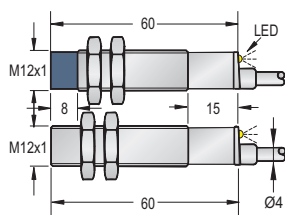
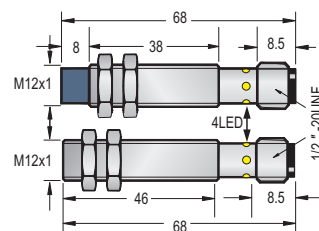


Features

- M12mm diameter
- Sn=2mm, shielded
4mm, non-shielded
- 20-250VAC/DC operating voltage
- Brass housing case
PBT Resin housing case
- NO, NC Function
- Cable version
3 Pin M12 connector version
- IP67 Protection



(Unit: mm)



(Unit: mm)

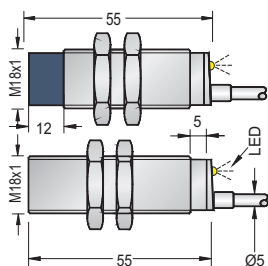


Connection		2m Cable		3 Pin M12 Connector	
Mounting		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	AC/DC-NO	L9AE12S02A	L9AF12S04A	L9AE12S02L	L9AF12S04L
	AC/DC-NC	L9AE12T02A	L9AF12T04A	L9AE12T02L	L9AF12T04L
PBT Case	AC/DC-NO	L9ME12S02A	L9MF12S04A	L9ME12S02L	L9MF12S04L
	AC/DC-NC	L9ME12T02A	L9MF12T04A	L9ME12T02L	L9MF12T04L
General Data					
Housing size	M12mm		M12mm		
Installation type	Shielded	Non-shielded	Shielded	Non-shielded	
Sensing distance(Sn: mm)	2mm	4mm	2mm	4mm	
Standard sensing object	Steel 12x12x1mm	Steel 12x12x1mm	Steel 12x12x1mm	Steel 12x12x1mm	
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	20 ... 250VAC/DC		20 ... 250VAC/DC		
Electrical Data					
Rated operating voltage	110VAC		110VAC		
Repeated accuracy	±10%		±10%		
Surge current	2.2A(20ms)		2.2A(20ms)		
No load current	<2.5mA		<2.5mA		
Max. Load current	100mA		100mA		
Leakage current	<2.5mA		<2.5mA		
Voltage drop	<10VAC, 8VDC		<10VAC, 8VDC		
Switching frequency	25Hz/AC, 40Hz/DC		25Hz/AC, 40Hz/DC		
Response time	10ms/10ms		10ms/10ms		
Rated insulation voltage	250VAC		250VAC		
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	No		No		
Short-circuit protection	No		No		
Min. load current	2.5mA		2.5mA		
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 3/2x0.34mm ²)		Micro-style 3 Pin M12 connector(1/2" -20UNF)		
Weight	Approx. 77g		Approx. 32g		

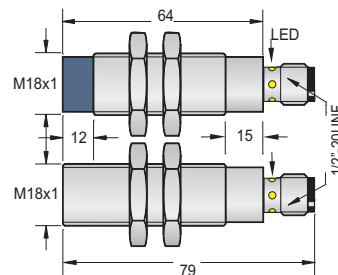


Features

- M18mm diameter
- Sn=5mm, shielded
8mm, non-shielded
- 20-250VAC/DC operating voltage
- Brass housing case
PBT Resin housing case
- NO, NC Function
- Cable version
3 Pin M12 connector version
- IP67 Protection



(Unit: mm)



(Unit: mm)



Connection		2m Cable		3 Pin M12 Connector	
Mounting		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	AC/DC-NO	L9AE18S05A	L9AF18S08A	L9AE18S05L	L9AF18S08L
	AC/DC-NC	L9AE18T05A	L9AF18T08A	L9AE18T05L	L9AF18T08L
PBT Case	AC/DC-NO	L9ME18S05A	L9MF18S08A	L9ME18S05L	L9MF18S08L
	AC/DC-NC	L9ME18T05A	L9MF18T08A	L9ME18T05L	L9MF18T08L

General Data		M18mm		M18mm	
Installation type		Shielded	Non-shielded	Shielded	Non-shielded
Sensing distance(Sn: mm)		5mm	8mm	5mm	8mm
Standard sensing object		Steel 18x18x1mm	Steel 18x18x1mm	Steel 18x18x1mm	Steel 18x18x1mm
Effective sensing distance (Sr: mm)		90 ... 110% of Sn		90 ... 110% of Sn	
Assured operating distance(Sa: mm)		0 ... 80% of Sn		0 ... 80% of Sn	
Hysteresis		<15%		<15%	
Housing material		Nickel plated brass/PBT Resin		Nickel plated brass/PBT Resin	
Operating voltage		20 ... 250VAC/DC		20 ... 250VAC/DC	

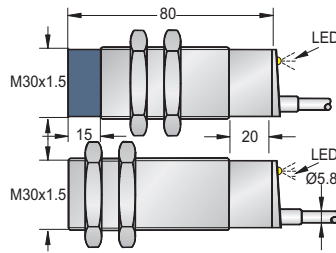
Electrical Data		M18mm		M18mm	
Rated operating voltage		110VAC		110VAC	
Repeated accuracy		±10%		±10%	
Surge current		2.2A(20ms)		2.2A(20ms)	
No load current		<2.5mA		<2.5mA	
Max. Load current		200mA		200mA	
Leakage current		<2.5mA		<2.5mA	
Voltage drop		<10VAC, 8VDC		<10VAC, 8VDC	
Switching frequency		25Hz/AC, 40Hz/DC		25Hz/AC, 40Hz/DC	
Response time		10ms/10ms		10ms/10ms	
Rated insulation voltage		250VAC		250VAC	
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		No		No	
Short-circuit protection		No		No	
Min. load current		5mA		5mA	
Correction factors		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/copper approx. 0.4		Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/copper approx. 0.4	

Mechanical Data		M18mm		M18mm	
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 3/2x0.34mm ²)		Micro-style 3 Pin M12 connector(1/2" -20UNF)	
Weight		Approx. 162g		Approx. 70g	

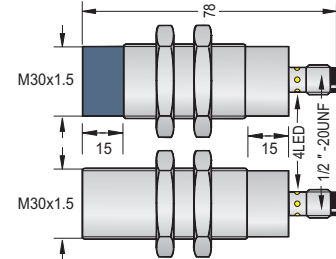


Features

- M30mm diameter
- Sn=10mm, shielded
15mm, non-shielded
- 20-250VAC/DC operating voltage
- Brass housing case
PBT Resin housing case
- NO, NC Function
- Cable version
3 Pin M12 connector version
- IP67 Protection



(Unit: mm)



(Unit: mm)



Connection		2m Cable		3 Pin M12 Connector		
Mounting		Shielded	Non-shielded	Shielded	Non-shielded	
Brass Case	AC/DC-NO	L9AE30S10A	L9AF30S15A	L9AE30S10L	L9AF30S15L	
	AC/DC-NC	L9AE30T10A	L9AF30T15A	L9AE30T10L	L9AF30T15L	
PBT Case	AC/DC-NO	L9ME30S10A	L9MF30S15A	L9ME30S10L	L9MF30S15L	
	AC/DC-NC	L9ME30T10A	L9MF30T15A	L9ME30T10L	L9MF30T15L	
General Data						
Housing size	M30mm				M30mm	
Installation type	Shielded		Non-shielded		Shielded	
Sensing distance(Sn: mm)	10mm		15mm		10mm	
Standard sensing object	Steel 30x30x1mm		Steel 45x45x1mm		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	20 ... 250VAC/DC				20 ... 250VAC/DC	
Electrical Data						
Rated operating voltage	110VAC				110VAC	
Repeated accuracy	±10%				±10%	
Surge current	2.2A(20ms)				2.2A(20ms)	
No load current	<2.5mA				<2.5mA	
Max. Load current	200mA				200mA	
Leakage current	<2.5mA				<2.5mA	
Voltage drop	<10VAC, 8VDC				<10VAC, 8VDC	
Switching frequency	25Hz/AC, 40Hz/DC				25Hz/AC, 40Hz/DC	
Response time	10ms/10ms				10ms/10ms	
Rated insulation voltage	250VAC				250VAC	
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	No				No	
Short-circuit protection	No				No	
Min. load current	5mA				5mA	
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 3/2x0.5mm ²)				Micro-style 3 Pin M12 connector(1/2" -20UNF)	
Weight	Approx. 248g				Approx. 147g	



Features <ul style="list-style-type: none"> • Ø34mm diameter • Sn=15mm, shielded 20mm, non-shielded • 20-250VAC/DC operating voltage • PBT Resin housing case • NO, NC Function • Cable version 3 Pin M12 connector version • IP67 Protection 		
	(Unit: mm)	(Unit: mm)



Connection		2m Cable		2m Cable	
Mounting		Shielded	Non-shielded	Shielded	Non-shielded
Brass Case	AC/DC-NO				
	AC/DC-NC				
PBT Case	AC/DC-NO	L8NE34S15A	L8NF34S20A	L8NE34S15L	L8NF34S20L
	AC/DC-NC	L8NE34T15A	L8NF34T20A	L8NE34T15L	L8NF34T20L

General Data					
Housing size	M30mm			M30mm	
Installation type	Shielded	Non-shielded		Shielded	Non-shielded
Sensing distance(Sn: mm)	15mm	20mm		15mm	20mm
Standard sensing object	Steel 45x45x1mm	Steel 60x60x1mm		Steel 45x45x1mm	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	PBT Resin			PBT Resin	
Operating voltage	20 ... 250VAC/DC			20 ... 250VAC/DC	


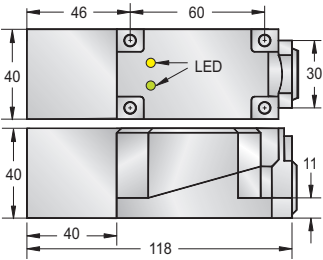
Electrical Data					
Rated operating voltage	110VAC			110VAC	
Repeated accuracy	±10%			±10%	
Surge current	2.2A(20ms)			2.2A(20ms)	
No load current	<2.5mA			<2.5mA	
Max. Load current	200mA			200mA	
Leakage current	<2.5mA			<2.5mA	
Voltage drop	<10VAC, 8VDC			<10VAC, 8VDC	
Switching frequency	25Hz/AC, 40Hz/DC			25Hz/AC, 40Hz/DC	
Response time	10ms/10ms			10ms/10ms	
Rated insulation voltage	250VAC			250VAC	
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	No			No	
Short-circuit protection	No			No	
Min. load current	5mA			5mA	
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	Bracket and nuts			Bracket and nuts	
Connection	2m PVC cable (Ø5.8 2x0.5mm ²)			Micro-style 3 Pin M12 connector(1/2" -20UNF)	
Weight	Approx. 250g			Approx. 162g	


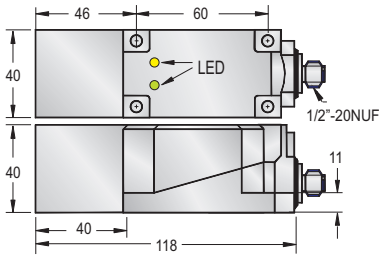


Features


- Q40x40mm diameter
- Sn=15mm, shielded
20mm, non-shielded
- 20-250VAC/DC operating voltage
- PBT Resin housing case
- NO, NC, NO/NC Function
- PG connector version
3 Pin M12 connector version
- IP67 Protection

(Unit: mm)

(Unit: mm)



Connection	
Mounting	
PBT Case	AC/DC-NO
	AC/DC-NC

Cable Terminal with PG Connector	
Shielded	Non-shielded
L9EE40S15T	L9EF40S20T
L9EE40T15T	L9EF40T20T

3 Pin M12 Connector	
Shielded	Non-shielded
L9EE40S15L	L9EF40S20L
L9EE40T15L	L9EF40T20L

General Data	
Housing size	Q40x40mm
Installation type	Shielded Non-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	20 ... 250VAC/DC

Q40x40mm	
Shielded	Non-shielded
15mm	20mm
Steel 45x45x1mm	Steel 60x60x1mm
90 ... 110% of Sn	
0 ... 80% of Sn	
<15%	
PBT Resin	
20 ... 250VAC/DC	

Q40x40mm	
Shielded	Non-shielded
15mm	20mm
Steel 45x45x1mm	Steel 60x60x1mm
90 ... 110% of Sn	
0 ... 80% of Sn	
<15%	
PBT Resin	
20 ... 250VAC/DC	

Electrical Data	
Rated operating voltage	110VAC
Repeated accuracy	±10%
Surge current	2.2A(20ms)
No load current	<2.5mA
Max. Load current	200mA
Leakage current	<2.5mA
Voltage drop	<10VAC, 8VDC
Switching frequency	25Hz/AC, 40Hz/DC
Response time	10ms/10ms
Rated insulation voltage	250VAC
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	No
Short-circuit protection	No
Min. load current	5mA
Correction factors	Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/copper approx. 0.4

110VAC	
±10%	
2.2A(20ms)	
<2.5mA	
200mA	
<2.5mA	
<10VAC, 8VDC	
25Hz/AC, 40Hz/DC	
10ms/10ms	
250VAC	
-25°C ... +70°C	
-40°C ... +80°C	
<10%	
No	
Yellow LED	
No	
No	
5mA	
Fe37 steel=1/stainless steel approx. 0.85/brass approx. 0.5/ Al. Approx. 0.45/copper approx. 0.4	

110VAC	
±10%	
2.2A(20ms)	
<2.5mA	
200mA	
<2.5mA	
<10VAC, 8VDC	
25Hz/AC, 40Hz/DC	
10ms/10ms	
250VAC	
-25°C ... +70°C	
-40°C ... +80°C	
<10%	
No	
Yellow LED	
No	
No	
5mA	
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	Cable terminal with PG connector
Weight	Approx. 250g

PBT	
IP67	
Shock, half-sinus, 30gn, 11ms	
55Hz, 1mm ampl., 3x30min.	
IEC 60947-5-2	
/	
Cable terminal with PG connector	
Approx. 250g	

PBT	
IP67	
Shock, half-sinus, 30gn, 11ms	
55Hz, 1mm ampl., 3x30min.	
IEC 60947-5-2	
/	
Micro-style 3 Pin M12 connector(1/2"-20UNF)	
Approx. 260g	



<p>Features</p> <ul style="list-style-type: none"> ▪ Q40x40mm diameter ▪ Sn=15mm, shielded 20mm, non-shielded ▪ 20-250VAC/DC operating voltage ▪ PBT Resin housing case ▪ NO, NC Function ▪ 3 Pin M12 connector version ▪ IP67 Protection 	<p>(Unit: mm)</p>	



Connection		3 Pin M12 Connector	
Mounting		Shielded	Non-shielded
PBT Case	AC/DC-NO	L9NC40S15L	L9ND40S20L
	AC/DC-NC	L9NC40T15L	L9ND40T20L

General Data		
Housing size	Q40x40mm	
Installation type	Shielded	Non-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	20 ... 250VAC/DC	

Electrical Data		
Rated operating voltage	110VAC	
Repeated accuracy	±10%	
Surge current	2.2A(20ms)	
No load current	<2.5mA	
Max. Load current	200mA	
Leakage current	<2.5mA	
Voltage drop	<10VAC, 8VDC	
Switching frequency	25Hz/AC, 40Hz/DC	
Response time	10ms/10ms	
Rated insulation voltage	250VAC	
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	No	
Short-circuit protection	No	
Min. load current	5mA	
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	Micro-style 3 Pin M12 connector(1/2" -20UNF)	
Weight	Approx. 170g	