

TECHNICAL DATA SHEET

Inductive Proximity Switches

Proximity Sensors

High/low Temperature Resistance Series

Contents

- Functional Description
- Application Scenarios
- Technical Parameters
- Size Parameters
- Wiring Diagram



Figure can vary

Proximity sensors: solutions for multiple scenarios

Proximity sensors are widely used in many fields due to their non-contact detection, high accuracy and fast response.

Inductive series for oil-resistant and corrosion-resistant machine tool industry

Many times we are faced with harsh operating environments, compact installation spaces, and conditions with both movement and corrosion during use, such as the machine tool manufacturing industry, which has such diverse needs – the number of materials, processes and molds involved is huge and varied. During the production process, cutting fluids and abrasives are required to process workpieces, so various sensor solutions that are not affected by harsh environmental conditions are required. dadisick's product series, which uses different manufacturing processes, can even provide fully suitable sensor solutions for high-speed applications or applications involving corrosive coolants and lubricants.



All-metal integrated housing anti-washing series



Due to the stainless steel integrated housing, this series of sensors not only has good impact resistance, but also can withstand the corrosion of detergents and solvents. It can be used in environments that require frequent high-pressure washing, and can achieve long-term sealing that meets the IP69K protection level. At the same time, it is compatible with the installation method of conventional sensors, which can be replaced and replaced conveniently and practically. It includes a variety of models with a diameter of 8mm...30mm, all with direct cable output and M12 standard connector. Operating distance 2...8mm.

Low-temperature -40°C inductive series for wind power generation

Wind power generation has become one of the world's recognized main clean energy generation methods because it does not require the use of fuel and does not produce radiation or air pollution. Different sensors are used in the operation of the variable pitch yaw generator reducer of the wind turbine to detect the correction of the control movement and rotation process. Most of the installation locations of wind turbines are in places with severe temperature changes such as mountains, oceans and plateaus, which require higher temperature environments for sensors. Our low-temperature -40°C product series launched for this use environment is perfectly adapted to the application here.



Solutions for high-temperature series long-distance products in steelmaking and rolling



Steelmaking and rolling equipment produces complex oil, gas and water erosion and flushing sensors for various raw materials under high temperature of oil and gas in a high-temperature 2000° radiation environment, which puts higher requirements on the stability of sensors. In the position control detection of multiple processes of steel billets, coils and wires, DADISICK has a variety of series of products with high temperature resistance of 250°C, DC two-wire, AC 250V, etc., which are widely used in this complex environment to ensure normal production.

Anti-welding slag adhesion, high temperature resistance and anti-interference series

Whether it is stamping, welding, painting, or assembly processes in automobile manufacturing, long distance, anti-welding slag adhesion, strong current magnetic field interference, or high temperature environment, DADISICK sensors can be used for fixtures, molds and other equipment. Reliable performance and perfect solutions bring a smooth production process to automobile manufacturing. In the welding of various high-current welding machines, the strong magnetic field interference generated by the current and the high-temperature heat conduction generated by the arc will affect the sensors in the fixture molds. Reliable performance products must be selected to ensure normal operation.



All-metal integrated housing anti-washing series

A large number of intelligent warehousing and logistics facilities, such as AGV trolleys and rail-to-rail stackers, are equipped with our sensors to realize the control of rotating positioning and lifting devices, etc., providing very stable and durable high-reliability products. Under the high requirements of small installation space and long detection distance, this series of products is the best choice for customers with strict cost control. Choosing this series of products is the best choice for customers with strict cost control.



High-pressure 1000Bar hydraulic cylinder series

The stable and reliable hydraulic cylinder telescopic more often uses DADISICK's inductive proximity sensors with a high pressure resistance of up to 1000Bar to achieve the control of the origin. Ceramic chips are used as high-voltage products at the induction level and stainless steel integrated housings are used to achieve high-pressure resistant applications. DC10-30V two-wire and three-wire products are also provided.



Analog output series for position correction and control devices



In detecting the offset position of the controlled parts of the fixture, analog output proximity sensors are often used in wire reel correction, and the size of the offset is controlled by the size of the detection distance. This use can be installed and tested in a very small position space. We have successfully provided stable and accurate products for many parts manufacturers and wire rope winding equipment, including 0-10V voltage output and 4-20mA current output and current + voltage output products. The detectable distance can be adjusted between 0-50mm.

Shoemaking, textile and papermaking machinery series products

Whichever manufacturer of shoemaking machines, textile machines and papermaking machines has long equipped the mechanical equipment they produce with more automated operation technologies, these control technologies are also equipped with high-quality sensors to achieve their control conditions. They require products with higher switching frequency accuracy and better stability, and they need a variety of products with unconventional dimensions. We tailor new outer shell dimensions for them one by one to meet their needs.



Proximity Sensor Model Specifications

L G 0 8 - 0 2 N O - Z B A - 3 A - S 120 (LG08-02NO-ZBA-3A-S120)

Special Instructions: Highest 120°C

Shell material:

H: nickel-plated brass; S: stainless steel; SS: Split Type;
P: plastic; T: Teflon; L: aluminum alloy

Short circuit protection:

A: Standard type with short circuit protection
M: Short type with short circuit protection
S: Standard type without short circuit protection
R: Ultra short type with short circuit protection

Wiring method:

2: 2-wire	5: 5-wire type	2E: 2 wire+M8 connector	2T: 2 wire+M12 connector
3: 3-wire	E: M8 connector	3E: 3 wire+M8 connector	3T: 3 wire+M12 connector
4: 4-wire	T: M12 connector	4E: 4 wire+M8 connector	4T: 4 wire+M12 connector

Voltage:

A:DC10-30V	B:DC5-36V	C:DC10-55V	D:DC10-60V
E:DC18-30V	F:DC6-12V	G:AC20-250V	H:AC/DC20-250V

Installation method: A: Shielded B: Non-shielded

Connection method: Y: Plug-in type Z: Cable type

Output mode:

NC: NPN NC;	NO: NPN NO
PC: PNP NC;	PO: PNP NO
NS: NPN NO&NC;	PS: PNP NO&NC
HC: DC NC;	HO: DC NO
AC: AC NC;	AO: AC NO
HS: DC NO&NC;	AS: AC NO&NC
I: analog current;	U: analog voltage
TC: AC&DC NC;	TO: AC&DC NO
TS: AC/DC NO&NC;	V: Current + voltage output
NA: Explosion-proof type	

Detection distance: 1mm-50mm

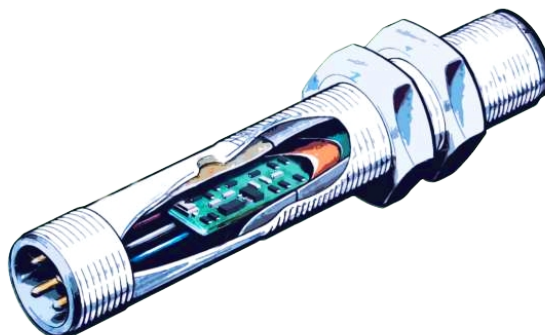
Specification(mm): $\phi 3$, $\phi 4$, M4, M5, $\phi 6.5$, M8, M12, M18, M30

Type:

R: Standard type;
X: Ultra-small;
B: Explosion-proof type;
J: All-metal type;
P: High-pressure resistant type;
G: High-temperature resistant;
Z: Low-temperature resistant type;
C: Limit switch type;
D: Anti-welding slag and high-magnetic type;
F: Corrosion-resistant type;
A: Analog type;
I: Ring type;
E: Square type

Series:

L: Inductive sensor
C: Capacitive sensor



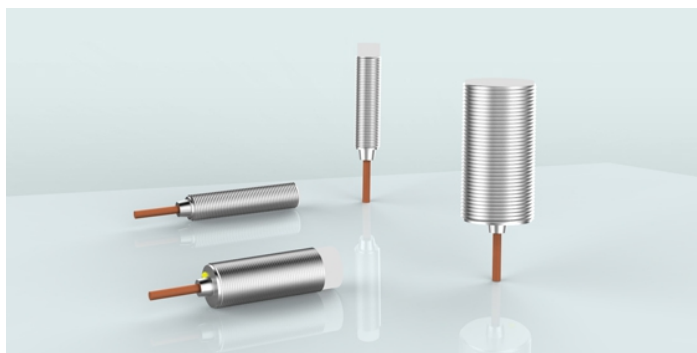
High/low temperature resistance Series

Proximity sensors

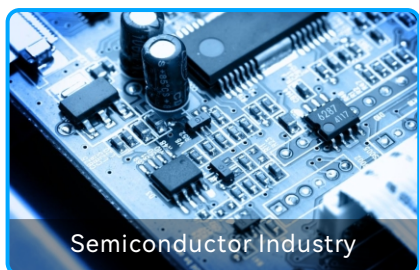
This series features special design for -40°C low temperature or +180°C high temperature harsh environment.

Features:

- Temperature range: -40°C-- +180°C;
- Size: M8, M12, M18, M30;
- Sensing distance: 10-25mm;
- Frequency: 100-500 HZ;
- Cable material: teflon or silicon;
- Certificates: CE, ROHS.



Application Industry



Semiconductor Industry



Logistics Packaging



Electronics Manufacturing



Automation Industry



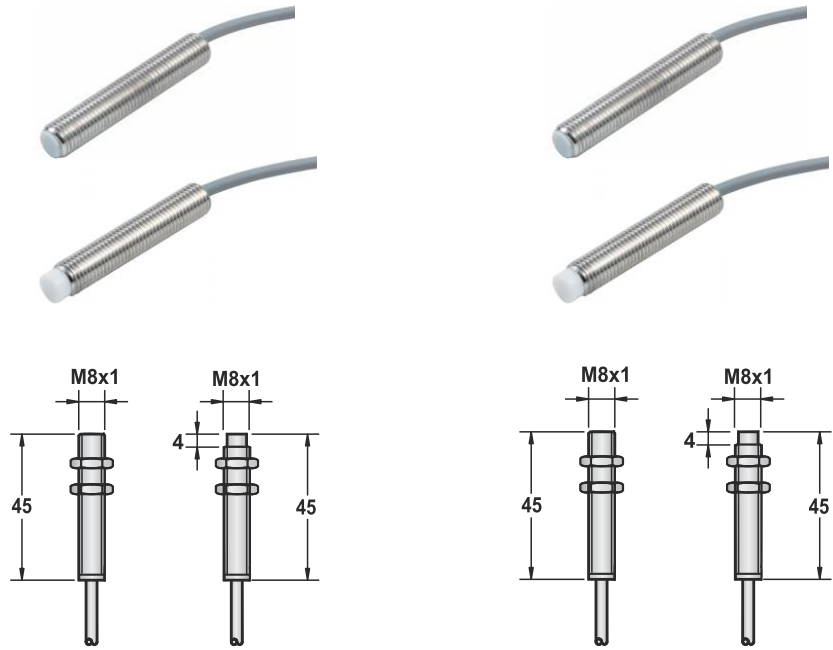
Textile Industry



Printing Industry

Product Parameters

High Temperature Resistance Series



Size category

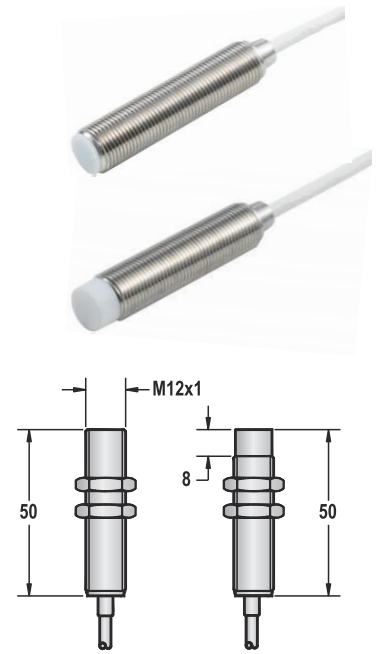
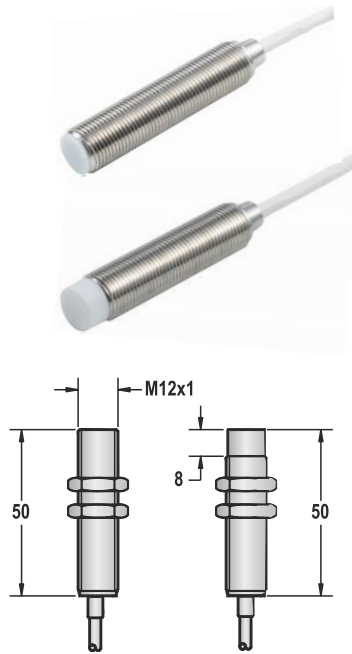
M8

M8

● Shielded ○ Non-shielded	● ○		● ○	
Sr: mm	1 mm	2 mm	2 mm	4mm
Housing material	Stainless steel		Stainless steel	
Detection head material	PTFE		PTFE	
Operating voltage	10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	120mA		120mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<1.5V		<1.5V	
Switching frequency	1KHZ	800HZ	800HZ	500HZ
Response time	0.1ms	0.2ms	0.2ms	0.5ms
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<1.0%(Sr)		<1.0%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25℃ - +120℃		-25℃ - +120℃	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection	Yes		Yes	
Overload protection current	150mA		150mA	
Reverse polarity protection	Yes		Yes	
Connection method	Teflon 3.5Φ3x0.34 or silicone 4.0Φ3x3.4		Teflon 3.5Φ3x0.34 or silicone 4.0Φ3x3.4	
Product Model				
DC 3 wire 10-30V NPN NO	LG08-01NO -ZAA -3A -S120	LG08-02NO -ZBA -3A -S120	LG08-02NO -ZAA -3A -S120	LG08-04NO -ZBA -3A -S120
DC 3 wire 10-30V NPN NC	LG08-01NC -ZAA -3A -S120	LG08-02NC -ZBA -3A -S120	LG08-02NC -ZAA -3A -S120	LG08-04NC -ZBA -3A -S120
DC 3 wire 10-30V PNP NO	LG08-01PO -ZAA -3A -S120	LG08-02PO -ZBA -3A -S120	LG08-02PO -ZAA -3A -S120	LG08-04PO -ZBA -3A -S120
DC 3 wire 10-30V PNP NC	LG08-01PC -ZAA -3A -S120	LG08-02PC -ZBA -3A -S120	LG08-02PC -ZAA -3A -S120	LG08-04PC -ZBA -3A -S120
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO	LG08-01HO -ZAD -2A -S120	LG08-02HO -ZBD -2A -S120	LG08-02HO -ZAD -2A -S120	LG08-04HO -ZBD -2A -S120
DC 2 wire 10-60V NC	LG08-01HC -ZAD -2A -S120	LG08-02HC -ZBD -2A -S120	LG08-02HC -ZAD -2A -S120	LG08-04HC -ZBD -2A -S120
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

Product Parameters

High Temperature Resistance Series



Size category

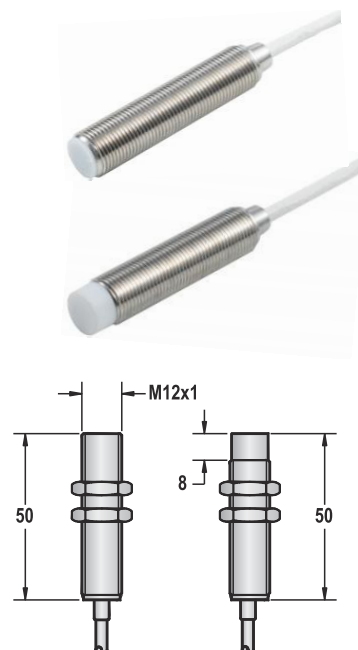
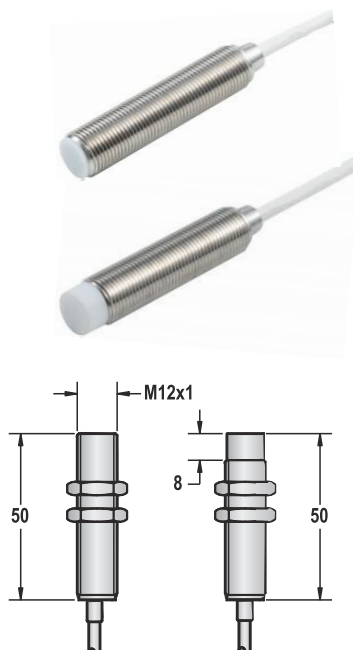
M12

M12

● Shielded ○ Non-shielded				
Sr: mm	2 mm	4mm	4mm	8 mm
Housing material	Stainless steel		Stainless steel	
Detection head material	PTFE		PTFE	
Operating voltage	10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	150mA		150mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<1.5V		<1.5V	
Switching frequency	1KHZ	800HZ	800HZ	500HZ
Response time	0.1ms	0.2ms	0.2ms	0.5ms
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<1.0%(Sr)		<1.0%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25℃ - +120℃		-25℃ - +120℃	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection	Yes		Yes	
Overload protection current	170mA		170mA	
Reverse polarity protection	Yes		Yes	
Connection method	Teflon 3.5Φ3x0.34 or silicone 4.0Φ3x3.4		Teflon 3.5Φ3x0.34 or silicone 4.0Φ3x3.4	
Product Model				
DC 3 wire 10-30V NPN NO	LG12-02NO -ZAA -3A -S120	LG12-04NO -ZBA -3A -S120	LG12-04NO -ZAA -3A -S120	LG12-08NO -ZBA -3A -S120
DC 3 wire 10-30V NPN NC	LG12-02NC -ZAA -3A -S120	LG12-04NC -ZBA -3A -S120	LG12-04NC -ZAA -3A -S120	LG12-08NC -ZBA -3A -S120
DC 3 wire 10-30V PNP NO	LG12-02PO -ZAA -3A -S120	LG12-04PO -ZBA -3A -S120	LG12-04PO -ZAA -3A -S120	LG12-08PO -ZBA -3A -S120
DC 3 wire 10-30V PNP NC	LG12-02PC -ZAA -3A -S120	LG12-04PC -ZBA -3A -S120	LG12-04PC -ZAA -3A -S120	LG12-08PC -ZBA -3A -S120
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO	LG12-02HO -ZAD -2A -S120	LG12-04HO -ZBD -2A -S120	LG12-04HO -ZAD -2A -S120	LG12-08HO -ZBD -2A -S120
DC 2 wire 10-60V NC	LG12-02HC -ZAD -2A -S120	LG12-04HC -ZBD -2A -S120	LG12-04HC -ZAD -2A -S120	LG12-08HC -ZBD -2A -S120
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

Product Parameters

High Temperature Resistance Series



Size category

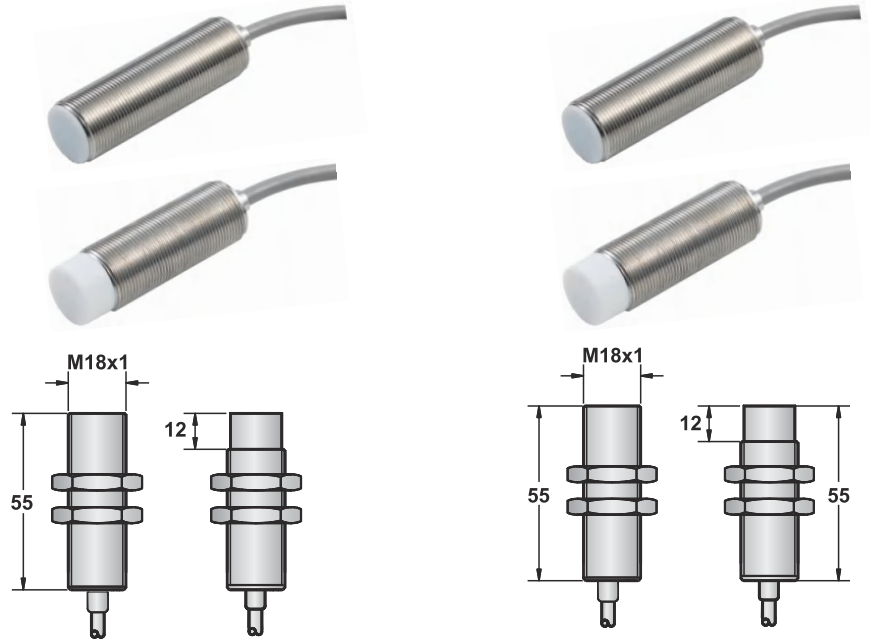
M12

M12

● Shielded ○ Non-shielded	M12		M12	
Sn: mm	2 mm	4mm	4mm	8 mm
Housing material	Stainless steel		Stainless steel	
Detection head material	PTFE		PTFE	
Operating voltage	10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	100mA		100mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<1.5V		<1.5V	
Switching frequency	800HZ	500HZ	500HZ	300HZ
Response time	0.2ms	0.5ms	0.5ms	0.5ms
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<1.0%(Sr)		<1.0%(Sr)	
Protection level	IP67		IP67	
Operating temperature	- 25 - + 150℃		- 25 - + 150℃	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection	Yes		Yes	
Overload protection current	120mA		120mA	
Reverse polarity protection	Yes		Yes	
Connection method	Teflon 3.5Φ3x0.34 or silicone 4.0Φ3x3.4		Teflon 3.5Φ3x0.34 or silicone 4.0Φ3x3.4	
Product Model				
DC 3 wire 10-30V NPN NO	LG12-02NO -ZAA -3A -S150	LG12-04NO -ZBA -3A -S150	LG12-04NO -ZAA -3A -S150	LG12-08NO -ZBA -3A -S150
DC 3 wire 10-30V NPN NC	LG12-02NC -ZAA -3A -S150	LG12-04NC -ZBA -3A -S150	LG12-04NC -ZAA -3A -S150	LG12-08NC -ZBA -3A -S150
DC 3 wire 10-30V PNP NO	LG12-02PO -ZAA -3A -S150	LG12-04PO -ZBA -3A -S150	LG12-04PO -ZAA -3A -S150	LG12-08PO -ZBA -3A -S150
DC 3 wire 10-30V PNP NC	LG12-02PC -ZAA -3A -S150	LG12-04PC -ZBA -3A -S150	LG12-04PC -ZAA -3A -S150	LG12-08PC -ZBA -3A -S150
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO	LG12-02HO -ZAD -2A -S150	LG12-04HO -ZBD -2A -S150	LG12-04HO -ZAD -2A -S150	LG12-08HO -ZBD -2A -S150
DC 2 wire 10-60V NC	LG12-02HC -ZAD -2A -S150	LG12-04HC -ZBD -2A -S150	LG12-04HC -ZAD -2A -S150	LG12-08HC -ZBD -2A -S150
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

Product Parameters

High Temperature Resistance Series



Size category

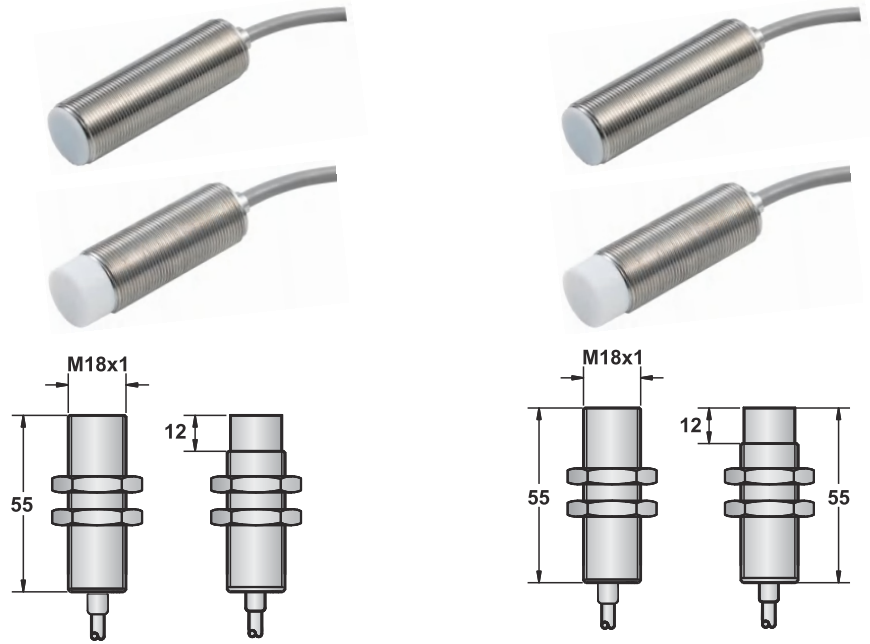
M18

M18

● Shielded ○ Non-shielded	● ○		● ○	
Sr: mm	5 mm	8 mm	8 mm	16 mm
Housing material	Stainless steel		Stainless steel	
Detection head material	PTFE		PTFE	
Operating voltage	10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	150mA		120mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<1.5V		<1.5V	
Switching frequency	400HZ	300HZ	400HZ	300HZ
Response time	0.5ms	0.5ms	0.5ms	0.5ms
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<1.0%(Sr)		<1.0%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25℃ - +120℃		-25℃ - +120℃	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection	Yes		Yes	
Overload protection current	170mA		150mA	
Reverse polarity protection	Yes		Yes	
Connection method	Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4		Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4	
Product Model				
DC 3 wire 10-30V NPN NO	LG18-05NO -ZAA -3A -S120	LG18-08NO -ZBA -3A -S120	LG18-08NO -ZAA -3A -S120	LG18-16NO -ZBA -3A -S120
DC 3 wire 10-30V NPN NC	LG18-05NC -ZAA -3A -S120	LG18-08NC -ZBA -3A -S120	LG18-08NC -ZAA -3A -S120	LG18-16NC -ZBA -3A -S120
DC 3 wire 10-30V PNP NO	LG18-05PO -ZAA -3A -S120	LG18-08PO -ZBA -3A -S120	LG18-08PO -ZAA -3A -S120	LG18-16PO -ZBA -3A -S120
DC 3 wire 10-30V PNP NC	LG18-05PC -ZAA -3A -S120	LG18-08PC -ZBA -3A -S120	LG18-08PC -ZAA -3A -S120	LG18-16PC -ZBA -3A -S120
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO	LG18-05HO -ZAD -2A -S120	LG18-08HO -ZBD -2A -S120	LG18-08HO -ZAD -2A -S120	LG18-16HO -ZBD -2A -S120
DC 2 wire 10-60V NC	LG18-05HC -ZAD -2A -S120	LG18-08HC -ZBD -2A -S120	LG18-08HC -ZAD -2A -S120	LG18-16HC -ZBD -2A -S120
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

Product Parameters

High Temperature Resistance Series



Size category

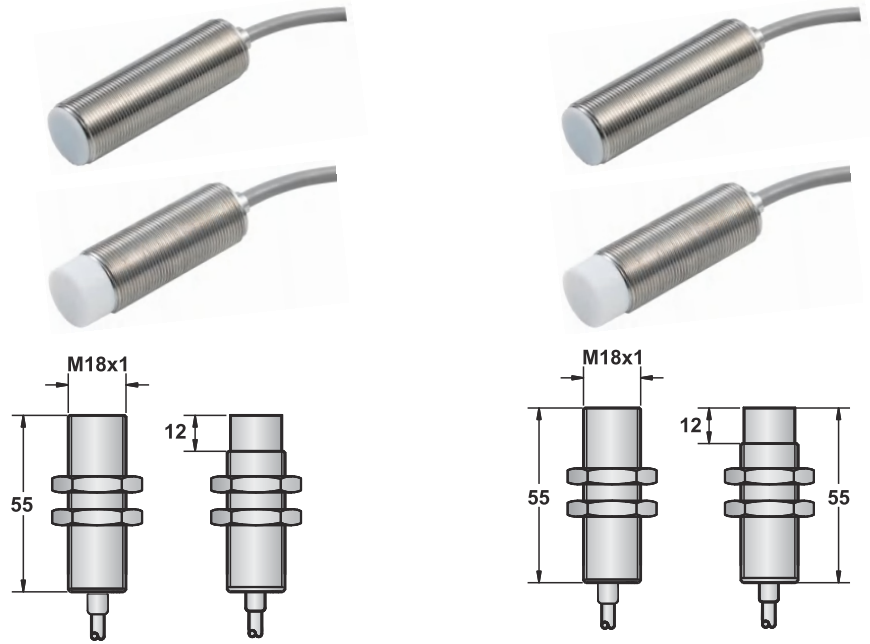
M18

M18

● Shielded ○ Non-shielded	● ○		● ○	
Sr: mm	5 mm	8 mm	8 mm	16 mm
Housing material	Stainless steel		Stainless steel	
Detection head material	PTFE		PTFE	
Operating voltage	10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	100mA		100mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<1.5V		<1.5V	
Switching frequency	400HZ	300HZ	400HZ	300HZ
Response time	0.5ms	0.5ms	0.5ms	0.5ms
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<1.0%(Sr)		<1.0%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25 ℃ - +150 ℃		-25 ℃ - +150 ℃	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection	Yes		Yes	
Overload protection current	120mA		120mA	
Reverse polarity protection	Yes		Yes	
Connection method	Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4		Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4	
Product Model				
DC 3 wire 10-30V NPN NO	LG18-05NO -ZAA -3A -S150	LG18-08NO -ZBA -3A -S150	LG18-08NO -ZAA -3A -S150	LG18-16NO -ZBA -3A -S150
DC 3 wire 10-30V NPN NC	LG18-05NC -ZAA -3A -S150	LG18-08NC -ZBA -3A -S150	LG18-08NC -ZAA -3A -S150	LG18-16NC -ZBA -3A -S150
DC 3 wire 10-30V PNP NO	LG18-05PO -ZAA -3A -S150	LG18-08PO -ZBA -3A -S150	LG18-08PO -ZAA -3A -S150	LG18-16PO -ZBA -3A -S150
DC 3 wire 10-30V PNP NC	LG18-05PC -ZAA -3A -S150	LG18-08PC -ZBA -3A -S150	LG18-08PC -ZAA -3A -S150	LG18-16PC -ZBA -3A -S150
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO	LG18-05HO -ZAD -2A -S150	LG18-08HO -ZBD -2A -S150	LG18-08HO -ZAD -2A -S150	LG18-16HO -ZBD -2A -S150
DC 2 wire 10-60V NC	LG18-05HC -ZAD -2A -S150	LG18-08HC -ZBD -2A -S150	LG18-08HC -ZAD -2A -S150	LG18-16HC -ZBD -2A -S150
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

Product Parameters

High Temperature Resistance Series



Size category

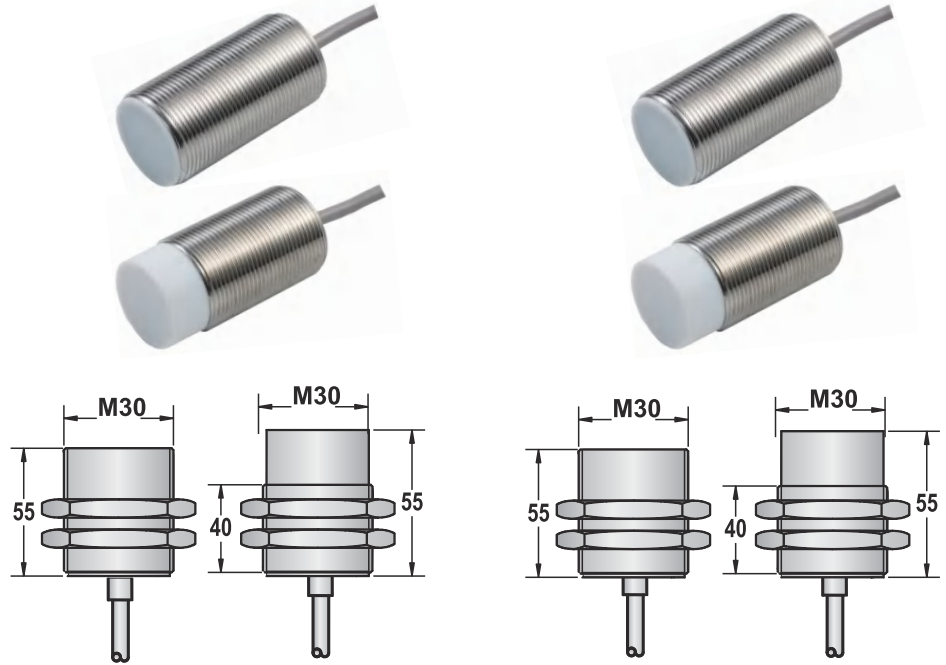
M18

M18

● Shielded ○ Non-shielded	● ○		● ○	
Sr: mm	5 mm	8 mm	8 mm	16 mm
Housing material	Stainless steel		Stainless steel	
Detection head material	PTFE		PTFE	
Operating voltage	10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	80mA		80mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<1.5V		<1.5V	
Switching frequency	400HZ	300HZ	400HZ	300HZ
Response time	0.5ms	0.5ms	0.5ms	0.5ms
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<1.0%(Sr)		<1.0%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-25 °C - +180 °C		-25 °C - +180 °C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection	Yes		Yes	
Overload protection current	100mA		100mA	
Reverse polarity protection	Yes		Yes	
Connection method	Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4		Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4	
Product Model				
DC 3 wire 10-30V NPN NO	LG18-05NO -ZAA -3A -S180	LG18-08NO -ZBA -3A -S180	LG18-08NO -ZAA -3A -S180	LG18-16NO -ZBA -3A -S180
DC 3 wire 10-30V NPN NC	LG18-05NC -ZAA -3A -S180	LG18-08NC -ZBA -3A -S180	LG18-08NC -ZAA -3A -S180	LG18-16NC -ZBA -3A -S180
DC 3 wire 10-30V PNP NO	LG18-05PO -ZAA -3A -S180	LG18-08PO -ZBA -3A -S180	LG18-08PO -ZAA -3A -S180	LG18-16PO -ZBA -3A -S180
DC 3 wire 10-30V PNP NC	LG18-05PC -ZAA -3A -S180	LG18-08PC -ZBA -3A -S180	LG18-08PC -ZAA -3A -S180	LG18-16PC -ZBA -3A -S180
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO	LG18-05HO -ZAD -2A -S180	LG18-08HO -ZBD -2A -S180	LG18-08HO -ZAD -2A -S180	LG18-16HO -ZBD -2A -S180
DC 2 wire 10-60V NC	LG18-05HC -ZAD -2A -S180	LG18-08HC -ZBD -2A -S180	LG18-08HC -ZAD -2A -S180	LG18-16HC -ZBD -2A -S180
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

Product Parameters

High Temperature Resistance Series



Size category

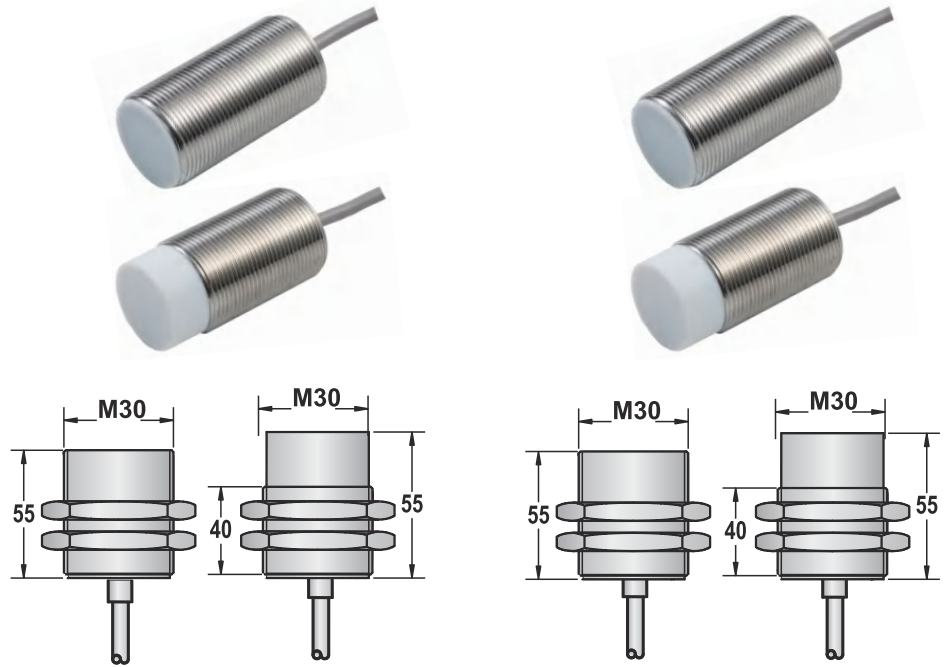
M30

M30

	● Shielded ○ Non-shielded					
	Sn: mm		● 10 mm	○ 15 mm	● 16 mm	○ 25 mm
Housing material	Stainless steel		Stainless steel		Stainless steel	
Detection head material	PTFE		PTFE		PTFE	
Operating voltage	10-30VDC / 10-60VDC		10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage	<10%		<10%		<10%	
No-load current	<10mA		<10mA		<10mA	
Maximum load current	150mA		150mA		150mA	
Leakage current	<0.01mA		<0.01mA		<0.01mA	
Voltage drop	<1.5V		<1.5V		<1.5V	
Switching frequency	200HZ		150HZ		200HZ	
Response time	0.5ms		1ms		0.5ms	
Switching hysteresis	<15%(Sr)		<15%(Sr)		<15%(Sr)	
Repeat accuracy	<1.0%(Sr)		<1.0%(Sr)		<1.0%(Sr)	
Protection level	IP67		IP67		IP67	
Operating temperature	-25℃ - +120℃		-25℃ - +120℃		-25℃ - +120℃	
Temperature drift	<10%(Sr)		<10%(Sr)		<10%(Sr)	
Short circuit protection	Yes		Yes		Yes	
Overload protection current	170mA		170mA		170mA	
Reverse polarity protection	Yes		Yes		Yes	
Connection method	Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4		Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4		Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4	
Product Model						
DC 3 wire 10-30V NPN NO	LG30-10NO -ZAA -3A -S120	LG30-15NO -ZBA -3A -S120	LG30-16NO -ZAA -3A -S120	LG30-25NO -ZBA -3A -S120		
DC 3 wire 10-30V NPN NC	LG30-10NC -ZAA -3A -S120	LG30-15NC -ZBA -3A -S120	LG30-16NC -ZAA -3A -S120	LG30-25NC -ZBA -3A -S120		
DC 3 wire 10-30V PNP NO	LG30-10PO -ZAA -3A -S120	LG30-15PO -ZBA -3A -S120	LG30-16PO -ZAA -3A -S120	LG30-25PO -ZBA -3A -S120		
DC 3 wire 10-30V PNP NC	LG30-10PC -ZAA -3A -S120	LG30-15PC -ZBA -3A -S120	LG30-16PC -ZAA -3A -S120	LG30-25PC -ZBA -3A -S120		
DC 4 wire 10-30V Convertible PNP (NO&NC)						
DC 4 wire 10-30V Convertible NPN (NO&NC)						
DC 2 wire 10-60V NO	LG30-10HO -ZAD -2A -S120	LG30-15HO -ZBD -2A -S120	LG30-16HO -ZAD -2A -S120	LG30-25HO -ZBD -2A -S120		
DC 2 wire 10-60V NC	LG30-10HC -ZAD -2A -S120	LG30-15HC -ZBD -2A -S120	LG30-16HC -ZAD -2A -S120	LG30-25HC -ZBD -2A -S120		
DC 3 wire 10-55V NPN NO						
DC 3 wire 10-55V NPN NC						
DC 3 wire 10-55V PNP NO						
DC 3 wire 10-55V PNP NC						
DC 3 wire 5-36V NPN NO						
DC 3 wire 5-36V NPN NC						
DC 3 wire 5-36V PNP NO						
DC 3 wire 5-36V PNP NC						
DC 4 wire 5-36V Convertible PNP (NO&NC)						
DC 4 wire 5-36V Convertible NPN (NO&NC)						

Product Parameters

High Temperature Resistance Series



Size category

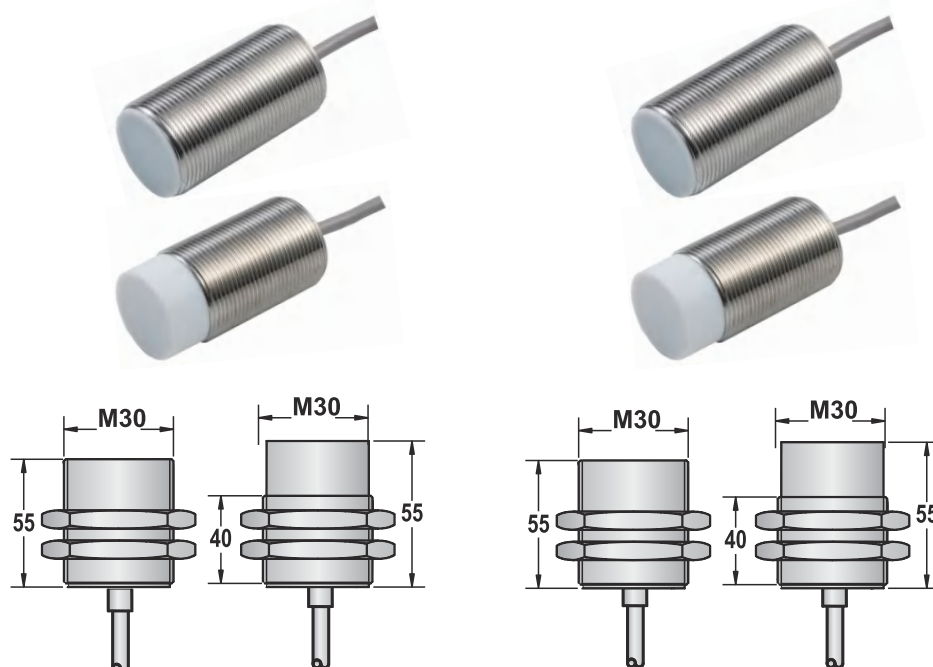
M30

M30

	● Shielded ○ Non-shielded			
	Sn: mm		10 mm	15 mm
Housing material		Stainless steel		
Detection head material		PTFE		
Operating voltage		10-30VDC		
Allowable pulsating voltage		<10%		
No-load current		<10mA		
Maximum load current		120mA		
Leakage current		<0.01mA		
Voltage drop		<1.5V		
Switching frequency		200HZ	150HZ	
Response time		0.5ms	1ms	
Switching hysteresis		<15%(Sr)		
Repeat accuracy		<1.0%(Sr)		
Protection level		IP67		
Operating temperature		-25 °C - +150°C		
Temperature drift		<10%(Sr)		
Short circuit protection		Yes		
Overload protection current		150mA		
Reverse polarity protection		Yes		
Connection method		Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4		
Product Model				
DC 3 wire 10-30V NPN NO	LG30-10NO -ZAA -3A -S150	LG30-15NO -ZBA -3A -S150	LG30-16NO -ZAA -3A -S150	LG30-25NO -ZBA -3A -S150
DC 3 wire 10-30V NPN NC	LG30-10NC -ZAA -3A -S150	LG30-15NC -ZBA -3A -S150	LG30-16NC -ZAA -3A -S150	LG30-25NC -ZBA -3A -S150
DC 3 wire 10-30V PNP NO	LG30-10PO -ZAA -3A -S150	LG30-15PO -ZBA -3A -S150	LG30-16PO -ZAA -3A -S150	LG30-25PO -ZBA -3A -S150
DC 3 wire 10-30V PNP NC	LG30-10PC -ZAA -3A -S150	LG30-15PC -ZBA -3A -S150	LG30-16PC -ZAA -3A -S150	LG30-25PC -ZBA -3A -S150
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO				
DC 2 wire 10-60V NC				
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

Product Parameters

High Temperature Resistance Series



Size category

M30

M30

● Shielded ○ Non-shielded

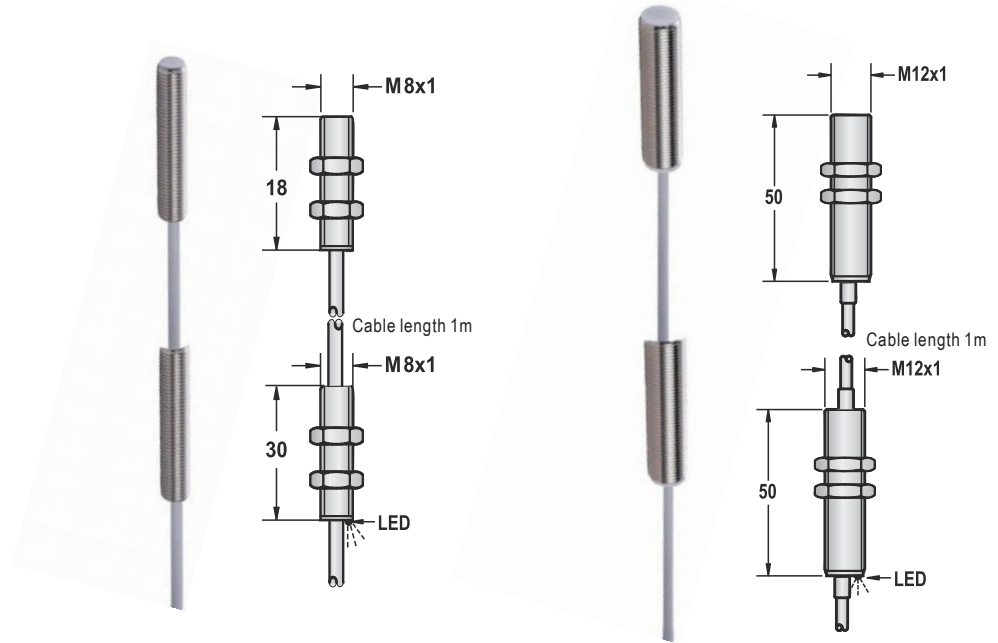
● 10 mm ○ 15 mm

● 16 mm ○ 25 mm

Sn: mm	10 mm		15 mm		16 mm		25 mm	
Housing material	Stainless steel				Stainless steel			
Detection head material	PTFE				PTFE			
Operating voltage	10-30VDC				10-30VDC			
Allowable pulsating voltage	<10%				<10%			
No-load current	<10mA				<10mA			
Maximum load current	80mA				80mA			
Leakage current	<0.01mA				<0.01mA			
Voltage drop	<1.5V				<1.5V			
Switching frequency	200HZ		150HZ		200HZ		150HZ	
Response time	0.5ms		1ms		0.5ms		1ms	
Switching hysteresis	<15%(Sr)				<15%(Sr)			
Repeat accuracy	<1.0%(Sr)				<1.0%(Sr)			
Protection level	IP67				IP67			
Operating temperature	-25℃ - +180℃				-25℃ - +180℃			
Temperature drift	<10%(Sr)				<10%(Sr)			
Short circuit protection	Yes				Yes			
Overload protection current	100mA				100mA			
Reverse polarity protection	Yes				Yes			
Connection method	Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4				Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4			
Product Model								
DC 3 wire 10-30V NPN NO	LG30-10NO -ZAA -3A -S180		LG30-15NO -ZBA -3A -S180		LG30-16NO -ZAA -3A -S180		LG30-25NO -ZBA -3A -S180	
DC 3 wire 10-30V NPN NC	LG30-10NC -ZAA -3A -S180		LG30-15NC -ZBA -3A -S180		LG30-16NC -ZAA -3A -S180		LG30-25NC -ZBA -3A -S180	
DC 3 wire 10-30V PNP NO	LG30-10PO -ZAA -3A -S180		LG30-15PO -ZBA -3A -S180		LG30-16PO -ZAA -3A -S180		LG30-25PO -ZBA -3A -S180	
DC 3 wire 10-30V PNP NC	LG30-10PC -ZAA -3A -S180		LG30-15PC -ZBA -3A -S180		LG30-16PC -ZAA -3A -S180		LG30-25PC -ZBA -3A -S180	
DC 4 wire 10-30V Convertible PNP (NO&NC)								
DC 4 wire 10-30V Convertible NPN (NO&NC)								
DC 2 wire 10-60V NO								
DC 2 wire 10-60V NC								
DC 3 wire 10-55V NPN NO								
DC 3 wire 10-55V NPN NC								
DC 3 wire 10-55V PNP NO								
DC 3 wire 10-55V PNP NC								
DC 3 wire 5-36V NPN NO								
DC 3 wire 5-36V NPN NC								
DC 3 wire 5-36V PNP NO								
DC 3 wire 5-36V PNP NC								
DC 4 wire 5-36V Convertible PNP (NO&NC)								
DC 4 wire 5-36V Convertible NPN (NO&NC)								

Product Parameters

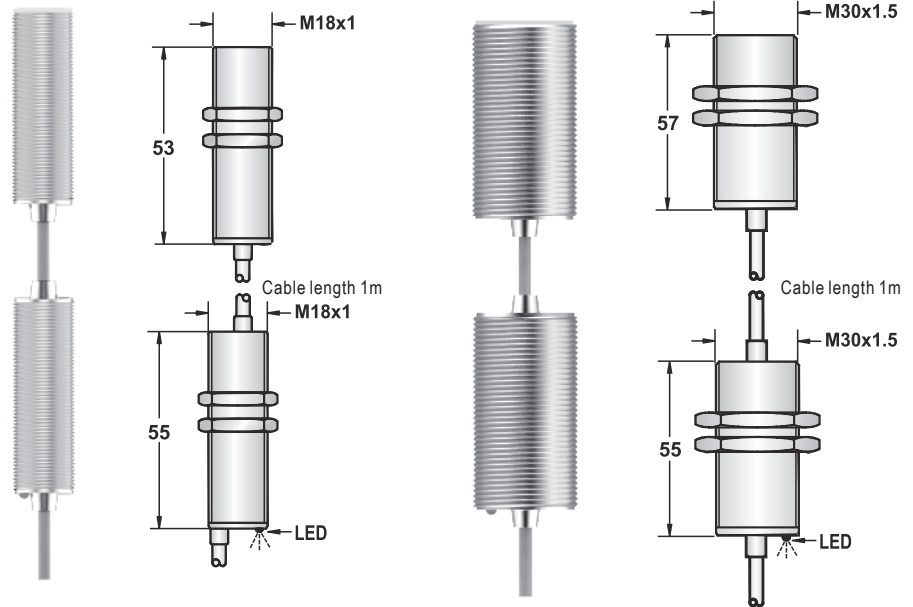
High Temperature Resistance Series



Size category	M8 Split Type	M12 Split Type
● Shielded ○ Non-shielded	●	●
Sn: mm	2 mm	2 mm
Housing material	Sensor head: stainless steel Amplifier: nickel-plated brass	Sensor head: stainless steel Amplifier: nickel-plated brass
Detection head material	PTFE	PTFE
Operating voltage	10-30VDC	10-30VDC
Allowable pulsating voltage	<10%	<10%
No-load current	<10mA	<10mA
Maximum load current	80mA	100mA
Leakage current	<0.01mA	<0.01mA
Voltage drop	<1.5V	<2VDC
Switching frequency	150HZ	100HZ
Response time	0.2ms	1.5ms
Switching hysteresis	<15%(Sr)	<15%(Sr)
Repeat accuracy	<1.0%(Sr)	<1.0%(Sr)
Protection level	IP67	IP67
Operating temperature	-25°C — +180°C	-25 °C - +150°C
Temperature drift	<10%(Sr)	<10%(Sr)
Short circuit protection	Yes	Yes
Overload protection current	100mA	120mA
Reverse polarity protection	Yes	Yes
Connection method	Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4	Teflon 3.5Φ3x0.34 or silicone 4.0Φ3x3.4
Product Model		
DC 3 wire 10-30V NPN NO	LG08-02NO-ZAA-3A-SS-180	LG12-02NO-ZAA-3A-SS150
DC 3 wire 10-30V NPN NC	LG08-02NC-ZAA-3A-SS-180	LG12-02NC-ZAA-3A-SS150
DC 3 wire 10-30V PNP NO	LG08-02PO-ZAA-3A-SS-180	LG12-02PO-ZAA-3A-SS150
DC 3 wire 10-30V PNP NC	LG08-02PC-ZAA-3A-SS-180	LG12-02PC-ZAA-3A-SS150
DC 4 wire 10-30V Convertible PNP (NO&NC)		LG12-02PS-ZAA-4A-SS150
DC 4 wire 10-30V Convertible NPN (NO&NC)		LG12-02NS-ZAA-4A-SS150
DC 2 wire 10-60V NO		
DC 2 wire 10-60V NC		
DC 3 wire 10-55V NPN NO		
DC 3 wire 10-55V NPN NC		
DC 3 wire 10-55V PNP NO		
DC 3 wire 10-55V PNP NC		
DC 3 wire 5-36V NPN NO		
DC 3 wire 5-36V NPN NC		
DC 3 wire 5-36V PNP NO		
DC 3 wire 5-36V PNP NC		
DC 4 wire 5-36V Convertible PNP (NO&NC)		
DC 4 wire 5-36V Convertible NPN (NO&NC)		

Product Parameters

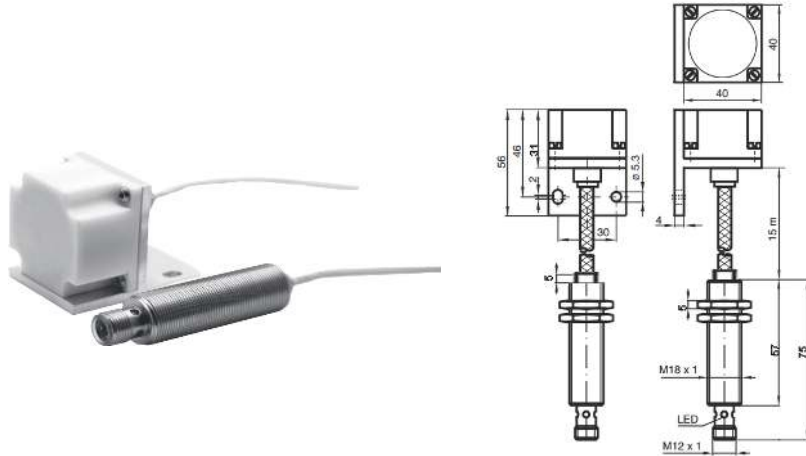
High Temperature Resistance Series



Size category	M18 Split Type	M30 Split Type
● Shielded ○ Non-shielded	●	●
Sn: mm	5mm	16mm
Housing material	Sensor head: stainless steel Amplifier: nickel-plated brass	Sensor head: stainless steel Amplifier: nickel-plated brass
Detection head material	PTFE	PTFE
Operating voltage	10-30VDC	10-30VDC
Allowable pulsating voltage	<10%	<10%
No-load current	<10mA	<10mA
Maximum load current	80mA	120mA
Leakage current	<0.01mA	<0.01mA
Voltage drop	<2VDC	<2VDC
Switching frequency	100HZ	100HZ
Response time	1.5ms	1.5ms
Switching hysteresis	<15%(Sr)	<15%(Sr)
Repeat accuracy	<5%(Sr)	<5%(Sr)
Protection level	IP67	IP67
Operating temperature	-25°C — +180°C	-25°C — +200 °C
Temperature drift	<10%(Sr)	<10%(Sr)
Short circuit protection	Yes	Yes
Overload protection current	100mA	150 mA
Reverse polarity protection	Yes	Yes
Connection method	Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4	Teflon 3.5Φ3x0.34 or silicone 4.0Φ3x3.4
Product Model		
DC 3 wire 10-30V NPN NO	LG18-05NO-ZAA-3A-SS-180	LG30-16NO-ZAA-3A-SS-200
DC 3 wire 10-30V NPN NC	LG18-05NC-ZAA-3A-SS-180	LG30-16NC-ZAA-3A-SS-200
DC 3 wire 10-30V PNP NO	LG18-05PO-ZAA-3A-SS-180	LG30-16PO-ZAA-3A-SS-120
DC 3 wire 10-30V PNP NC	LG18-05PC-ZAA-3A-SS-180	LG30-16PC-ZAA-3A-SS-120
DC 4 wire 10-30V Convertible PNP (NO&NC)	LG18-05PS-ZAA-4A-SS-180	LG30-16PS-ZAA-4A-SS-120
DC 4 wire 10-30V Convertible NPN (NO&NC)	LG18-05NS-ZAA-4A-SS-180	LG30-16NS-ZAA-4A-SS-120
DC 2 wire 10-60V NO		
DC 2 wire 10-60V NC		
DC 3 wire 10-55V NPN NO		
DC 3 wire 10-55V NPN NC		
DC 3 wire 10-55V PNP NO		
DC 3 wire 10-55V PNP NC		
DC 3 wire 5-36V NPN NO		
DC 3 wire 5-36V NPN NC		
DC 3 wire 5-36V PNP NO		
DC 3 wire 5-36V PNP NC		
DC 4 wire 5-36V Convertible PNP (NO&NC)		
DC 4 wire 5-36V Convertible NPN (NO&NC)		

Product Parameters

High Temperature Resistance Series



Size category

40x40 Split Type

● Shielded ○ Non-shielded

Sn: mm

25mm

Housing material

Sensor head: stainless steel
Amplifier: nickel-plated brass

Detection head material

PTFE

Operating voltage

10-30VDC

Allowable pulsating voltage

<10%

No-load current

<10mA

Maximum load current

200mA

Leakage current

<0.01mA

Voltage drop

<1.5V

Switching frequency

300HZ

Response time

0.5ms

Switching hysteresis

<15%(Sr)

Repeat accuracy

<1.0%(Sr)

Protection level

IP67

Operating temperature

-25 °C - + 250 °C

Temperature drift

<10%(Sr)

Short circuit protection

Yes

Overload protection current

150 mA

Reverse polarity protection

Yes

Connection method

Teflon 3.5Φ3x0.34 or silicone 4.8Φ3x3.4

Product Model

DC 3 wire 10-30V NPN NO

DC 3 wire 10-30V NPN NC

DC 3 wire 10-30V PNP NO

DC 3 wire 10-30V PNP NC

DC 4 wire 10-30V Convertible PNP (NO&NC)

LG40-25PS-ZAA-4A-SS-250

LG40-25PS-ZBA-4A-SS-250

DC 4 wire 10-30V Convertible NPN (NO&NC)

LG40-25NS-ZAA-4A-SS-250

LG40-25NS-ZBA-4A-SS-250

DC 2 wire 10-60V NO

DC 2 wire 10-60V NC

DC 3 wire 10-55V NPN NO

DC 3 wire 10-55V NPN NC

DC 3 wire 10-55V PNP NO

DC 3 wire 10-55V PNP NC

DC 3 wire 5-36V NPN NO

DC 3 wire 5-36V NPN NC

DC 3 wire 5-36V PNP NO

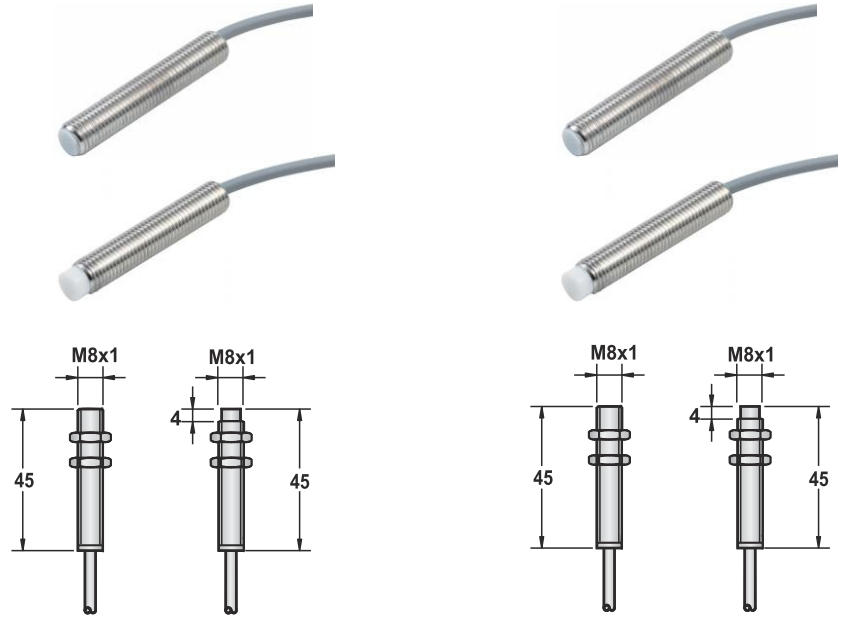
DC 3 wire 5-36V PNP NC

DC 4 wire 5-36V Convertible PNP (NO&NC)

DC 4 wire 5-36V Convertible NPN (NO&NC)

Product Parameters

Low Temperature Resistance Series



Size category

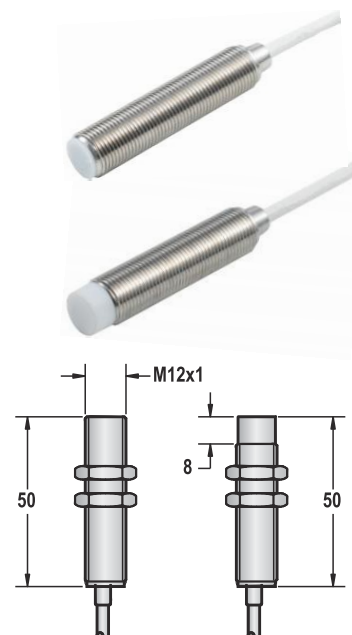
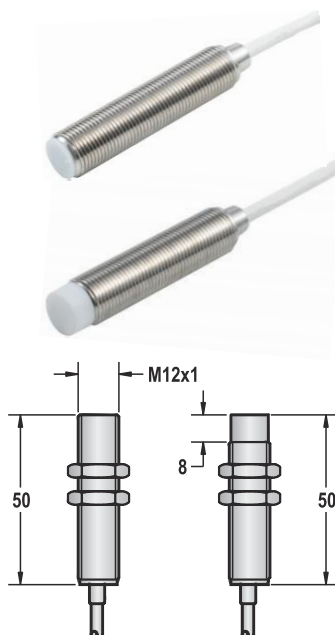
M8

M8

● Shielded ○ Non-shielded		●	○	●	○
Sn: mm		1 mm	2 mm	2 mm	4mm
Housing material		Nickel Plated Brass		Nickel Plated Brass	
Detection head material		PBT / PTFE		PBT / PTFE	
Operating voltage		10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage		<10%		<10%	
No-load current		<10mA		<10mA	
Maximum load current		200mA		200mA	
Leakage current		<0.01mA		<0.01mA	
Voltage drop		<1.5V		<1.5V	
Switching frequency		1KHZ	800HZ	800HZ	500HZ
Response time		0.1ms	0.2ms	0.1ms	0.2ms
Switching hysteresis		<15%(Sr)		<15%(Sr)	
Repeat accuracy		<1.0%(Sr)		<1.0%(Sr)	
Protection level		IP67		IP67	
Operating temperature		-40℃ - +70 ℃		-40℃ - +70 ℃	
Temperature drift		<10%(Sr)		<10%(Sr)	
Short circuit protection		Yes		Yes	
Overload protection current		220mA		220mA	
Reverse polarity protection		Yes		Yes	
Connection method		2m oil resistant PUR cable, 3 ϕ 3x0.15		2m oil resistant PUR cable, 3 ϕ 3x0.15	
Product Model					
DC 3 wire 10-30V NPN NO		LZ08-01NO -ZAA -3A -H40	LZ08-02NO -ZBA -3A -H40	LZ08-02NO -ZAA -3A -H40	LZ08-04NO -ZBA -3A -H40
DC 3 wire 10-30V NPN NC		LZ08-01NC -ZAA -3A -H40	LZ08-02NC -ZBA -3A -H40	LZ08-02NC -ZAA -3A -H40	LZ08-04NC -ZBA -3A -H40
DC 3 wire 10-30V PNP NO		LZ08-01PO -ZAA -3A -H40	LZ08-02PO -ZBA -3A -H40	LZ08-02PO -ZAA -3A -H40	LZ08-04PO -ZBA -3A -H40
DC 3 wire 10-30V PNP NC		LZ08-01PC -ZAA -3A -H40	LZ08-02PC -ZBA -3A -H40	LZ08-02PC -ZAA -3A -H40	LZ08-04PC -ZBA -3A -H40
DC 4 wire 10-30V Convertible PNP (NO&NC)					
DC 4 wire 10-30V Convertible NPN (NO&NC)					
DC 2 wire 10-60V NO		LZ08-01HO -ZAD -3A -H40	LZ08-02HO -ZBD -3A -H40	LZ08-02HO -ZAD -3A -H40	LZ08-04HO -ZBD -3A -H40
DC 2 wire 10-60V NC		LZ08-01HC -ZAD -3A -H40	LZ08-02HC -ZBD -3A -H40	LZ08-02HC -ZAD -3A -H40	LZ08-04HC -ZBD -3A -H40
DC 3 wire 10-55V NPN NO					
DC 3 wire 10-55V NPN NC					
DC 3 wire 10-55V PNP NO					
DC 3 wire 10-55V PNP NC					
DC 3 wire 5-36V NPN NO					
DC 3 wire 5-36V NPN NC					
DC 3 wire 5-36V PNP NO					
DC 3 wire 5-36V PNP NC					
DC 4 wire 5-36V Convertible PNP (NO&NC)					
DC 4 wire 5-36V Convertible NPN (NO&NC)					

Product Parameters

Low Temperature Resistance Series



Size category

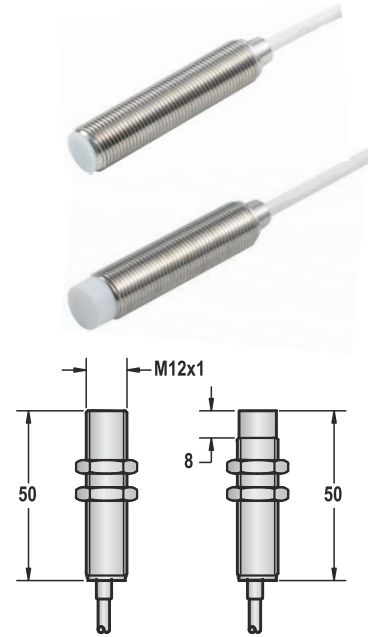
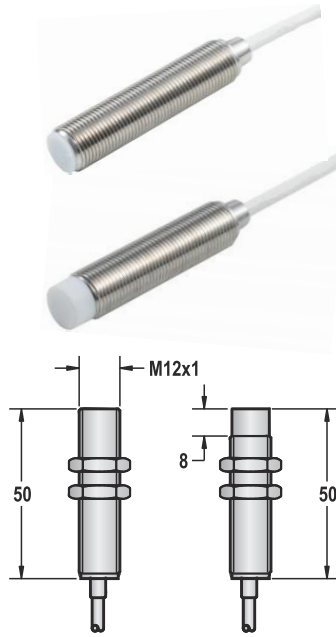
M12

M12

● Shielded	○ Non-shielded	●	○	●	○
Sn: mm		2 mm	4mm	4 mm	8 mm
Housing material		Nickel Plated Brass		Nickel Plated Brass	
Detection head material		POM / PTFE		POM / PTFE	
Operating voltage		10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage		<10%		<10%	
No-load current		<10mA		<10mA	
Maximum load current		200mA		200mA	
Leakage current		<0.01mA		<0.01mA	
Voltage drop		<1.5V		<1.5V	
Switching frequency		1KHZ	800HZ	800HZ	500HZ
Response time		0.1ms	0.2ms	0.1ms	0.2ms
Switching hysteresis		<15%(Sr)		<15%(Sr)	
Repeat accuracy		<1.0%(Sr)		<1.0%(Sr)	
Protection level		IP67		IP67	
Operating temperature		- 30 --- +70 °C		- 30 --- +70 °C	
Temperature drift		<10%(Sr)		<10%(Sr)	
Short circuit protection		Yes		Yes	
Overload protection current		220mA		220mA	
Reverse polarity protection		Yes		Yes	
Connection method		2m oil resistant PUR cable, 4.0 ϕ 3x0.15		2m oil resistant PUR cable, 4.0 ϕ 3x0.15	
Product Model					
DC 3 wire 10-30V NPN NO		LZ12-02NO -ZAA -3A -H30		LZ12-04NO -ZAA -3A -H30	
DC 3 wire 10-30V NPN NC		LZ12-02NC -ZAA -3A -H30		LZ12-04NC -ZAA -3A -H30	
DC 3 wire 10-30V PNP NO		LZ12-02PO -ZAA -3A -H30		LZ12-04PO -ZAA -3A -H30	
DC 3 wire 10-30V PNP NC		LZ12-02PC -ZAA -3A -H30		LZ12-04PC -ZAA -3A -H30	
DC 4 wire 10-30V Convertible PNP (NO&NC)					
DC 4 wire 10-30V Convertible NPN (NO&NC)					
DC 2 wire 10-60V NO		LZ12-02HO -ZAD -3A -H30		LZ12-04HO -ZAD -3A -H30	
DC 2 wire 10-60V NC		LZ12-02HC -ZAD -3A -H30		LZ12-04HC -ZAD -3A -H30	
DC 3 wire 10-55V NPN NO					
DC 3 wire 10-55V NPN NC					
DC 3 wire 10-55V PNP NO					
DC 3 wire 10-55V PNP NC					
DC 3 wire 5-36V NPN NO					
DC 3 wire 5-36V NPN NC					
DC 3 wire 5-36V PNP NO					
DC 3 wire 5-36V PNP NC					
DC 4 wire 5-36V Convertible PNP (NO&NC)					
DC 4 wire 5-36V Convertible NPN (NO&NC)					

Product Parameters

Low Temperature Resistance Series



Size category

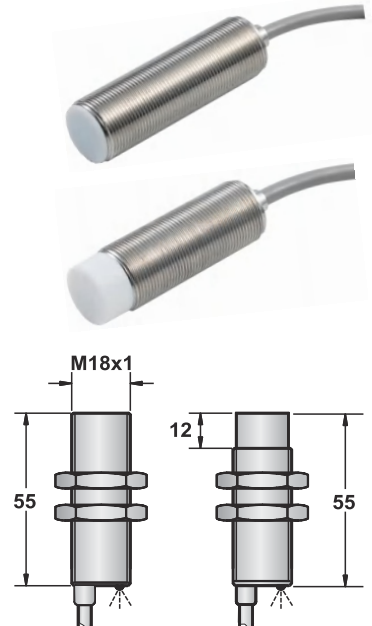
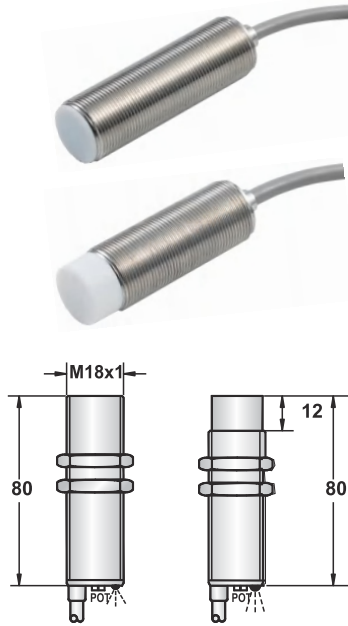
M12

M12

● Shielded ○ Non-shielded		●	○	●	○
Sn: mm		2 mm	4mm	4 mm	8 mm
Housing material		Nickel Plated Brass		Nickel Plated Brass	
Detection head material		POM / PTFE		POM / PTFE	
Operating voltage		10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage		<10%		<10%	
No-load current		<10mA		<10mA	
Maximum load current		200mA		200mA	
Leakage current		<0.01mA		<0.01mA	
Voltage drop		<1.5V		<1.5V	
Switching frequency		1KHZ	800HZ	1KHZ	800HZ
Response time		0.1ms	0.2ms	0.1ms	0.2ms
Switching hysteresis		<15%(Sr)		<15%(Sr)	
Repeat accuracy		<1.0%(Sr)		<1.0%(Sr)	
Protection level		IP67		IP67	
Operating temperature		- 40 - +70 °C		- 40 - +70 °C	
Temperature drift		<10%(Sr)		<10%(Sr)	
Short circuit protection		Yes		Yes	
Overload protection current		220mA		220mA	
Reverse polarity protection		Yes		Yes	
Connection method		2m oil resistant PUR cable, 4.0 ϕ 3x0.15		2m oil resistant PUR cable, 4.0 ϕ 3x0.15	
Product Model					
DC 3 wire 10-30V NPN NO		LZ12-02NO -ZAA -3A -H40	LZ12-04NO -ZBA -3A -H40	LZ12-04NO -ZAA -3A -H40	LZ12-08NO -ZBA -3A -H40
DC 3 wire 10-30V NPN NC		LZ12-02NC -ZAA -3A -H40	LZ12-04NC -ZBA -3A -H40	LZ12-04NC -ZAA -3A -H40	LZ12-08NC -ZBA -3A -H40
DC 3 wire 10-30V PNP NO		LZ12-02PO -ZAA -3A -H40	LZ12-04PO -ZBA -3A -H40	LZ12-04PO -ZAA -3A -H40	LZ12-08PO -ZBA -3A -H40
DC 3 wire 10-30V PNP NC		LZ12-02PC -ZAA -3A -H40	LZ12-04PC -ZBA -3A -H40	LZ12-04PC -ZAA -3A -H40	LZ12-08PC -ZBA -3A -H40
DC 4 wire 10-30V Convertible PNP (NO&NC)					
DC 4 wire 10-30V Convertible NPN (NO&NC)					
DC 2 wire 10-60V NO		LZ12-02HO -ZAD -3A -H40	LZ12-04HO -ZBD -3A -H40	LZ12-04HO -ZAD -3A -H40	LZ12-08HO -ZBD -3A -H40
DC 2 wire 10-60V NC		LZ12-02HC -ZAD -3A -H40	LZ12-04HC -ZBD -3A -H40	LZ12-04HC -ZAD -3A -H40	LZ12-08HC -ZBD -3A -H40
DC 3 wire 10-55V NPN NO					
DC 3 wire 10-55V NPN NC					
DC 3 wire 10-55V PNP NO					
DC 3 wire 10-55V PNP NC					
DC 3 wire 5-36V NPN NO					
DC 3 wire 5-36V NPN NC					
DC 3 wire 5-36V PNP NO					
DC 3 wire 5-36V PNP NC					
DC 4 wire 5-36V Convertible PNP (NO&NC)					
DC 4 wire 5-36V Convertible NPN (NO&NC)					

Product Parameters

Low Temperature Resistance Series



Size category

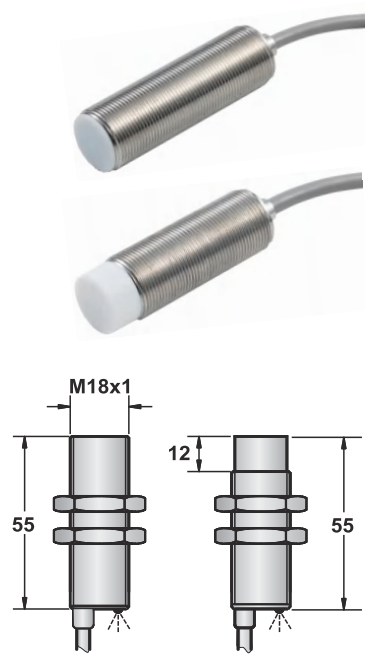
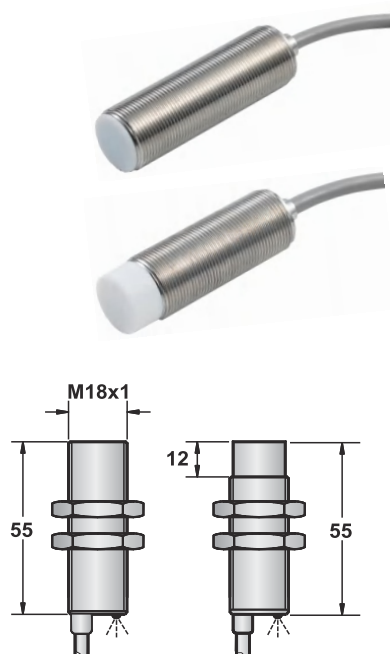
M18

M18

● Shielded ○ Non-shielded		●	○	●	○
Sn: mm		5 mm	8 mm	8 mm	16 mm
Housing material		Nickel Plated Brass		Nickel Plated Brass	
Detection head material		POM / PTFE		POM / PTFE	
Operating voltage		10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage		<10%		<10%	
No-load current		<10mA		<10mA	
Maximum load current		200mA		200mA	
Leakage current		<0.01mA		<0.01mA	
Voltage drop		<1.5V		<1.5V	
Switching frequency		400HZ	300HZ	400HZ	300HZ
Response time		0.2ms	0.5ms	0.2ms	0.5ms
Switching hysteresis		<15%(Sr)		<15%(Sr)	
Repeat accuracy		<1.0%(Sr)		<1.0%(Sr)	
Protection level		IP67		IP67	
Operating temperature		-30℃ - +70℃		-30℃ - +70℃	
Temperature drift		<10%(Sr)		<10%(Sr)	
Short circuit protection		Yes		Yes	
Overload protection current		220mA		220mA	
Reverse polarity protection		Yes		Yes	
Connection method		2m oil resistant PUR cable, 5.0 ϕ 3x0.34		2m oil resistant PUR cable, 5.0 ϕ 3x0.34	
Product Model					
DC 3 wire 10-30V NPN NO		LZ18-05NO -ZAA -3A -H30	LZ18-08NO -ZBA -3A -H30	LZ18-08NO -ZAA -3A -H30	LZ18-16NO -ZBA -3A -H30
DC 3 wire 10-30V NPN NC		LZ18-05NC -ZAA -3A -H30	LZ18-08NC -ZBA -3A -H30	LZ18-08NC -ZAA -3A -H30	LZ18-16NC -ZBA -3A -H30
DC 3 wire 10-30V PNP NO		LZ18-05PO -ZAA -3A -H30	LZ18-08PO -ZBA -3A -H30	LZ18-08PO -ZAA -3A -H30	LZ18-16PO -ZBA -3A -H30
DC 3 wire 10-30V PNP NC		LZ18-05PC -ZAA -3A -H30	LZ18-08PC -ZBA -3A -H30	LZ18-08PC -ZAA -3A -H30	LZ18-16PC -ZBA -3A -H30
DC 4 wire 10-30V Convertible PNP (NO&NC)					
DC 4 wire 10-30V Convertible NPN (NO&NC)					
DC 2 wire 10-60V NO		LZ18-05HO -ZAD -3A -H30	LZ18-08HO -ZBD -3A -H30	LZ18-08HO -ZAD -3A -H30	LZ18-16HO -ZBD -3A -H30
DC 2 wire 10-60V NC		LZ18-05HC -ZAD -3A -H30	LZ18-08HC -ZBD -3A -H30	LZ18-08HC -ZAD -3A -H30	LZ18-16HC -ZBD -3A -H30
DC 3 wire 10-55V NPN NO					
DC 3 wire 10-55V NPN NC					
DC 3 wire 10-55V PNP NO					
DC 3 wire 10-55V PNP NC					
DC 3 wire 5-36V NPN NO					
DC 3 wire 5-36V NPN NC					
DC 3 wire 5-36V PNP NO					
DC 3 wire 5-36V PNP NC					
DC 4 wire 5-36V Convertible PNP (NO&NC)					
DC 4 wire 5-36V Convertible NPN (NO&NC)					

Product Parameters

Low Temperature Resistance Series



Size category

M18

M18

● Shielded ○ Non-shielded

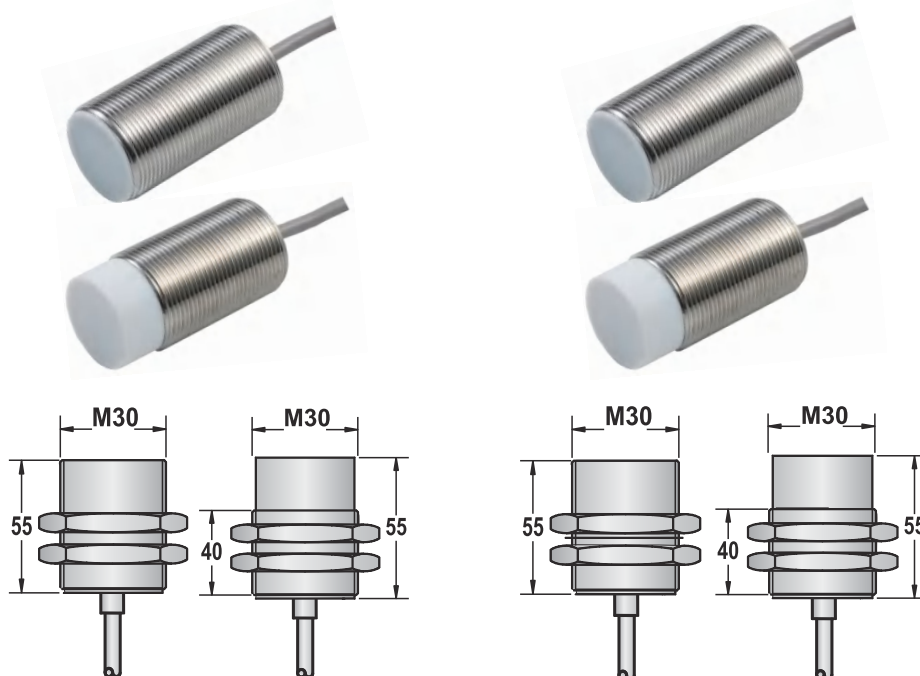
● 5 mm ○ 8 mm

● 8 mm ○ 16 mm

Sn: mm	5 mm		8 mm		8 mm		16 mm	
Housing material	Nickel Plated Brass				Nickel Plated Brass			
Detection head material	POM / PTFE				POM / PTFE			
Operating voltage	10-30VDC / 10-60VDC				10-30VDC / 10-60VDC			
Allowable pulsating voltage	<10%				<10%			
No-load current	<10mA				<10mA			
Maximum load current	200mA				200mA			
Leakage current	<0.01mA				<0.01mA			
Voltage drop	<1.5V				<1.5V			
Switching frequency	400HZ		300HZ		400HZ		300HZ	
Response time	0.2ms		0.5ms		0.2ms		0.5ms	
Switching hysteresis	<15%(Sr)				<15%(Sr)			
Repeat accuracy	<1.0%(Sr)				<1.0%(Sr)			
Protection level	IP67				IP67			
Operating temperature	-40℃ - +70℃				-40℃ - +70℃			
Temperature drift	<10%(Sr)				<10%(Sr)			
Short circuit protection	Yes				Yes			
Overload protection current	220mA				220mA			
Reverse polarity protection	Yes				Yes			
Connection method	2m oil resistant PUR cable, 5.0 ϕ 3x0.34				2m oil resistant PUR cable, 5.0 ϕ 3x0.34			
Product Model								
DC 3 wire 10-30V NPN NO	LZ18-05NO-ZAA-3A-H40		LZ18-08NO-ZBA-3A-H40		LZ18-08NO-ZAA-3A-H40		LZ18-16NO-ZBA-3A-H40	
DC 3 wire 10-30V NPN NC	LZ18-05NC-ZAA-3A-H40		LZ18-08NC-ZBA-3A-H40		LZ18-08NC-ZAA-3A-H40		LZ18-16NC-ZBA-3A-H40	
DC 3 wire 10-30V PNP NO	LZ18-05PO-ZAA-3A-H40		LZ18-08PO-ZBA-3A-H40		LZ18-08PO-ZAA-3A-H40		LZ18-16PO-ZBA-3A-H40	
DC 3 wire 10-30V PNP NC	LZ18-05PC-ZAA-3A-H40		LZ18-08PC-ZBA-3A-H40		LZ18-08PC-ZAA-3A-H40		LZ18-16PC-ZBA-3A-H40	
DC 4 wire 10-30V Convertible PNP (NO&NC)								
DC 4 wire 10-30V Convertible NPN (NO&NC)								
DC 2 wire 10-60V NO	LZ18-05HO-ZAD-3A-H40		LZ18-08HO-ZBD-3A-H40		LZ18-08HO-ZAD-3A-H40		LZ18-16HO-ZBD-3A-H40	
DC 2 wire 10-60V NC	LZ18-05HC-ZAD-3A-H40		LZ18-08HC-ZBD-3A-H40		LZ18-08HC-ZAD-3A-H40		LZ18-16HC-ZBD-3A-H40	
DC 3 wire 10-55V NPN NO								
DC 3 wire 10-55V NPN NC								
DC 3 wire 10-55V PNP NO								
DC 3 wire 10-55V PNP NC								
DC 3 wire 5-36V NPN NO								
DC 3 wire 5-36V NPN NC								
DC 3 wire 5-36V PNP NO								
DC 3 wire 5-36V PNP NC								
DC 4 wire 5-36V Convertible PNP (NO&NC)								
DC 4 wire 5-36V Convertible NPN (NO&NC)								

Product Parameters

Low Temperature Resistance Series



Size category

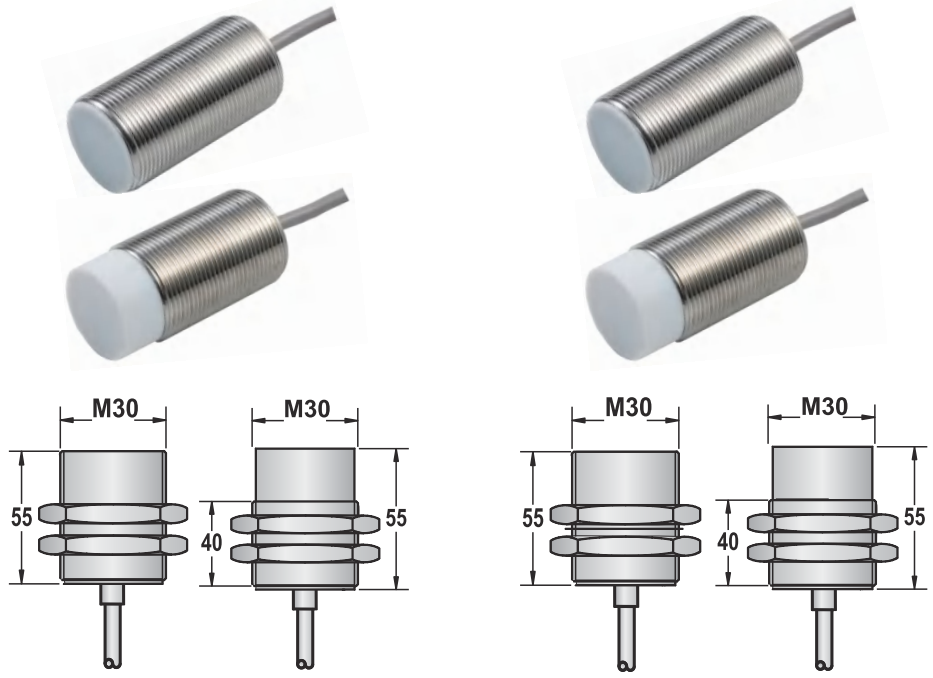
M30

M30

● Shielded	○ Non-shielded	●	○	●	○
Sn: mm		10 mm	15 mm	16 mm	25 mm
Housing material		Nickel Plated Brass		Nickel Plated Brass	
Detection head material		POM / PTFE		POM / PTFE	
Operating voltage		10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage		<10%		<10%	
No-load current		<10mA		<10mA	
Maximum load current		200mA		200mA	
Leakage current		<0.01mA		<0.01mA	
Voltage drop		<1.5V		<1.5V	
Switching frequency		200HZ	150HZ	200HZ	150HZ
Response time		0.5ms	1ms	0.5ms	1ms
Switching hysteresis		<15%(Sr)		<15%(Sr)	
Repeat accuracy		<1.0%(Sr)		<1.0%(Sr)	
Protection level		IP67		IP67	
Operating temperature		-30℃ - +70℃		-30℃ - +70℃	
Temperature drift		<10%(Sr)		<10%(Sr)	
Short circuit protection		Yes		Yes	
Overload protection current		220mA		220mA	
Reverse polarity protection		Yes		Yes	
Connection method		2m oil resistant PUR cable, 5.0 ϕ 3x0.34		2m oil resistant PUR cable, 5.0 ϕ 3x0.34	
Product Model					
DC 3 wire 10-30V NPN NO		LZ30-10NO -ZAA -3A -H30	LZ30-15NO -ZBA -3A -H30	LZ30-16NO -ZAA -3A -H30	LZ30-25NO -ZBA -3A -H30
DC 3 wire 10-30V NPN NC		LZ30-10NC -ZAA -3A -H30	LZ30-15NC -ZBA -3A -H30	LZ30-16NC -ZAA -3A -H30	LZ30-25NC -ZBA -3A -H30
DC 3 wire 10-30V PNP NO		LZ30-10PO -ZAA -3A -H30	LZ30-15PO -ZBA -3A -H30	LZ30-16PO -ZAA -3A -H30	LZ30-25PO -ZBA -3A -H30
DC 3 wire 10-30V PNP NC		LZ30-10PC -ZAA -3A -H30	LZ30-15PC -ZBA -3A -H30	LZ30-16PC -ZAA -3A -H30	LZ30-25PC -ZBA -3A -H30
DC 4 wire 10-30V Convertible PNP (NO&NC)					
DC 4 wire 10-30V Convertible NPN (NO&NC)					
DC 2 wire 10-60V NO		LZ30-10HO -ZAD -3A -H30	LZ30-15HO -ZBD -3A -H30	LZ30-16HO -ZAD -3A -H30	LZ30-25HO -ZBD -3A -H30
DC 2 wire 10-60V NC		LZ30-10HC -ZAD -3A -H30	LZ30-15HC -ZBD -3A -H30	LZ30-16HC -ZAD -3A -H30	LZ30-25HC -ZBD -3A -H30
DC 3 wire 10-55V NPN NO					
DC 3 wire 10-55V NPN NC					
DC 3 wire 10-55V PNP NO					
DC 3 wire 10-55V PNP NC					
DC 3 wire 5-36V NPN NO					
DC 3 wire 5-36V NPN NC					
DC 3 wire 5-36V PNP NO					
DC 3 wire 5-36V PNP NC					
DC 4 wire 5-36V Convertible PNP (NO&NC)					
DC 4 wire 5-36V Convertible NPN (NO&NC)					

Product Parameters

Low Temperature Resistance Series



Size category

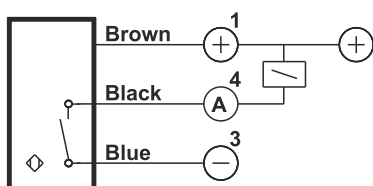
M30

M30

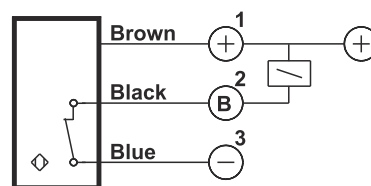
● Shielded ○ Non-shielded				
Sn: mm	10 mm	15 mm	16 mm	25 mm
Housing material	Nickel Plated Brass		Nickel Plated Brass	
Detection head material	POM / PTFE		POM / PTFE	
Operating voltage	10-30VDC / 10-60VDC		10-30VDC / 10-60VDC	
Allowable pulsating voltage	<10%		<10%	
No-load current	<10mA		<10mA	
Maximum load current	200mA		200mA	
Leakage current	<0.01mA		<0.01mA	
Voltage drop	<1.5V		<1.5V	
Switching frequency	200HZ	150HZ	200HZ	150HZ
Response time	0.5ms	1ms	0.5ms	1ms
Switching hysteresis	<15%(Sr)		<15%(Sr)	
Repeat accuracy	<1.0%(Sr)		<1.0%(Sr)	
Protection level	IP67		IP67	
Operating temperature	-40 °C - +70 °C		-40 °C - +70 °C	
Temperature drift	<10%(Sr)		<10%(Sr)	
Short circuit protection	Yes		Yes	
Overload protection current	220mA		220mA	
Reverse polarity protection	Yes		Yes	
Connection method	2m oil resistant PUR cable, 5.0 ϕ 3x0.34		2m oil resistant PUR cable, 5.0 ϕ 3x0.34	
Product Model				
DC 3 wire 10-30V NPN NO	LZ30-10NO -ZAA -3A -H40	LZ30-15NO -ZBA -3A -H40	LZ30-16NO -ZAA -3A -H40	LZ30-25NO -ZBA -3A -H40
DC 3 wire 10-30V NPN NC	LZ30-10NC -ZAA -3A -H40	LZ30-15NC -ZBA -3A -H40	LZ30-16NC -ZAA -3A -H40	LZ30-25NC -ZBA -3A -H40
DC 3 wire 10-30V PNP NO	LZ30-10PO -ZAA -3A -H40	LZ30-15PO -ZBA -3A -H40	LZ30-16PO -ZAA -3A -H40	LZ30-25PO -ZBA -3A -H40
DC 3 wire 10-30V PNP NC	LZ30-10PC -ZAA -3A -H40	LZ30-15PC -ZBA -3A -H40	LZ30-16PC -ZAA -3A -H40	LZ30-25PC -ZBA -3A -H40
DC 4 wire 10-30V Convertible PNP (NO&NC)				
DC 4 wire 10-30V Convertible NPN (NO&NC)				
DC 2 wire 10-60V NO	LZ30-10HO -ZAD -3A -H40	LZ30-15HO -ZBD -3A -H40	LZ30-16HO -ZAD -3A -H40	LZ30-25HO -ZBD -3A -H40
DC 2 wire 10-60V NC	LZ30-10HC -ZAD -3A -H40	LZ30-15HC -ZBD -3A -H40	LZ30-16HC -ZAD -3A -H40	LZ30-25HC -ZBD -3A -H40
DC 3 wire 10-55V NPN NO				
DC 3 wire 10-55V NPN NC				
DC 3 wire 10-55V PNP NO				
DC 3 wire 10-55V PNP NC				
DC 3 wire 5-36V NPN NO				
DC 3 wire 5-36V NPN NC				
DC 3 wire 5-36V PNP NO				
DC 3 wire 5-36V PNP NC				
DC 4 wire 5-36V Convertible PNP (NO&NC)				
DC 4 wire 5-36V Convertible NPN (NO&NC)				

Wiring Diagram

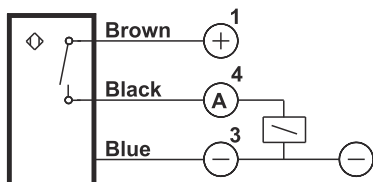
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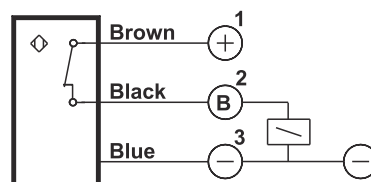
DC NPN NC



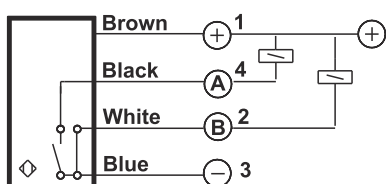
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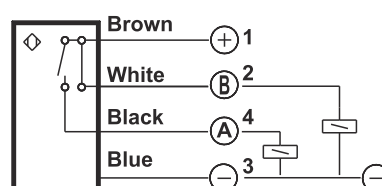
DC PNP NC



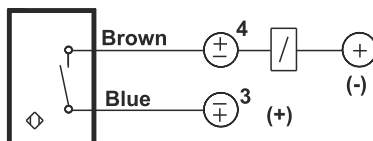
DC NPN NO&NC



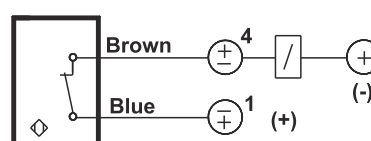
DC PNP NO&NC



DC 2 wire NO

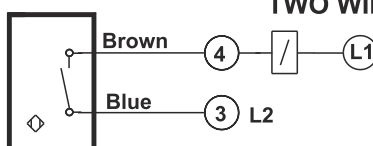


DC 2 wire NC



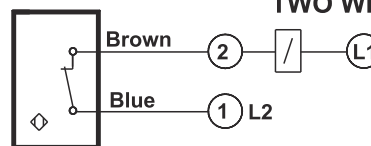
Plastic housing

AC/DC 20-250V
or AC 20-250V
TWO WIRE-NO



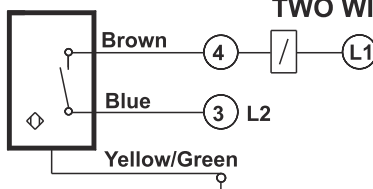
Plastic housing

AC/DC 20-250V
or AC 20-250V
TWO WIRE-NC



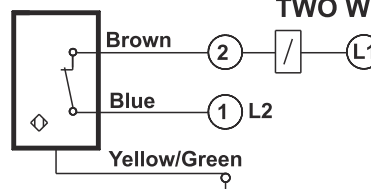
Metal housing

AC/DC 20-250V
or AC 20-250V
TWO WIRE-NO



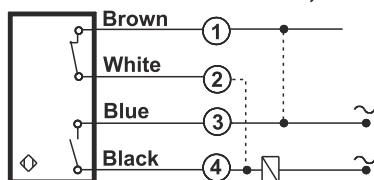
Metal housing

AC/DC 20-250V
or AC 20-250V
TWO WIRE-NC

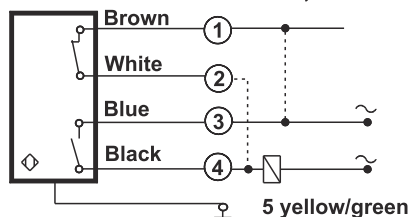


Wiring Diagram

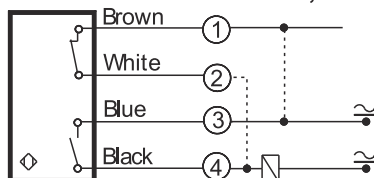
Plastic housing AC 20-250V
NO,NC Changeable



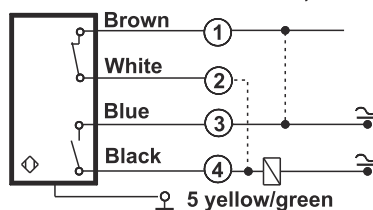
Metal housing AC 20-250V
NO,NC Changeable



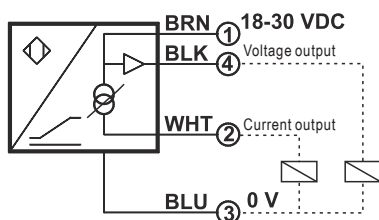
Plastic housing AC 20-250V
NO,NC Changeable



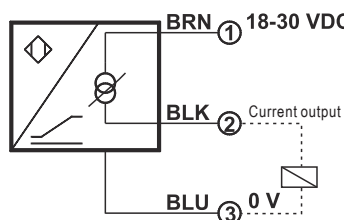
Metal housing AC 20-250V
NO,NC Changeable



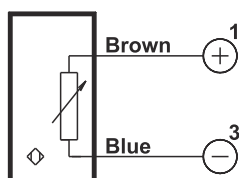
Analog (current + voltage output type)



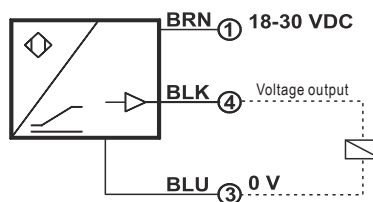
Analog (current output type)



Riot-proof DC 6-12V

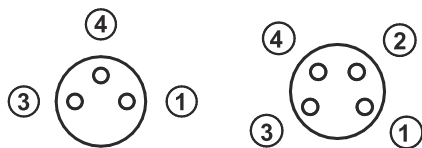


Analog (voltage output type)

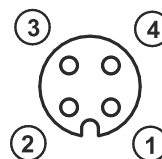


Connector Diagram

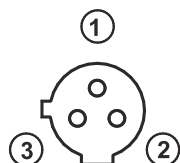
Used for M8 DC
M8



Used for M12 DC
M12



Used for M12 AC
M12



Used for M18 M30 DC or AC

