A01H	L1 CC08A02H	L1 CC08A03H	L1 CD08A02H	L1 CD08A04H	L1 CD08A06H
	PNP-NC	L1 CC08B01H	L1 CC08B02H	L1 CC08B03H	L1 CD08B02H	L1 CD08B04H	L1 CD08B06H
	NPN-NO+NC						
	PNP-NO+NC						
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

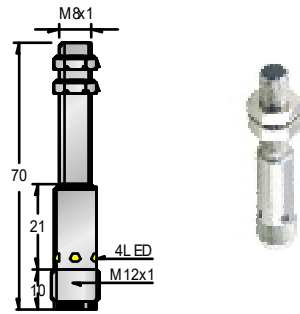
General Data						
Housing size	M8mm			M8mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object	Steel 8x8x1mm	Steel 8x8x1mm	Steel 9x9x1mm	Steel 8x8x1mm	Steel 12x12x1mm	Steel 18x18x1mm
Effective sensing distance (Sr: mm)	90 ... 110 % of Sn			90 ... 110 % of Sn		
Assured operating distance (Sa: mm)	0 ... 80% of Sn			0 ... 80% of Sn		
Hysteresis	< 15%			< 15%		
Housing material	Stainless steel			Stainless steel		
Operating voltage	10 ... 30VDC			10 ... 30VDC		
Electrical Data						
Rated operating voltage	24VDC			24VDC		
Repeated accuracy	±10%			±10%		
Ripple	< 10%			< 10%		
No load current	10 mA			10 mA		
Max. Load current	200mA			200mA		
Leakage current	<0.01mA			<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	1000Hz	500Hz	2000Hz	1000Hz	500Hz
Response time	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
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	POM			POM		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30 gn, 11ms			Shock, half-sinus, 30 gn, 11ms		
Vibration rating	55 Hz, 1 mm ampl., 3x30min.			55 Hz, 1 mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	2 nuts			2 nuts		
Connection	4 Pin M12 connector			4 Pin M12 connector		
Weight	Approx. 20g			Approx. 20g		



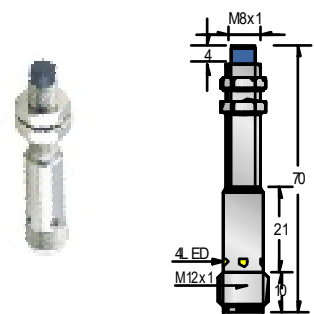
Features

- M8mm diameter
- Sn=1mm, 2mm, 3mm, shielded
2mm, 4mm, 6mm, non-shielded
- Stainless steel housing case
- NPN, PNP Output
- NO, NC Function
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Steel Case	NPN-NO	L1 CE08 C01 H	L1 CE08 C02 H	L1 CE08 C03 H	L1 CF08 C02 H	L1 CF08 C04 H	L1 CF08 C06 H
	NPN-NC	L1 CE08 D01 H	L1 CE08 D02 H	L1 CE08 D03 H	L1 CF08 D02 H	L1 CF08 D04 H	L1 CF08 D06 H
	PNP-NO	L1 CE08 A01 H	L1 CE08 A02 H	L1 CE08 A03 H	L1 CF08 A02 H	L1 CF08 A04 H	L1 CF08 A06 H
	PNP-NC	L1 CE08 B01 H	L1 CE08 B02 H	L1 CE08 B03 H	L1 CF08 B02 H	L1 CF08 B04 H	L1 CF08 B06 H
	NPN-NO+NC						
	PNP-NO+NC						
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data

Housing size	M8 mm			M8 mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm	2mm	4mm	6mm
Standard sensing object	Steel 8x8x1mm	Steel 8x8x1mm	Steel 9x9x1mm	Steel 8x8x1mm	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	Stainless steel			Stainless steel		
Operating voltage	10 ... 30 VDC			10 ... 30 VDC		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
Repeated accuracy	±10%			±10%		
Ripple	<10%			<10%		
No load current	10 mA			10 mA		
Max. Load current	200 mA			200 mA		
Leakage current	<0.01 mA			<0.01 mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	1000Hz	500Hz	2000Hz	1000Hz	500Hz
Response time	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms	0.1ms/0.1ms	0.2ms/0.2ms	0.5ms/0.5ms
Rated insulation voltage	75 VDC			75 VDC		
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	220 mA			220 mA		
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

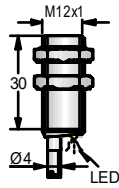
Sensing surface material	POM			POM		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30 gn, 11ms			Shock, half-sinus, 30 gn, 11ms		
Vibration rating	55 Hz, 1 mm ampl., 3x30 min.			55 Hz, 1 mm ampl., 3x30 min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	2 nuts			2 nuts		
Connection	4 Pin M12 connector			4 Pin M12 connector		
Weight	Approx. 25g			Approx. 25g		



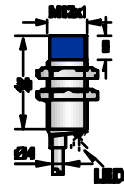
Features

- M12mm diameter
- Sn=2mm, 4mm, 6mm, shielded
4mm, 8mm, 10mm, non-shielded
- Nickel plated brass housing case
PBT Resin housing case
- NPN, PNP Output
- NO, NC Function
- Cable version
- Short circuit protection
Overload protection
Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AC12 C02 A	L1 AC12 C04 A	L1 AC12 C06 A	L1 AD12 C04 A	L1 AD12 C08 A	L1 AD12 C10 A
	NPN-NC	L1 AC12 D02 A	L1 AC12 D04 A	L1 AC12 D06 A	L1 AD12 D04 A	L1 AD12 D08 A	L1 AD12 D10 A
	PNP-NO	L1 AC12 A02 A	L1 AC12 A04 A	L1 AC12 A06 A	L1 AD12 A04 A	L1 AD12 A08 A	L1 AD12 A10 A
	PNP-NC	L1 AC12 B02 A	L1 AC12 B04 A	L1 AC12 B06 A	L1 AD12 B04 A	L1 AD12 B08 A	L1 AD12 B10 A
	NPN-NO+NC						
	PNP-NO+NC						
PBT Case	NPN-NO	L1 MC12 C02 A	L1 MC12 C04 A	L1 MC12 C06 A	L1 MD12 C04 A	L1 MD12 C08 A	L1 MD12 C10 A
	NPN-NC	L1 MC12 D02 A	L1 MC12 D04 A	L1 MC12 D06 A	L1 MD12 D04 A	L1 MD12 D08 A	L1 MD12 D10 A
	PNP-NO	L1 MC12 A02 A	L1 MC12 A04 A	L1 MC12 A06 A	L1 MD12 A04 A	L1 MD12 A08 A	L1 MD12 A10 A
	PNP-NC	L1 MC12 B02 A	L1 MC12 B04 A	L1 MC12 B06 A	L1 MD12 B04 A	L1 MD12 B08 A	L1 MD12 B10 A
	NPN-NO+NC						
	PNP-NO+NC						

General Data

Housing size	M12mm			M12mm		
Installation type	Shielded			Shielded		
Sensing distance (Sn: mm)	2mm	4mm	6mm	4mm	8mm	10mm
Standard sensing object	Steel 12x12x1mm	Steel 12x12x1mm	Steel 18x18x1mm	Steel 12x12x1mm	Steel 24x24x1mm	Steel 30x30x1mm
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 ... 30 VDC(55Vdc can also be customized)			10 ... 30 VDC(55Vdc can also be customized)		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
Repeated accuracy	±10%			±10%		
Ripple	<10%			<10%		
No load current	10 mA			10 mA		
Max. Load current	200mA			200mA		
Leakage current	<0.01mA			<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	1000Hz	800Hz	1000Hz	500Hz	400Hz
Response time	0.1ms/0.1ms	0.2ms/0.2ms	0.2ms/0.2ms	0.2ms/0.2ms	0.3ms/0.3ms	0.5ms/0.5ms
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

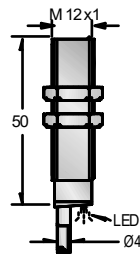
Sensing surface material	PBT			PBT		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	2 nuts			2 nuts		
Connection	2m PVC cable (Ø3.3x0.34mm ²)			2m PVC cable (Ø3.3x0.34mm ²)		
Weight	Approx. 62g			Approx. 62g		



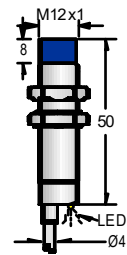
Features

- M12mm diameter
- Sn=2mm, 4mm, 6mm, shielded
4mm, 8mm, 10mm, non-shielded
- Nickel plated brass housing case
- PBT Resin housing case
- NPN, PNP Output
- NO, NC Function
- Cable version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AE12C02A	L1 AE12C04A	L1 AE12C06A	L1 AF12C04A	L1 AF12C08A	L1 AF12C10A
	NPN-NC	L1 AE12D02A	L1 AE12D04A	L1 AE12D06A	L1 AF12D04A	L1 AF12D08A	L1 AF12D10A
	PNP-NO	L1 AE12A02A	L1 AE12A04A	L1 AE12A06A	L1 AF12A04A	L1 AF12A08A	L1 AF12A10A
	PNP-NC	L1 AE12B02A	L1 AE12B04A	L1 AE12B06A	L1 AF12B04A	L1 AF12B08A	L1 AF12B10A
	NPN-NO+NC	L1 AE12F02A	L1 AE12F04A		L1 AF12F04A	L1 AF12F08A	
	PNP-NO+NC	L1 AE12E02A	L1 AE12E04A		L1 AF12E04A	L1 AF12E08A	
PBT Case	NPN-NO	L1 ME12C02A	L1 ME12C04A	L1 ME12C06A	L1 MF12C04A	L1 MF12C08A	L1 MF12C10A
	NPN-NC	L1 ME12D02A	L1 ME12D04A	L1 ME12D06A	L1 MF12D04A	L1 MF12D08A	L1 MF12D10A
	PNP-NO	L1 ME12A02A	L1 ME12A04A	L1 ME12A06A	L1 MF12A04A	L1 MF12A08A	L1 MF12A10A
	PNP-NC	L1 ME12B02A	L1 ME12B04A	L1 ME12B06A	L1 MF12B04A	L1 MF12B08A	L1 MF12B10A
	NPN-NO+NC	L1 ME12F02A	L1 ME12F04A		L1 MF12F04A	L1 MF12F08A	
	PNP-NO+NC	L1 ME12E02A	L1 ME12E04A		L1 MF12E04A	L1 MF12E08A	

General Data

Housing size	M12mm			M12mm		
Installation type	Shielded			Shielded		
Sensing distance (Sn: mm)	2mm	4mm	6mm	4mm	8mm	10mm
Standard sensing object	Steel 12x12x1mm	Steel 12x12x1mm	Steel 18x18x1mm	Steel 12x12x1mm	Steel 24x24x1mm	Steel 30x30x1mm
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 ... 30 VDC(55Vdc can also be customized)			10 ... 30 VDC(55Vdc can also be customized)		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
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	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	1000Hz	800Hz	1000Hz	500Hz	400Hz
Response time	0.1ms/0.1ms	0.2ms/0.2ms	0.2ms/0.2ms	0.2ms/0.2ms	0.3ms/0.3ms	0.5ms/0.5ms
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

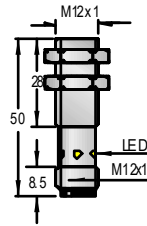
Sensing surface material	PBT	PBT
Protection	IP67	IP67
Shock rating	Shock, half-sinus, 30gn, 11ms	Shock, half-sinus, 30gn, 11ms
Vibration rating	55Hz, 1mm ampl., 3x30min.	55Hz, 1mm ampl., 3x30min.
EMC	IEC 60947-5-2	IEC 60947-5-2
Accessory	2 nuts	2 nuts
Connection	2m PVC cable (Ø4 3x0.34mm ² /4x0.34mm ²)	2m PVC cable (Ø4 3x0.34mm ² /4x0.34mm ²)
Weight	Approx. 67g	Approx. 67g



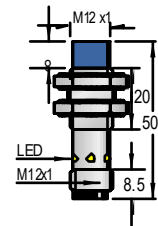
Features

- M12mm diameter
- Sn=2mm, 4mm, 6mm, shielded
4mm, 8mm, 10mm, non-shielded
- Nickel plated brass housing case
PBT Resin housing case
- NPN, PNP Output
- NO, NC Function
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AC12 C02H	L1 AC12 C04H	L1 AC12 C06H	L1 AD12 C04H	L1 AD12 C08H	L1 AD12 C10H
	NPN-NC	L1 AC12 D02H	L1 AC12 D04H	L1 AC12 D06H	L1 AD12 D04H	L1 AD12 D08H	L1 AD12 D10H
	PNP-NO	L1 AC12 A02H	L1 AC12 A04H	L1 AC12 A06H	L1 AD12 A04H	L1 AD12 A08H	L1 AD12 A10H
	PNP-NC	L1 AC12 B02H	L1 AC12 B04H	L1 AC12 B06H	L1 AD12 B04H	L1 AD12 B08H	L1 AD12 B10H
	NPN-NO+NC						
	PNP-NO+NC						
PBT Case	NPN-NO	L1 MC12 C02H	L1 MC12 C04H	L1 MC12 C06H	L1 MD12 C04H	L1 MD12 C08H	L1 MD12 C10H
	NPN-NC	L1 MC12 D02H	L1 MC12 D04H	L1 MC12 D06H	L1 MD12 D04H	L1 MD12 D08H	L1 MD12 D10H
	PNP-NO	L1 MC12 A02H	L1 MC12 A04H	L1 MC12 A06H	L1 MD12 A04H	L1 MD12 A08H	L1 MD12 A10H
	PNP-NC	L1 MC12 B02H	L1 MC12 B04H	L1 MC12 B06H	L1 MD12 B04H	L1 MD12 B08H	L1 MD12 B10H
	NPN-NO+NC						
	PNP-NO+NC						

General Data

Housing size	M12mm			M12mm		
Installation type	Shielded			Shielded		
Sensing distance (Sn: mm)	2mm	4mm	6mm	4mm	8mm	10mm
Standard sensing object	Steel 12x12x1mm	Steel 12x12x1mm	Steel 18x18x1mm	Steel 12x12x1mm	Steel 24x24x1mm	Steel 30x30x1mm
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 ... 30 VDC(55Vdc can also be customized)			10 ... 30 VDC(55Vdc can also be customized)		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
Repeated accuracy	±10%			±10%		
Ripple	<10%			<10%		
No load current	10 mA			10 mA		
Max. Load current	200mA			200mA		
Leakage current	<0.01mA			<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	1000Hz	800Hz	1000Hz	500Hz	400Hz
Response time	0.1ms/0.1ms	0.2ms/0.2ms	0.2ms/0.2ms	0.2ms/0.2ms	0.3ms/0.3ms	0.5ms/0.5ms
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

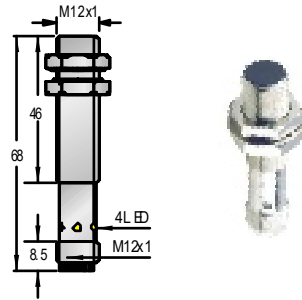
Sensing surface material	PBT	PBT
Protection	IP67	IP67
Shock rating	Shock, half-sinus, 30gn, 11ms	Shock, half-sinus, 30gn, 11ms
Vibration rating	55Hz, 1mm ampl., 3x30min.	55Hz, 1mm ampl., 3x30min.
EMC	IEC 60947-5-2	IEC 60947-5-2
Accessory	2 nuts	2 nuts
Connection	4 Pin M12 connector	4 Pin M12 connector
Weight	Approx. 25g	Approx. 23g



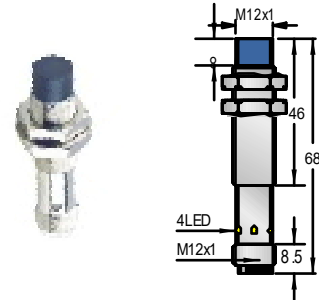
Features

- M12mm diameter
- Sn=2mm, 4mm, 6mm, shielded
4mm, 8mm, 10mm, non-shielded
- Nickel plated brass housing case
PBT Resin housing case
- NPN, PNP Output
- NO, NC Function
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AE12C02H	L1 AE12C04H	L1 AE12C06H	L1 AF12C04H	L1 AF12C08H	L1 AF12C10H
	NPN-NC	L1 AE12D02H	L1 AE12D04H	L1 AE12D06H	L1 AF12D04H	L1 AF12D08H	L1 AF12D10H
	PNP-NO	L1 AE12A02H	L1 AE12A04H	L1 AE12A06H	L1 AF12A04H	L1 AF12A08H	L1 AF12A10H
	PNP-NC	L1 AE12B02H	L1 AE12B04H	L1 AE12B06H	L1 AF12B04H	L1 AF12B08H	L1 AF12B10H
	NPN-NO+NC	L1 AE12F02H	L1 AE12F04H		L1 AF12F04H	L1 AF12F08H	
PBT Case	PNP-NO+NC	L1 AE12E02H	L1 AE12E04H		L1 AF12E04H	L1 AF12E08H	
	NPN-NO	L1 ME12C02H	L1 ME12C04H	L1 ME12C06H	L1 MF12C04H	L1 MF12C08H	L1 MF12C10H
	NPN-NC	L1 ME12D02H	L1 ME12D04H	L1 ME12D06H	L1 MF12D04H	L1 MF12D08H	L1 MF12D10H
	PNP-NO	L1 ME12A02H	L1 ME12A04H	L1 ME12A06H	L1 MF12A04H	L1 MF12A08H	L1 MF12A10H
	PNP-NC	L1 ME12B02H	L1 ME12B04H	L1 ME12B06H	L1 MF12B04H	L1 MF12B08H	L1 MF12B10H
	NPN-NO+NC	L1 ME12F02H	L1 ME12F04H		L1 MF12F04H	L1 MF12F08H	
	PNP-NO+NC	L1 ME12E02H	L1 ME12E04H		L1 MF12E04H	L1 MF12E08H	

General Data			
Housing size	M12mm		
Installation type	Shielded		
Sensing distance (Sn: mm)	2mm	4mm	6mm
Standard sensing object	Steel 12x12x1mm	Steel 12x12x1mm	Steel 18x18x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		
Assured operating distance (Sa: mm)	0 ... 80% of Sn		
Hysteresis	<15%		
Housing material	Nickel plated brass/PBT Resin		
Operating voltage	10 ... 30 VDC(55Vdc can also be customized)		

Electrical Data			
Rated operating voltage	24 VDC		
Repeated accuracy	±10%		
Ripple	<10%		
No load current	10mA		
Max. Load current	200mA		
Leakage current	<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	1000Hz	800Hz
Response time	0.1ms/0.1ms	0.2ms/0.2ms	0.2ms/0.2ms
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		

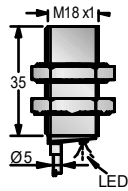
Mechanical Data			
Sensing surface material	PBT		
Protection	IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2		
Accessory	2 nuts		
Connection	4 Pin M12 connector		
Weight	Approx. 31g		



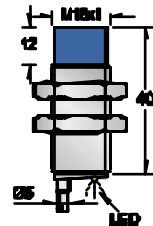
Features

- M18mm diameter
- Sn=5mm, 8mm, 12mm, shielded
8mm, 12mm, 20mm, non-shielded
- Nickel plated brass housing case
PBT Resin housing case
- NPN, PNP Output
- NO, NC, NO+NC Function
- Cable version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AC18 C05 A	L1 AC18 C08 A	L1 AC18 C12 A	L1 AD18 C08 A	L1 AD18 C12 A	L1 AD18 C20 A
	NPN-NC	L1 AC18 D05 A	L1 AC18 D08 A	L1 AC18 D12 A	L1 AD18 D08 A	L1 AD18 D12 A	L1 AD18 D20 A
	PNP-NO	L1 AC18 A05 A	L1 AC18 A08 A	L1 AC18 A12 A	L1 AD18 A08 A	L1 AD18 A12 A	L1 AD18 A20 A
	PNP-NC	L1 AC18 B05 A	L1 AC18 B08 A	L1 AC18 B12 A	L1 AD18 B08 A	L1 AD18 B12 A	L1 AD18 B20 A
	NPN-NO+NC	L1 AC18 F05 A	L1 AC18 F08 A		L1 AD18 F08 A	L1 AD18 F12 A	
	PNP-NO+NC	L1 AC18 E05 A	L1 AC18 E08 A		L1 AD18 E08 A	L1 AD18 E12 A	
PBT Case	NPN-NO	L1 MC18 C05 A	L1 MC18 C08 A	L1 MC18 C12 A	L1 MD18 C08 A	L1 MD18 C12 A	L1 MD18 C20 A
	NPN-NC	L1 MC18 D05 A	L1 MC18 D08 A	L1 MC18 D12 A	L1 MD18 D08 A	L1 MD18 D12 A	L1 MD18 D20 A
	PNP-NO	L1 MC18 A05 A	L1 MC18 A08 A	L1 MC18 A12 A	L1 MD18 A08 A	L1 MD18 A12 A	L1 MD18 A20 A
	PNP-NC	L1 MC18 B05 A	L1 MC18 B08 A	L1 MC18 B12 A	L1 MD18 B08 A	L1 MD18 B12 A	L1 MD18 B20 A
	NPN-NO+NC	L1 MC18 F05 A	L1 MC18 F08 A		L1 MD18 F08 A	L1 MD18 F12 A	
	PNP-NO+NC	L1 MC18 E05 A	L1 MC18 E08 A		L1 MD18 E08 A	L1 MD18 E12 A	

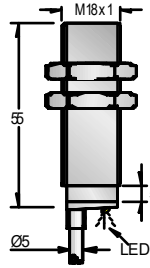
General Data						
Housing size	M18mm			M18mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	5mm	8mm	12mm	8mm	12mm	20mm
Standard sensing object	Steel 18x18x1mm	Steel 24x24x1mm	Steel 36x36x1mm	Steel 24x24x1mm	Steel 36x36x1mm	Steel 60x60x1mm
Effective sensing distance (Sr: mm)	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 ... 30 VDC(55Vdc can also be customized)			10 ... 30 VDC(55Vdc can also be customized)		
Electrical Data						
Rated operating voltage	24 VDC			24 VDC		
Repeated accuracy	±10%			±10%		
Ripple	<10%			<10%		
No load current	10 mA			10 mA		
Max. Load current	200mA			200mA		
Leakage current	<0.01mA			<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	1000Hz	500Hz	300Hz	500Hz	150Hz	100Hz
Response time	0.2ms/0.2ms	0.5ms/0.5ms	0.5ms/0.5ms	0.5ms/0.5ms	1ms/1ms	1ms/1ms
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 3x0.34mm ² /4x0.34mm ²)			2m PVC cable (Ø5 3x0.34mm ² /4x0.34mm ²)		
Weight	Approx. 134g			Approx. 132g		



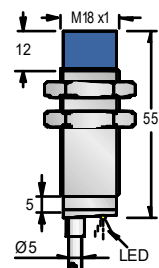
Features

- M18mm diameter
- Sn=5mm, 8mm, 12mm, shielded
8mm, 12mm, 20mm, non-shielded
- Nickel plated brass housing case
PBT Resin housing case
- NPN, PNP Output
- NO, NC, NO+NC Function
- Cable version
- Short circuit protection
Overload protection
Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AE18C05A	L1 AE18C08A	L1 AE18C12A	L1 AF18C08A	L1 AF18C12A	L1 AF18C20A
	NPN-NC	L1 AE18D05A	L1 AE18D08A	L1 AE18D12A	L1 AF18D08A	L1 AF18D12A	L1 AF18D20A
	PNP-NO	L1 AE18A05A	L1 AE18A08A	L1 AE18A12A	L1 AF18A08A	L1 AF18A12A	L1 AF18A20A
	PNP-NC	L1 AE18B05A	L1 AE18B08A	L1 AE18B12A	L1 AF18B08A	L1 AF18B12A	L1 AF18B20A
	NPN-NO+NC	L1 AE18F05A	L1 AE18F08A	L1 AE18F12A	L1 AF18F08A	L1 AF18F12A	L1 AF18F20A
	PNP-NO+NC	L1 AE18E05A	L1 AE18E08A	L1 AE18E12A	L1 AF18E08A	L1 AF18E12A	L1 AF18E20A
PBT Case	NPN-NO	L1 ME18C05A	L1 ME18C08A	L1 ME18C12A	L1 MF18C08A	L1 MF18C12A	L1 MF18C20A
	NPN-NC	L1 ME18D05A	L1 ME18D08A	L1 ME18D12A	L1 MF18D08A	L1 MF18D12A	L1 MF18D20A
	PNP-NO	L1 ME18A05A	L1 ME18A08A	L1 ME18A12A	L1 MF18A08A	L1 MF18A12A	L1 MF18A20A
	PNP-NC	L1 ME18B05A	L1 ME18B08A	L1 ME18B12A	L1 MF18B08A	L1 MF18B12A	L1 MF18B20A
	NPN-NO+NC	L1 ME18F05A	L1 ME18F08A	L1 ME18F12A	L1 MF18F08A	L1 MF18F12A	L1 MF18F20A
	PNP-NO+NC	L1 ME18E05A	L1 ME18E08A	L1 ME18E12A	L1 MF18E08A	L1 MF18E12A	L1 MF18E20A

General Data

Housing size	M18mm			M18mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	5mm	8mm	12mm	8mm	12mm	20mm
Standard sensing object	Steel 18x18x1mm	Steel 24x24x1mm	Steel 36x36x1mm	Steel 24x24x1mm	Steel 36x36x1mm	Steel 60x60x1mm
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 ... 30 VDC(55Vdc can also be customized)			10 ... 30 VDC(55Vdc can also be customized)		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
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	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	1000Hz	500Hz	300Hz	500Hz	150Hz	100Hz
Response time	0.2ms/0.2ms	0.5ms/0.5ms	0.5ms/0.5ms	0.5ms/0.5ms	1ms/1ms	1ms/1ms
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

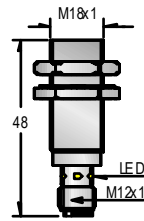
Sensing surface material	PBT			PBT		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	2 nuts			2 nuts		
Connection	2m PVC cable (Ø5 3x0.34mm ² /4x0.34mm ²)			2m PVC cable (Ø5 3x0.34mm ² /4x0.34mm ²)		
Weight	Approx. 153g			Approx. 144g		



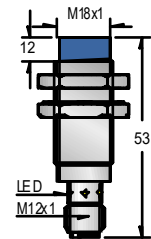
Features

- M18mm diameter
- Sn=5mm, 8mm, 12mm, shielded 8mm, 12mm, 20mm, non-shielded
- Nickel plated brass housing case
- PBT Resin housing case
- NPN, PNP Output
- NO, NC, NO+NC Function
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AC18 C05H	L1 AC18 C08H	L1 AC18 C12H	L1 AD18 C08H	L1 AD18 C12H	L1 AD18 C20H
	NPN-NC	L1 AC18 D05H	L1 AC18 D08H	L1 AC18 D12H	L1 AD18 D08H	L1 AD18 D12H	L1 AD18 D20H
	PNP-NO	L1 AC18 A05H	L1 AC18 A08H	L1 AC18 A12H	L1 AD18 A08H	L1 AD18 A12H	L1 AD18 A20H
	PNP-NC	L1 AC18 B05H	L1 AC18 B08H	L1 AC18 B12H	L1 AD18 B08H	L1 AD18 B12H	L1 AD18 B20H
	NPN-NO+NC	L1 AC18 F05H	L1 AC18 F08H		L1 AD18 F08H	L1 AD18 F12H	
	PNP-NO+NC	L1 AC18 E05H	L1 AC18 E08H		L1 AD18 E08H	L1 AD18 E12H	
PBT Case	NPN-NO	L1 MC18 C05H	L1 MC18 C08H	L1 MC18 C12H	L1 MD18 C08H	L1 MD18 C12H	L1 MD18 C20H
	NPN-NC	L1 MC18 D05H	L1 MC18 D08H	L1 MC18 D12H	L1 MD18 D08H	L1 MD18 D12H	L1 MD18 D20H
	PNP-NO	L1 MC18 A05H	L1 MC18 A08H	L1 MC18 A12H	L1 MD18 A08H	L1 MD18 A12H	L1 MD18 A20H
	PNP-NC	L1 MC18 B05H	L1 MC18 B08H	L1 MC18 B12H	L1 MD18 B08H	L1 MD18 B12H	L1 MD18 B20H
	NPN-NO+NC	L1 MC18 F05H	L1 MC18 F08H		L1 MD18 F08H	L1 MD18 F12H	
	PNP-NO+NC	L1 MC18 E05H	L1 MC18 E08H		L1 MD18 E08H	L1 MD18 E12H	

General Data

Housing size	M18mm			M18mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	5mm	8mm	12mm	8mm	12mm	20mm
Standard sensing object	Steel 18x18x1mm	Steel 24x24x1mm	Steel 36x36x1mm	Steel 24x24x1mm	Steel 36x36x1mm	Steel 60x60x1mm
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 ... 30 VDC(55Vdc can also be customized)			10 ... 30 VDC(55Vdc can also be customized)		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
Repeated accuracy	±10%			±10%		
Ripple	<10%			<10%		
No load current	10 mA			10 mA		
Max. Load current	200mA			200mA		
Leakage current	<0.01mA			<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	1000Hz	500Hz	300Hz	500Hz	150Hz	100Hz
Response time	0.2ms/0.2ms	0.5ms/0.5ms	0.5ms/0.5ms	0.5ms/0.5ms	1ms/1ms	1ms/1ms
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		

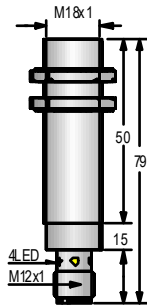
Mechanical Data

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	4 Pin M12 connector			4 Pin M12 connector		
Weight	Approx. 52g			Approx. 48g		

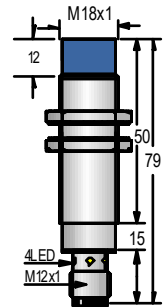


Features

- M18mm diameter
- Sn=5mm, 8mm, 12mm, shielded
- 8mm, 12mm, 20mm, non-shielded
- Nickel plated brass housing case
- PBT Resin housing case
- NPN, PNP Output
- NO, NC, NO+NC Function
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection



(Unit: mm)



(Unit: mm)

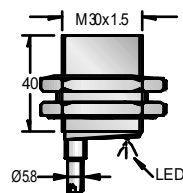
CE		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AE18C05H	L1 AE18C08H	L1 AE18C12H	L1 AF18C08H	L1 AF18C12H	L1 AF18C20H
	NPN-NC	L1 AE18D05H	L1 AE18D08H	L1 AE18D12H	L1 AF18D08H	L1 AF18D12H	L1 AF18D20H
	PNP-NO	L1 AE18A05H	L1 AE18A08H	L1 AE18A12H	L1 AF18A08H	L1 AF18A12H	L1 AF18A20H
	PNP-NC	L1 AE18B05H	L1 AE18B08H	L1 AE18B12H	L1 AF18B08H	L1 AF18B12H	L1 AF18B20H
	NPN-NO+NC	L1 AE18F05H	L1 AE18F08H	L1 AE18F12H	L1 AF18F08H	L1 AF18F12H	L1 AF18F20H
	PNP-NO+NC	L1 AE18E05H	L1 AE18E08H	L1 AE18E12H	L1 AF18E08H	L1 AF18E12H	L1 AF18E20H
PBT Case	NPN-NO	L1 ME18C05H	L1 ME18C08H	L1 ME18C12H	L1 MF18C08H	L1 MF18C12H	L1 MF18C20H
	NPN-NC	L1 ME18D05H	L1 ME18D08H	L1 ME18D12H	L1 MF18D08H	L1 MF18D12H	L1 MF18D20H
	PNP-NO	L1 ME18A05H	L1 ME18A08H	L1 ME18A12H	L1 MF18A08H	L1 MF18A12H	L1 MF18A20H
	PNP-NC	L1 ME18B05H	L1 ME18B08H	L1 ME18B12H	L1 MF18B08H	L1 MF18B12H	L1 MF18B20H
	NPN-NO+NC	L1 ME18F05H	L1 ME18F08H	L1 ME18F12H	L1 MF18F08H	L1 MF18F12H	L1 MF18F20H
	PNP-NO+NC	L1 ME18E05H	L1 ME18E08H	L1 ME18E12H	L1 MF18E08H	L1 MF18E12H	L1 MF18E20H
General Data							
Housing size		M18mm			M18mm		
Installation type		Shielded			Non-shielded		
Sensing distance (Sn: mm)		5mm	8mm	12mm	8mm	12mm	20mm
Standard sensing object		Steel 18x18x1mm	Steel 24x24x1mm	Steel 36x36x1mm	Steel 24x24x1mm	Steel 36x36x1mm	Steel 60x60x1mm
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		<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency		1000Hz	500Hz	300Hz	500Hz	150Hz	100Hz
Response time		0.2ms/0.2ms	0.5ms/0.5ms	0.5ms/0.5ms	0.5ms/0.5ms	1ms/1ms	1ms/1ms
Rated insulation voltage		75VDC			75VDC		
Operating temperature		-25℃ ... +70℃			-25℃ ... +70℃		
Storage temperature		-40℃ ... +80℃			-40℃ ... +80℃		
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		4 Pin M12 connector			4 Pin M12 connector		
Weight		Approx. 94g			Approx. 91g		



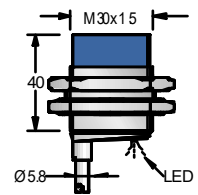
Features

- M30mm diameter
- Sn=10mm, 16mm, 22mm, shielded
15mm, 25mm, 40mm, non-shielded
- Nickel plated brass housing case
PBT Resin housing case
- NPN, PNP Output
- NO, NC, NO+NC Function
- Cable version
- Short circuit protection
Overload protection
Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AC30 C10 A	L1 AC30 C16 A	L1 AC30 C22 A	L1 AD30 C15 A	L1 AD30 C25 A	L1 AD30 C40 A
	NPN-NC	L1 AC30 D10 A	L1 AC30 D16 A	L1 AC30 D22 A	L1 AD30 D15 A	L1 AD30 D25 A	L1 AD30 D40 A
	PNP-NO	L1 AC30 A10 A	L1 AC30 A16 A	L1 AC30 A22 A	L1 AD30 A15 A	L1 AD30 A25 A	L1 AD30 A40 A
	PNP-NC	L1 AC30 B10 A	L1 AC30 B16 A	L1 AC30 B22 A	L1 AD30 B15 A	L1 AD30 B25 A	L1 AD30 B40 A
	NPN-NO+NC	L1 AC30 F10 A	L1 AC30 F16 A		L1 AD30 F15 A	L1 AD30 F25 A	
	PNP-NO+NC	L1 AC30 E10 A	L1 AC30 E16 A		L1 AD30 E15 A	L1 AD30 E25 A	
PBT Case	NPN-NO	L1 MC30 C10 A	L1 MC30 C16 A	L1 MC30 C22 A	L1 MD30 C15 A	L1 MD30 C25 A	L1 MD30 C40 A
	NPN-NC	L1 MC30 D10 A	L1 MC30 D16 A	L1 MC30 D22 A	L1 MD30 D15 A	L1 MD30 D25 A	L1 MD30 D40 A
	PNP-NO	L1 MC30 A10 A	L1 MC30 A16 A	L1 MC30 A22 A	L1 MD30 A15 A	L1 MD30 A25 A	L1 MD30 A40 A
	PNP-NC	L1 MC30 B10 A	L1 MC30 B16 A	L1 MC30 B22 A	L1 MD30 B15 A	L1 MD30 B25 A	L1 MD30 B40 A
	NPN-NO+NC	L1 MC30 F10 A	L1 MC30 F16 A		L1 MD30 F15 A	L1 MD30 F25 A	
	PNP-NO+NC	L1 MC30 E10 A	L1 MC30 E16 A		L1 MD30 E15 A	L1 MD30 E25 A	

General Data

Housing size	M30mm			M30mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	10mm	16mm	22mm	15mm	25mm	40mm
Standard sensing object	Steel 30x30x1mm	Steel 48x48x1mm	Steel 66x66x1mm	Steel 45x45x1mm	Steel 75x75x1mm	Steel 120x120x1mm
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 ... 30 VDC(55Vdc can also be customized)			10 ... 30 VDC(55Vdc can also be customized)		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
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	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	300Hz	150Hz	100Hz	150Hz	100Hz	100Hz
Response time	0.5ms/0.5ms	1ms/1ms	1ms/1ms	1ms/1ms	1ms/1ms	1ms/1ms
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		

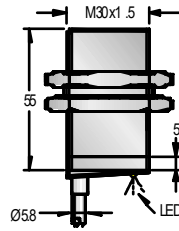
Mechanical Data

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 (Ø5.8 3x0.5mm ² /4x0.5mm ²)			2m PVC cable (Ø5.8 3x0.5mm ² /4x0.5mm ²)		
Weight	Approx. 182g			Approx. 180g		



Features

- M30mm diameter
- Sn=10mm, 16mm, 22mm, shielded 15mm, 25mm, 40mm, non-shielded
- Nickel plated brass housing case
- PBT Resin housing case
- NPN, PNP Output
- NO, NC, NO+NC Function
- Cable version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AE30C 10A	L1 AE30C 16A	L1 AE30C 22A	L1 AF30C1 5A	L1 AF30C2 5A	L1 AF30C4 0A
	NPN-NC	L1 AE30D 10A	L1 AE30D 16A	L1 AE30D 22A	L1 AF30D1 5A	L1 AF30D2 5A	L1 AF30D4 0A
	PNP-NO	L1 AE30A1 0A	L1 AE30A1 6A	L1 AE30A2 2A	L1 AF30A1 5A	L1 AF30A2 5A	L1 AF30A4 0A
	PNP-NC	L1 AE30B1 0A	L1 AE30B1 6A	L1 AE30B2 2A	L1 AF30B1 5A	L1 AF30B2 5A	L1 AF30B4 0A
	NPN-NO+NC	L1 AE30F 10A	L1 AE30F 16A	L1 AE30F 22A	L1 AF30F 15A	L1 AF30F 25A	L1 AF30F 40A
	PNP-NO+NC	L1 AE30E1 0A	L1 AE30E1 6A	L1 AE30E2 2A	L1 AF30E1 5A	L1 AF30E2 5A	L1 AF30E4 0A
PBT Case	NPN-NO	L1 ME30C 10A	L1 ME30C 16A	L1 ME30C 22A	L1 MF30C1 5A	L1 MF30C2 5A	L1 MF30C4 0A
	NPN-NC	L1 ME30D 10A	L1 ME30D 16A	L1 ME30D 22A	L1 MF30D1 5A	L1 MF30D2 5A	L1 MF30D4 0A
	PNP-NO	L1 ME30A1 0A	L1 ME30A1 6A	L1 ME30A2 2A	L1 MF30A1 5A	L1 MF30A2 5A	L1 MF30A4 0A
	PNP-NC	L1 ME30B1 0A	L1 ME30B1 6A	L1 ME30B2 2A	L1 MF30B1 5A	L1 MF30B2 5A	L1 MF30B4 0A
	NPN-NO+NC	L1 ME30F 10A	L1 ME30F 16A	L1 ME30F 22A	L1 MF30F 15A	L1 MF30F 25A	L1 MF30F 40A
	PNP-NO+NC	L1 ME30E1 0A	L1 ME30E1 6A	L1 ME30E2 2A	L1 MF30E1 5A	L1 MF30E2 5A	L1 MF30E4 0A

General Data

Housing size	M30mm			M30mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	10mm	16mm	22mm	15mm	25mm	40mm
Standard sensing object	Steel 30x30x1mm	Steel 48x48x1mm	Steel 66x66x1mm	Steel 45x45x1mm	Steel 75x75x1mm	Steel 120x120x1mm
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 ... 30 VDC(55Vdc can also be customized)			10 ... 30 VDC(55Vdc can also be customized)		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
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	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	300Hz	150Hz	100Hz	150Hz	100Hz	100Hz
Response time	0.5ms/0.5ms	1ms/1ms	1ms/1ms	1ms/1ms	1ms/1ms	1ms/1ms
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

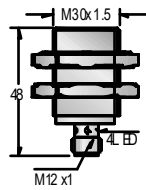
Sensing surface material	PBT			PBT		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	2 nuts			2 nuts		
Connection	2m PVC cable (Ø5.8 3x0.5mm ² /4x0.5mm ²)			2m PVC cable (Ø5.8 3x0.5mm ² /4x0.5mm ²)		
Weight	Approx. 217g			Approx. 207g		



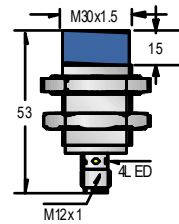
Features

- M30mm diameter
- Sn=10mm, 16mm, 22mm, shielded
15mm, 25mm, 40mm, non-shielded
- Nickel plated brass housing case
PBT Resin housing case
- NPN, PNP Output
- NO, NC, NO+NC Function
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AC30 C10H	L1 AC30 C16H	L1 AC30 C22H	L1 AD30 C15H	L1 AD30 C25H	L1 AD30 C40H
	NPN-NC	L1 AC30 D10H	L1 AC30 D16H	L1 AC30 D22H	L1 AD30 D15H	L1 AD30 D25H	L1 AD30 D40H
	PNP-NO	L1 AC30 A10H	L1 AC30 A16H	L1 AC30 A22H	L1 AD30 A15H	L1 AD30 A25H	L1 AD30 A40H
	PNP-NC	L1 AC30 B10H	L1 AC30 B16H	L1 AC30 B22H	L1 AD30 B15H	L1 AD30 B25H	L1 AD30 B40H
	NPN-NO+NC	L1 AC30 F10H	L1 AC30 F16H		L1 AD30 F15H	L1 AD30 F25H	
	PNP-NO+NC	L1 AC30 E10H	L1 AC30 E16H		L1 AD30 E15H	L1 AD30 E25H	
PBT Case	NPN-NO	L1 MC30 C10H	L1 MC30 C16H	L1 MC30 C22H	L1 MD30 C15H	L1 MD30 C25H	L1 MD30 C40H
	NPN-NC	L1 MC30 D10H	L1 MC30 D16H	L1 MC30 D22H	L1 MD30 D15H	L1 MD30 D25H	L1 MD30 D40H
	PNP-NO	L1 MC30 A10H	L1 MC30 A16H	L1 MC30 A22H	L1 MD30 A15H	L1 MD30 A25H	L1 MD30 A40H
	PNP-NC	L1 MC30 B10H	L1 MC30 B16H	L1 MC30 B22H	L1 MD30 B15H	L1 MD30 B25H	L1 MD30 B40H
	NPN-NO+NC	L1 MC30 F10H	L1 MC30 F16H		L1 MD30 F15H	L1 MD30 F25H	
	PNP-NO+NC	L1 MC30 E10H	L1 MC30 E16H		L1 MD30 E15H	L1 MD30 E25H	

General Data

Housing size	M30mm			M30mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	10mm	16mm	22mm	15mm	25mm	40mm
Standard sensing object	Steel 30x30x1mm	Steel 48x48x1mm	Steel 66x66x1mm	Steel 45x45x1mm	Steel 75x75x1mm	Steel 120x120x1mm
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 ... 30 VDC(55Vdc can also be customized)			10 ... 30 VDC(55Vdc can also be customized)		

Electrical Data

Rated operating voltage	24 VDC			24 VDC		
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	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	300Hz	150Hz	100Hz	150Hz	100Hz	100Hz
Response time	0.5ms/0.5ms	1ms/1ms	1ms/1ms	1ms/1ms	1ms/1ms	1ms/1ms
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

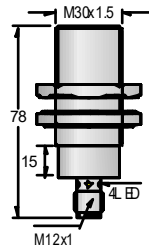
Sensing surface material	PBT			PBT		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	2 nuts			2 nuts		
Connection	4 Pin M12 connector			4 Pin M12 connector		
Weight	Approx. 121g			Approx. 111g		



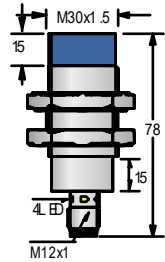
Features

- M30mm diameter
- Sn=10mm, 16mm, 22mm, shielded 15mm, 25mm, 40mm, non-shielded
- Nickel plated brass housing case
- PBT Resin housing case
- NPN, PNP Output
- NO, NC, NO+NC Function
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 AE30C 10H	L1 AE30C 16H	L1 AE30C 22H	L1 AF30C1 5H	L1 AF30C2 5H	L1 AF30C4 0H
	NPN-NC	L1 AE30D 10H	L1 AE30D 16H	L1 AE30D 22H	L1 AF30D1 5H	L1 AF30D2 5H	L1 AF30D4 0H
	PNP-NO	L1 AE30A1 0H	L1 AE30A1 6H	L1 AE30A2 2H	L1 AF30A1 5H	L1 AF30A2 5H	L1 AF30A4 0H
	PNP-NC	L1 AE30B1 0H	L1 AE30B1 6H	L1 AE30B2 2H	L1 AF30B1 5H	L1 AF30B2 5H	L1 AF30B4 0H
	NPN-NO+NC	L1 AE30F 10H	L1 AE30F 16H	L1 AE30F 22H	L1 AF30F 15H	L1 AF30F 25H	L1 AF30F 40H
	PNP-NO+NC	L1 AE30E1 0H	L1 AE30E1 6H	L1 AE30E2 2H	L1 AF30E1 5H	L1 AF30E2 5H	L1 AF30E4 0H
PBT Case	NPN-NO	L1 ME30C 10H	L1 ME30C 16H	L1 ME30C 22H	L1 MF30C1 5H	L1 MF30C2 5H	L1 MF30C4 0H
	NPN-NC	L1 ME30D 10H	L1 ME30D 16H	L1 ME30D 22H	L1 MF30D1 5H	L1 MF30D2 5H	L1 MF30D4 0H
	PNP-NO	L1 ME30A1 0H	L1 ME30A1 6H	L1 ME30A2 2H	L1 MF30A1 5H	L1 MF30A2 5H	L1 MF30A4 0H
	PNP-NC	L1 ME30B1 0H	L1 ME30B1 6H	L1 ME30B2 2H	L1 MF30B1 5H	L1 MF30B2 5H	L1 MF30B4 0H
	NPN-NO+NC	L1 ME30F 10H	L1 ME30F 16H	L1 ME30F 22H	L1 MF30F 15H	L1 MF30F 25H	L1 MF30F 40H
	PNP-NO+NC	L1 ME30E1 0H	L1 ME30E1 6H	L1 ME30E2 2H	L1 MF30E1 5H	L1 MF30E2 5H	L1 MF30E4 0H

General Data			
Housing size	M30mm		
Installation type	Shielded		
Sensing distance (Sn: mm)	10mm	16mm	22mm
Standard sensing object	Steel 30x30x1mm	Steel 48x48x1mm	Steel 66x66x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		
Assured operating distance (Sa: mm)	0 ... 80% of Sn		
Hysteresis	<15%		
Housing material	Nickel plated brass/PBT 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		
Max. Load current	200mA		
Leakage current	<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	300Hz	150Hz	100Hz
Response time	0.5ms/0.5ms	1ms/1ms	1ms/1ms
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		

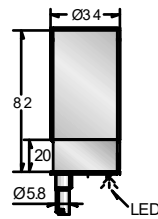
Mechanical Data			
Sensing surface material	PBT		
Protection	IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2		
Accessory	2 nuts		
Connection	4 Pin M12 connector		
Weight	Approx. 187g		



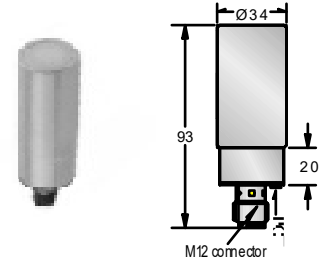
Features

- Ø34mm diameter
- Sn=15mm, 25mm, 40mm, non-shielded
- PBT Resin housing case
- NPN, PNP Output
- NO, NC, NO+NC Function
- Cable version
- M12 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Non-Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
PBT Case	NPN-NO	L1 ND34C15A	L1 ND34C25A	L1 ND34C40A	L1 ND34C15H	L1 ND34C25H	L1 ND34C40H
	NPN-NC	L1 ND34D15A	L1 ND34D25A	L1 ND34D40A	L1 ND34D15H	L1 ND34D25H	L1 ND34D40H
	PNP-NO	L1 ND34A15A	L1 ND34A25A	L1 ND34A40A	L1 ND34A15H	L1 ND34A25H	L1 ND34A40H
	PNP-NC	L1 ND34B15A	L1 ND34B25A	L1 ND34B40A	L1 ND34B15H	L1 ND34B25H	L1 ND34B40H
	NPN-NO+NC	L1 ND34F15A	L1 ND34F25A		L1 ND34F15H	L1 ND34F25H	
	PNP-NO+NC	L1 ND34E15A	L1 ND34E25A		L1 ND34E15H	L1 ND34E25H	

General Data

Housing size	Ø34mm			Ø34mm		
Installation type	Non-shielded			Non-shielded		
Sensing distance (Sn: mm)	15mm	25mm	40mm	15mm	25mm	40mm
Standard sensing object	Steel 45x45x1mm	Steel 75x75x1mm	Steel 120x120x1mm	Steel 45x45x1mm	Steel 75x75x1mm	Steel 120x120x1mm
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			10mA		
Max. Load current	200mA			200mA		
Leakage current	<0.01mA			<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	300Hz	150Hz	100Hz	150Hz	100Hz	100Hz
Response time	0.5ms/0.5ms	1ms/1ms	1ms/1ms	1ms/1ms	1ms/1ms	1ms/1ms
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

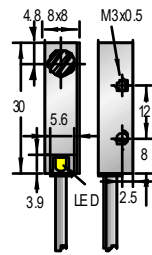
Sensing surface material	PBT			PBT		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	Brackets			Brackets		
Connection	2m PVC cable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



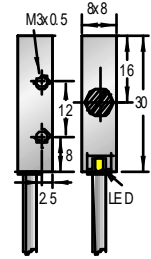
Features

- Q8x8mm diameter
- Sn=1mm, 2mm, 3mm, shielded
- Nickel plated brass housing case
- NPN, PNP Output
- NO, NC Function
- Cable version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 FC 08C 01A	L1 FC 08C 02A	L1 FC 08C 03A	L1 FG 08 C01 A	L1 FG 08 C02 A	L1 FG 08 C03 A
	NPN-NC	L1 FC 08D 01A	L1 FC 08D 02A	L1 FC 08D 03A	L1 FG 08 D01 A	L1 FG 08 D02 A	L1 FG 08 D03 A
	PNP-NO	L1 FC 08A0 1A	L1 FC 08A0 2A	L1 FC 08A0 3A	L1 FG 08 A01 A	L1 FG 08 A02 A	L1 FG 08 A03 A
	PNP-NC	L1 FC 08B0 1A	L1 FC 08B0 2A	L1 FC 08B0 3A	L1 FG 08 B01 A	L1 FG 08 B02 A	L1 FG 08 B03 A
	NPN-NO+NC						
	PNP-NO+NC						
PBT Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data			
Housing size	Q8x8mm		
Installation type	Shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm
Standard sensing object	Steel 8x8x1mm	Steel 8x8x1mm	Steel 9x9x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		
Assured operating distance (Sa: mm)	0 ... 80% of Sn		
Hysteresis	<15%		
Housing material	Nickel plated brass		
Operating voltage	10 ... 30 VDC		

Electrical Data			
Rated operating voltage	24 VDC		
Repeated accuracy	±10%		
Ripple	<10%		
No load current	10 mA		
Max. Load current	200mA		
Leakage current	<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	2000Hz	1000Hz
Response time	0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms
Rated insulation voltage	75 VDC		
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		

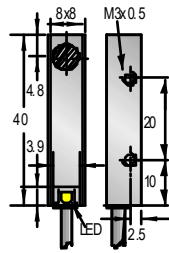
Mechanical Data			
Sensing surface material	POM		
Protection	IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2		
Accessory	2 nuts		
Connection	2m PVC cable (Ø3 3x0.15mm ²)		
Weight	Approx. 38g		



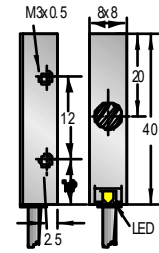
Features

- Q8x8mm diameter
- Sn=1mm, 2mm, 3mm, shielded
- Nickel plated brass housing case
- NPN, PNP Output
- NO, NC Function
- Cable version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 FE08C01A	L1 FE08C02A	L1 FE08C03A	L1 FH08C01A	L1 FH08C02A	L1 FH08C03A
	NPN-NC	L1 FE08D01A	L1 FE08D02A	L1 FE08D03A	L1 FH08D01A	L1 FH08D02A	L1 FH08D03A
	PNP-NO	L1 FE08A01A	L1 FE08A02A	L1 FE08A03A	L1 FH08A01A	L1 FH08A02A	L1 FH08A03A
	PNP-NC	L1 FE08B01A	L1 FE08B02A	L1 FE08B03A	L1 FH08B01A	L1 FH08B02A	L1 FH08B03A
	NPN-NO+NC						
	PNP-NO+NC						
PBT Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						

General Data			
Housing size	Q8x8mm		
Installation type	Shielded		
Sensing distance (Sn: mm)	1mm	2mm	3mm
Standard sensing object	Steel 8x8x1mm	Steel 8x8x1mm	Steel 9x9x1mm
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		
Assured operating distance (Sa: mm)	0 ... 80% of Sn		
Hysteresis	<15%		
Housing material	Nickel plated brass		
Operating voltage	10 ... 30VDC		

Electrical Data			
Rated operating voltage	24 VDC		
Repeated accuracy	±10%		
Ripple	<10%		
No load current	10mA		
Max. Load current	200mA		
Leakage current	<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	2000Hz	2000Hz	1000Hz
Response time	0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms
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		

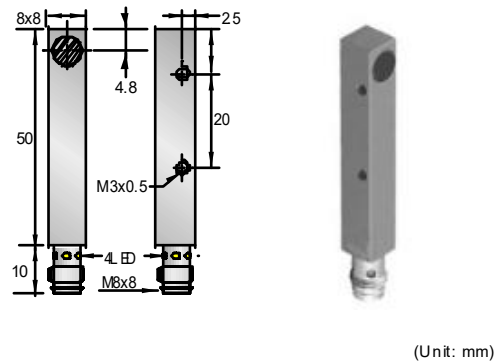
Mechanical Data			
Sensing surface material	POM		
Protection	IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2		
Accessory	2 nuts		
Connection	2m PVC cable (Ø3 3x0.15mm ²)		
Weight	Approx. 40g		



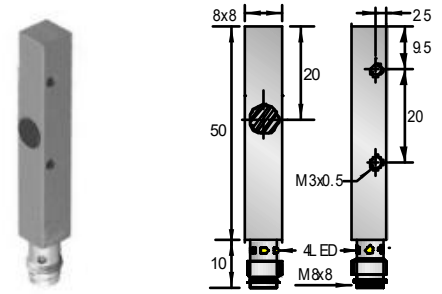
Features

- Q8x8mm diameter
- Sn=1mm, 2mm, 3mm, shielded
- Nickel plated brass housing case
- NPN, PNP Output
- NO, NC Function
- M8 connector version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection

CE



(Unit: mm)



CE		Shielded			Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO	L1 FE08C01F	L1 FE08C02F	L1 FE08C03F	L1 FH08C01F	L1 FH08C02F	L1 FH08C03F
	NPN-NC	L1 FE08D01F	L1 FE08D02F	L1 FE08D03F	L1 FH08D01F	L1 FH08D02F	L1 FH08D03F
	PNP-NO	L1 FE08A01F	L1 FE08A02F	L1 FE08A03F	L1 FH08A01F	L1 FH08A02F	L1 FH08A03F
	PNP-NC	L1 FE08B01F	L1 FE08B02F	L1 FE08B03F	L1 FH08B01F	L1 FH08B02F	L1 FH08B03F
	NPN-NO+NC						
	PNP-NO+NC						
PBT Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						
General Data							
Housing size		Q8x8mm			Q8x8mm		
Installation type		Shielded			Shielded		
Sensing distance (Sn: mm)		1mm	2mm	3mm	1mm	2mm	3mm
Standard sensing object		Steel 8x8x1mm	Steel 8x8x1mm	Steel 9x9x1mm	Steel 8x8x1mm	Steel 8x8x1mm	Steel 9x9x1mm
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			Nickel plated brass		
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		<1.5VDC	<2.0VDC	<2.0VDC	<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency		2000Hz	2000Hz	1000Hz	2000Hz	2000Hz	1000Hz
Response time		0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms	0.1ms/0.1ms	0.1ms/0.1ms	0.2ms/0.2ms
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		POM			POM		
Protection		IP67			IP67		
Shock rating		Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating		55Hz, 1mm a.mpl., 3x30min.			55Hz, 1mm a.mpl., 3x30min.		
EMC		IEC 60947-5-2			IEC 60947-5-2		
Accessory		2 nuts			2 nuts		
Connection		3Pin M8 connector			3Pin M8 connector		
Weight		Approx. 38g			Approx. 38g		

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General Data									
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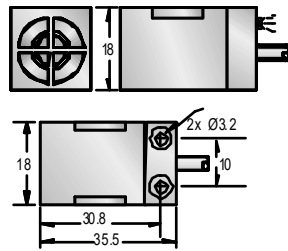
Electrical Data									
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21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Mechanical Data

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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**Features**

- Q18x18 mm diameter
- Sn=5mm, non-shielded
- PBT Resin housing case
- NPN, PNP Output
- NO, NC, Function
- Cable version
- Short circuit protection
- Overload protection
- Reverse polarity protection
- IP67 Protection



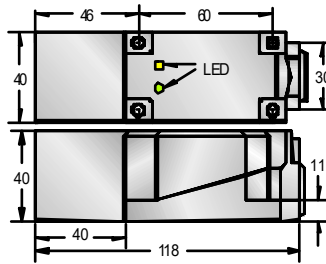
CE		Non-Shielded					
		Standard Sn	Extended Sn	Long Sn			
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						
PBT Case	NPN-NO	L1 EF18C05A					
	NPN-NC	L1 EF18D05A					
	PNP-NO	L1 EF18A05A					
	PNP-NC	L1 EF18B05A					
	NPN-NO+NC						
	PNP-NO+NC						
General Data							
Housing size		Q18mm					
Installation type		Non-shielded					
Sensing distance (Sn: mm)		5mm					
Standard sensing object		Steel 18x18x1mm					
Effective sensing distance (Sr: mm)		90 ... 110% of Sn					
Assured operating distance (Sa: mm)		0 ... 80% of Sn					
Hysteresis		<15%					
Housing material		PBT Resin					
Operating voltage		10 ... 30VDC					
Electrical Data							
Rated operating voltage		24VDC					
Repeated accuracy		±10%					
Ripple		<10%					
No load current		10mA					
Max. Load current		200mA					
Leakage current		<0.01mA					
Voltage drop		<1.5VDC					
Switching frequency		500Hz					
Response time		0.5ms/0.5ms					
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		PBT					
Protection		IP67					
Shock rating		Shock, half-sinus, 30gn, 11ms					
Vibration rating		55Hz, 1mm ampl., 3x30min.					
EMC		IEC 60947-5-2					
Accessory		/					
Connection		2m PVC cable (Ø4.3x0.34mm²)					
Weight		Approx. 58g					



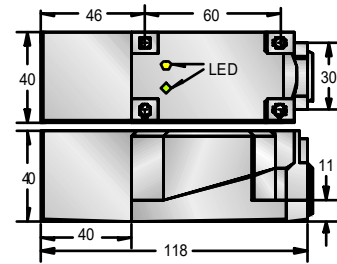
Features

- Q40x40x18mm dimension
- Sn=15mm, 25mm, shielded 20mm, 30mm, 40mm, non-shielded
- 5-Way rotatable sensing head
- PBT Resin housing case
- NPN, PNP output
- NO, NC, NO+NC Function
- Short circuit protection
- Overload protection
- Reverse polarity protection
- PG connector version
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

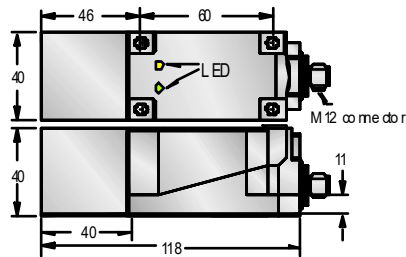
CE		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
	PNP-NO+NC						
PBT Case	NPN-NO	L1 EE40C15T	L1 EE40C25T		L1 EF40C20T	L1 EF40C30T	L1 EF40C40T
	NPN-NC	L1 EE40D15T	L1 EE40D25T		L1 EF40D20T	L1 EF40D30T	L1 EF40D40T
	PNP-NO	L1 EE40A15T	L1 EE40A25T		L1 EF40A20T	L1 EF40A30T	L1 EF40A40T
	PNP-NC	L1 EE40B15T	L1 EE40B25T		L1 EF40B20T	L1 EF40B30T	L1 EF40B40T
	NPN-NO+NC	L1 EE40F15T	L1 EE40F25T		L1 EF40F20T	L1 EF40F30T	L1 EF40F40T
	PNP-NO+NC	L1 EE40E15T	L1 EE40E25T		L1 EF40E20T	L1 EF40E30T	L1 EF40E40T
General Data							
Housing size		Q40x40mm			Q40x40mm		
Installation type		Shielded			Non-shielded		
Sensing distance (Sn: mm)		15mm	20mm		20mm	30mm	40mm
Standard sensing object		Steel 45x45x1mm	Steel 60x60x1mm		Steel 60x60x1mm	Steel 90x90x1mm	Steel 120x120x1mm
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			10mA		
Max. Load current		200mA			200mA		
Leakage current		<0.01mA			<0.01mA		
Voltage drop		<1.5VDC	<2.0VDC		<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency		100Hz	100Hz		100Hz	100Hz	100Hz
Response time		1ms/1ms	1ms/1ms		1ms/1ms	1ms/1ms	1ms/1ms
Rated insulation voltage		75VDC			75VDC		
Operating temperature		-25℃ ... +70℃			-25℃ ... +70℃		
Storage temperature		-40℃ ... +80℃			-40℃ ... +80℃		
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 amplit., 3x30min.			55Hz, 1mm amplit., 3x30min.		
EMC		IEC 60947-5-2			IEC 60947-5-2		
Accessory		/			/		
Connection		Cable Terminal with PG Connector			Cable Terminal with PG Connector		
Weight		Approx. 250g			Approx. 250g		



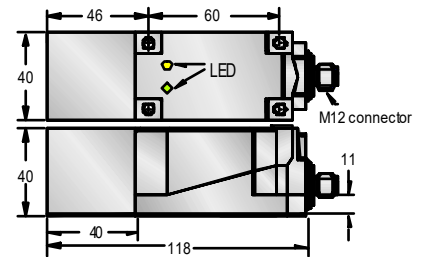
Features

- Q40x40x18mm dimension
- Sn=15mm, 25mm, shielded 20mm, 30mm, 40mm, non-shielded
- 5-Way rotatable sensing head
- PBT Resin housing case
- NPN, PNP output
- NO, NC, NO+NC Function
- Short circuit protection
- Overload protection
- Reverse polarity protection
- M12 connector version
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
PBT Case	NPN-NO	L1 EE40C15H	L1 EE40C25H		L1 EF40C20H	L1 EF40C30H	L1 EF40C40H
	NPN-NC	L1 EE40D15H	L1 EE40D25H		L1 EF40D20H	L1 EF40D30H	L1 EF40D40H
	PNP-NO	L1 EE40A15H	L1 EE40A25H		L1 EF40A20H	L1 EF40A30H	L1 EF40A40H
	PNP-NC	L1 EE40B15H	L1 EE40B25H		L1 EF40B20H	L1 EF40B30H	L1 EF40B40H
	NPN-NO+NC	L1 EE40F15H	L1 EE40F25H		L1 EF40F20H	L1 EF40F30H	L1 EF40F40H
	PNP-NO+NC	L1 EE40E15H	L1 EE40E25H		L1 EF40E20H	L1 EF40E30H	L1 EF40E40H

General Data			
Housing size	Q40x40mm		
Installation type	Shielded		
Sensing distance (Sn: mm)	15mm	20mm	
Standard sensing object	Steel 45x45x1mm	Steel 60x60x1mm	
Effective sensing distance (Sr: mm)	90 ... 110% of Sn		
Assured operating distance (Sa: mm)	0 ... 80% of Sn		
Hysteresis	<15%		
Housing material	PBT 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		
Max. Load current	200mA		
Leakage current	<0.01mA		
Voltage drop	<1.5VDC	<2.0VDC	
Switching frequency	100Hz	100Hz	
Response time	1ms/1ms	1ms/1ms	
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		

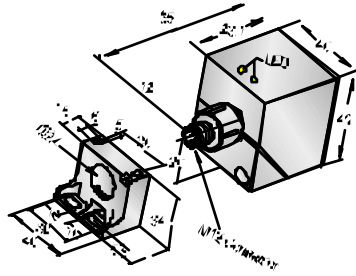
Mechanical Data			
Sensing surface material	PBT		
Protection	IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2		
Accessory	/		
Connection	4 Pin M12 connector		
Weight	Approx. 262g		



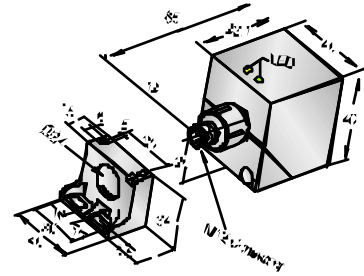
Features

- Q4 0x4 0x65mm dimension
- Sn=15mm, 25mm, shielded 20mm, 30mm, 40mm, non-shielded
- 5-Way rotatable sensing head
- PBT Resin housing case
- NPN, PNP output
- NO, NC, NO+NC function
- Short circuit protection
- Overload protection
- Reverse polarity protection
- M12 connector version
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
PBT Case	NPN-NO	L1 EC40 C15H	L1 EC40 C25H		L1 ED40 C20H	L1 ED40 C30H	L1 ED40 C40H
	NPN-NC	L1 EC40 D15H	L1 EC40 D25H		L1 ED40 D20H	L1 ED40 D30H	L1 ED40 D40H
	PNP-NO	L1 EC40 A15H	L1 EC40 A25H		L1 ED40 A20H	L1 ED40 A30H	L1 ED40 A40H
	PNP-NC	L1 EC40 B15H	L1 EC40 B25H		L1 ED40 B20H	L1 ED40 B30H	L1 ED40 B40H
	NPN-NO+NC	L1 EC40 F15H	L1 EC40 F25H		L1 ED40 F20H	L1 ED40 F30H	L1 ED40 F40H
	PNP-NO+NC	L1 EC40 E15H	L1 EC40 E25H		L1 ED40 E20H	L1 ED40 E30H	L1 ED40 E40H

General Data

Housing size	Q4 0x4 0mm			Q4 0x4 0mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	15mm	20mm		20mm	30mm	40mm
Standard sensing object	Steel 45x45x1mm	Steel 60x60x1mm		Steel 60x60x1mm	Steel 90x90x1mm	Steel 120x120x1mm
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	24 VDC			24 VDC		
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	<1.5VDC	<2.0VDC		<1.5VDC	<2.0VDC	<2.0VDC
Switching frequency	100Hz	100Hz		100Hz	100Hz	100Hz
Response time	1ms/1ms	1ms/1ms		1ms/1ms	1ms/1ms	1ms/1ms
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

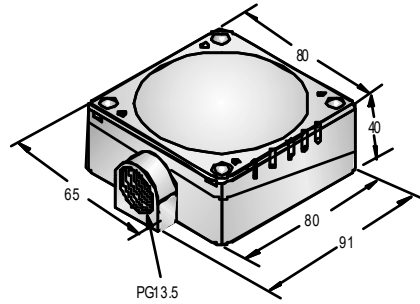
Sensing surface material	PBT			PBT		
Protection	IP67			IP67		
Shock rating	Shock, half-sinus, 30gn, 11ms			Shock, half-sinus, 30gn, 11ms		
Vibration rating	55Hz, 1mm ampl., 3x30min.			55Hz, 1mm ampl., 3x30min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	/			/		
Connection	4 Pin M12 connector			4 Pin M12 connector		
Weight	Approx. 170g			Approx. 170g		



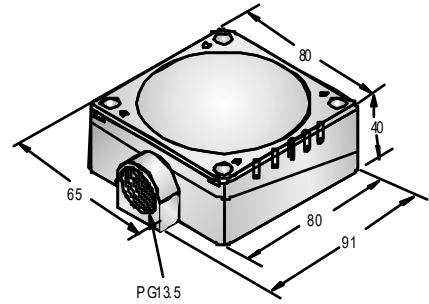
Features

- Q80x80x40mm dimension
- Sn=40mm, shielded
50mm, non-shielded
- PBT Resin housing case
- NPN, PNP output
- NO, NC, NO+NC Function
- Short circuit protection
- Overload protection
- Reverse polarity protection
- PG connector version
- IP67 Protection

CE



(Unit: mm)



(Unit: mm)

		Shielded			Non-Shielded		
		Standard Sn	Extended Sn	Long Sn	Standard Sn	Extended Sn	Long Sn
Brass Case	NPN-NO						
	NPN-NC						
	PNP-NO						
	PNP-NC						
	NPN-NO+NC						
PBT Case	NPN-NO	L1 EE80C40T			L1 EF80C50T		
	NPN-NC	L1 EE80D40T			L1 EF80D50T		
	PNP-NO	L1 EE80A40T			L1 EF80A50T		
	PNP-NC	L1 EE80B40T			L1 EF80B50T		
	NPN-NO+NC	L1 EE80F40T			L1 EF80F50T		
	PNP-NO+NC	L1 EE80E40T			L1 EF80E50T		

General Data						
Housing size	Q80x 80 mm			Q80x 80 mm		
Installation type	Shielded			Non-shielded		
Sensing distance (Sn: mm)	40 mm			50 mm		
Standard sensing object	Steel 120x120x1 mm			Steel 150x150x1 mm		
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 ... 30 VDC			10 ... 30 VDC		
Electrical Data						
Rated operating voltage	24 VDC			24 VDC		
Repeated accuracy	±10%			±10%		
Ripple	<10%			<10%		
No load current	10 mA			10 mA		
Max. Load current	200 mA			200 mA		
Leakage current	<0.01 mA			<0.01 mA		
Voltage drop	<1.5 VDC			<1.5 VDC		
Switching frequency	100 Hz			100 Hz		
Response time	1 ms/1 ms			1 ms/1 ms		
Rated insulation voltage	75 VDC			75 VDC		
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	220 mA			220 mA		
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, 30 gn, 11 ms			Shock, half-sinus, 30 gn, 11 ms		
Vibration rating	55 Hz, 1 mm ampl., 3x30 min.			55 Hz, 1 mm ampl., 3x30 min.		
EMC	IEC 60947-5-2			IEC 60947-5-2		
Accessory	/			/		
Connection	Cable Terminal with PG13.5 Connector			Cable Terminal with PG13.5 Connector		
Weight	Approx. 262 g			Approx. 262 g		