



LANBAO SENSOR complete solution for the sensors

Established in 1998, Shanghai Lanbao Sensing Technology Co., Ltd. is a leading industrial automation products supplier in China. Our main businesses are industrial sensors R&D, production, sales and application, providing customers with standard and individual products and systems. Lanbao industrial sensors covers over 30 series, 3000 specifications, main products are inductive sensors, photoelectric sensors, capacitive sensors and pressure sensors. Lanbao has been making continuous breakthrough in new technology and new material application, which laid the foundation of its leading position in sensing technology.

Lanbao is an ISO9001:2008 quality management system and EU RoHS environmental directives implemented enterprise. Our series products are with CE, UL and CCC certification. The strict test in function, quality, reliability and production feasibility at the design stage of each product and the strict quality management in production ensure excellent quality products.

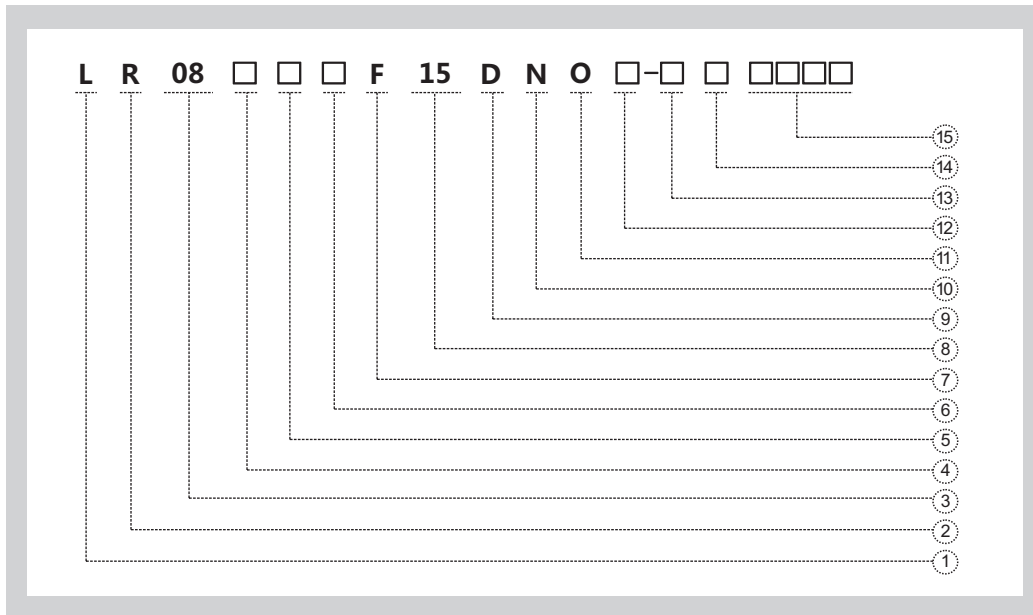
Focus on innovation, quality, service and global market, Lanbao insists on creating maximal value for customers.

Standard function inductive sensors

- Non-contact detecting way effectively avoids abrasion, safe and reliable.
- Built-in ASIC ensures quick response, high frequency, stable performance.
- Complete range of specification:
 - Smooth cylinder series: $\phi 4$ to $\phi 34$ mm;
 - threaded cylinder series :M5 to M30mm;
 - rectangular series: 7*7mm to 80*80mm.



Naming rules



1. Type Code

L:Inductive

2. Shape Code

R:Cylindrical
E:Rectangular

3. Size Code

Number:Housing diameter
e.g. 08:M8

4. Shape Code

Q:Smooth Cylindrical
V:Angle Column
Z:Combination
H:Ring-shaped
U:U-shaped
X:Semi-thread

5. Housing Material

N/A:Copper
S:Plastic
G:Stainless Steel
V:Aluminium

6. Housing Length

A:Short
B:Standard
C:Long

7. Mounting

N:Non-flush(nf)
F:Flush(f)

8. Sensing Distance

02:2mm
04:4mm
10:10mm

9. Supply Voltage

A:20...250VAC
B:90...250VAC
C:380VAC
D:10...30VDC
E:10...60VDC
F:8.2VDC
G:5...60VDC
L:15...30VDC
H:20...30VDC
I:10...40VDC
J:5VDC
S:20...250VAC/DC
T:12...24VDC

10. Output Way

B:AC/DC 2 wires
L:DC 2 wires
T:AC 2 wires
P:PNP
N:NPN
E:NPN/PNP
F:NPN+PNP
K:Relay

11. Output Status

A:NO/NC Reversible
B:NO/NC Optional
Cable Optional;Potentiometer optional
O:NO
C:NC
R:NO+NC
IU:Voltage+Current
(0...10V,0...20mA)
U:Voltage(0...10V)
I:Current(0...20mA)
I4:Current(4...20mA)

12. By Sensor Function

N/A:Standard function
M:Analogue
N:NAMUR
W:High Temperature Resistant(-25°C...120°C)
W1:Low Temperature Resistant(-40°C...70°C)
W2:High Temperature Resistant(-25°C...100°C)
B:High Pressure Resistant
T:Speed
Z:Self-Diagnosis
Y:Extended Sensing Distance
G:High Frequency
Q:Metal Sensing Face
A:Welding-immune
K:EMI
F:Detect Iron Object
NF:Detect Non-Iron Object
J:Rotation Speed

13. Cable Length

N/A:2m
3M:3m

14. Connection

N/A:2M cable
E1:M8 connector (3 pins)
E2:M12 connector (4 pins)
E3:M8 connector (4 pins)
E4:M12 trapezoid connector (4 pins)
E5:M12 connector (5 pins)
D:Terminal

15. Special Requirement

In 4 Digits

Wiring diagram

DC 2 Wires	Lead wire	M8 Connector	M12 Connector	Terminal connect
NO				
NC				

DC 3 Wires	Lead wire	M8 Connector	M12 Connector	Terminal connect
NPN NO				
NPN NC				
PNP NO				
PNP NC				

DC 4 Wires	Lead wire	M12 Connector	Terminal connect
NPN NO+NC			
PNP NO+NC			

AC 2 Wires	Lead wire	M12 Connector	Terminal connect
SCR NO			
SCR NC			

Inductive sensors

AC/DC 2 Wires	Lead wire	M12 Connector	Terminal connect
NO			
NC			
NO/NC			

NAMUR	Lead wire	M8 Connector	M12 Connector	Terminal connect

Analog output	Lead wire	M12 Connector	Terminal connect
3 Wires Voltage output			
3 Wires Current output			
4 Wires Voltage/current output			

Remarks	M8 Connector	M12 Connector
Connector		

Inductive sensors

Wide voltage

metal type

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Model	Output	Supply Voltage	Mounting	Sensing Distance	Specifications	Housing Material	Connection
DC 3/4 Wires							P149
LR12	DC 3 Wires	DC10-60V	f/nf	2mm,4mm	M12*1*40	Nickel-copper alloy	Cable
LR12	DC 3 Wires	DC10-60V	f/nf	2mm,4mm	M12*1*40	Nickel-copper alloy	M12 Connector
LR18	DC 3 Wires	DC10-60V	f/nf	5mm,8mm	M18*1*40	Nickel-copper alloy	Cable
LR18	DC 3 Wires	DC10-60V	f/nf	5mm,8mm	M18*1*40	Nickel-copper alloy	M12 Connector
LR30	DC 3 Wires	DC10-60V	f/nf	10mm,15mm	M30*1.5*40	Nickel-copper alloy	Cable
LR30	DC 3 Wires	DC10-60V	f/nf	10mm,15mm	M30*1.5*40	Nickel-copper alloy	M12 Connector
DC 2 Wires							P152
LR12	DC 2 Wires	DC10-60V	f/nf	2mm,4mm	M12*1*43	Nickel-copper alloy	Cable
LR12	DC 2 Wires	DC10-60V	f/nf	2mm,4mm	M12*1*46	Nickel-copper alloy	M12 Connector
LR18	DC 2 Wires	DC10-60V	f/nf	5mm,8mm	M18*1*43	Nickel-copper alloy	Cable
LR18	DC 2 Wires	DC10-60V	f/nf	5mm,8mm	M18*1*46	Nickel-copper alloy	M12 Connector
LR30	DC 2 Wires	DC10-60V	f/nf	10mm,15mm	M30*1.5*43	Nickel-copper alloy	Cable
LR30	DC 2 Wires	DC10-60V	f/nf	10mm,15mm	M30*1.5*46	Nickel-copper alloy	M12 Connector

Wide voltage

combined type

P.155

Model	Output	Supply Voltage	Mounting	Sensing Distance	Specifications	Housing Material	Connection
DC 3/4 Wires							P155
LE40SZ	DC 3/4 Wires	DC10-60V	f/nf	15mm,20mm	40*40*66	PBT	M12 Connector
LE40XZ	DC 3/4 Wires	DC10-60V	f/nf	15mm,20mm	40*40*120	PBT	Terminal connect
LE40XZ	DC 3/4 Wires	DC10-60V	f/nf	15mm,20mm	40*40*120	PBT	M12 Connector
LE80XZ	DC 3/4 Wires	DC10-60V	f/nf	40mm,50mm	80*80*40	PBT	Terminal connect
LE80XZ	DC 3/4 Wires	DC10-60V	f/nf	40mm,50mm	80*80*40	PBT	M12 Connector
DC 2 Wires							P.158
LE40SZ	DC 2 Wires	DC10-60V	f/nf	15mm,20mm	40*40*66	PBT	M12 Connector
LE40XZ	DC 2 Wires	DC10-60V	f/nf	15mm,20mm	40*40*120	PBT	Terminal connect
LE40XZ	DC 2 Wires	DC10-60V	f/nf	15mm,20mm	40*40*120	PBT	M12 Connector
LE80XZ	DC 2 Wires	DC10-60V	f/nf	40mm,50mm	80*80*40	PBT	Terminal connect
LE80XZ	DC 2 Wires	DC10-60V	f/nf	40mm,50mm	80*80*40	PBT	M12 Connector

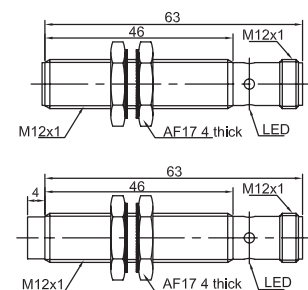
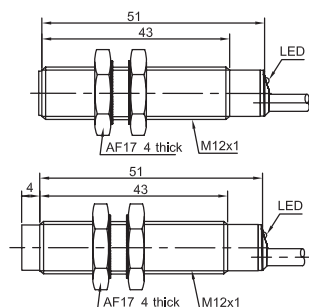
Item Code	LR12X		LR12X	
Mounting	● Flush	◐ Non-flush	● Flush	◐ Non-flush
Sensing distance	2mm	4mm	2mm	4mm



Output	NPN NO	LR12XBF02ENO	LR12XBN04ENO	LR12XBF02ENO-E2	LR12XBN04ENO-E2
	NPN NC	LR12XBF02ENC	LR12XBN04ENC	LR12XBF02ENC-E2	LR12XBN04ENC-E2
Output	PNP NO	LR12XBF02EPO	LR12XBN04EPO	LR12XBF02EPO-E2	LR12XBN04EPO-E2
	PNP NC	LR12XBF02EPC	LR12XBN04EPC	LR12XBF02EPC-E2	LR12XBN04EPC-E2

Technical Parameter				
Supply voltage	10...60 VDC	10...60 VDC	10...60 VDC	10...60 VDC
Switch point drift	< ±10% Sr	< ±10% Sr	< ±10% Sr	< ±10% Sr
Load current	<200mA	<200mA	<200mA	<200mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	<10mA	<10mA	<10mA	<10mA
Hysteresis	1...20%	1...20%	1...20%	1...20%
Repeat accuracy	<3%	<3%	<3%	<3%
Frequency	1500Hz	1000Hz	1500Hz	1000Hz
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Dielectric strength	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

* Cable material and length can be customized



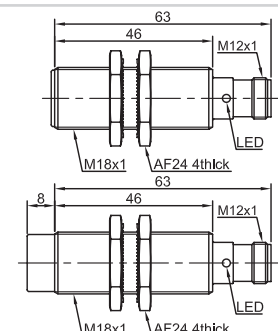
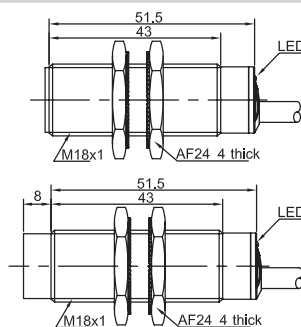
Item Code	LR18X		LR18X	
Mounting	● Flush	◐ Non-flush	● Flush	◐ Non-flush
Sensing distance	5mm	8mm	5mm	8mm



Output	NPN NO	LR18XBFO5ENO	LR18XBN08ENO	LR18XBFO5ENO-E2	LR18XBN08ENO-E2
	NPN NC	LR18XBFO5ENC	LR18XBN08ENC	LR18XBFO5ENC-E2	LR18XBN08ENC-E2
Output	PNP NO	LR18XBFO5EPO	LR18XBN08EPO	LR18XBFO5EPO-E2	LR18XBN08EPO-E2
	PNP NC	LR18XBFO5EPC	LR18XBN08EPC	LR18XBFO5EPC-E2	LR18XBN08EPC-E2

Technical Parameter				
Supply voltage	10...60 VDC	10...60 VDC	10...60 VDC	10...60 VDC
Switch point drift	< ±10% Sr	< ±10% Sr	< ±10% Sr	< ±10% Sr
Load current	<200mA	<200mA	<200mA	<200mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	<10mA	<10mA	<10mA	<10mA
Hysteresis	1...20%	1...20%	1...20%	1...20%
Repeat accuracy	<3%	<3%	<3%	<3%
Frequency	1000Hz	800Hz	1000Hz	800Hz
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Dielectric strength	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

* Cable material and length can be customized



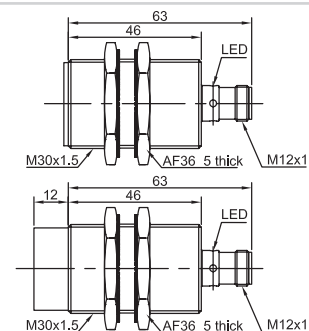
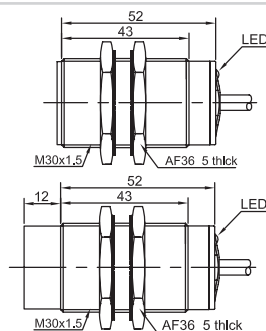
Item Code	LR30X		LR30X	
Mounting	● Flush	◐ Non-flush	● Flush	◐ Non-flush
Sensing distance	10 mm	15mm	10 mm	15mm



Output	NPN NO	LR30XBF10ENO	LR30XBN15ENO	LR30XBF10ENO-E2	LR30XBN15ENO-E2
	NPN NC	LR30XBF10ENC	LR30XBN15ENC	LR30XBF10ENC-E2	LR30XBN15ENC-E2
Output	PNP NO	LR30XBF10EPO	LR30XBN15EPO	LR30XBF10EPO-E2	LR30XBN15EPO-E2
	PNP NC	LR30XBF10EPC	LR30XBN15EPC	LR30XBF10EPC-E2	LR30XBN15EPC-E2

Technical Parameter				
Supply voltage	10...60 VDC	10...60 VDC	10...60 VDC	10...60 VDC
Switch point drift	< ±10% Sr	< ±10% Sr	< ±10% Sr	< ±10% Sr
Load current	<200mA	<200mA	<200mA	<200mA
Voltage drop	<2.5V	<2.5V	<2.5V	<2.5V
Consumption current	<10mA	<10mA	<10mA	<10mA
Hysteresis	1...20%	1...20%	1...20%	1...20%
Repeat accuracy	<3%	<3%	<3%	<3%
Frequency	500Hz	300Hz	500Hz	300Hz
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Dielectric strength	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

* Cable material and length can be customized



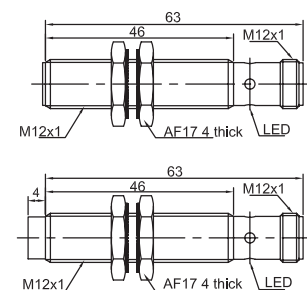
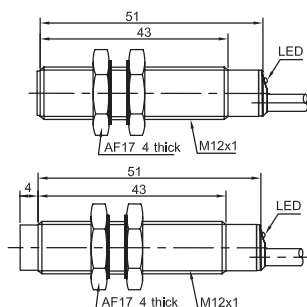
Item Code	LR12X		LR12X	
Mounting	● Flush	◐ Non-flush	● Flush	◐ Non-flush
Sensing distance	2mm	4mm	2mm	4mm



Output	DC 2 Wires NO	LR12XBF02ELO	LR12XBN04ELO	LR12XBF02ELO-E2	LR12XBN04ELO-E2
	DC 2 Wires NC	LR12XBF02ELC	LR12XBN04ELC	LR12XBF02ELC-E2	LR12XBN04ELC-E2

Technical Parameter				
Supply voltage	10...60 VDC	10...60 VDC	10...60 VDC	10...60 VDC
Switch point drift	< ±10% Sr	< ±10% Sr	< ±10% Sr	< ±10% Sr
Load current	<100mA	<100mA	<100mA	<100mA
Voltage drop	<6V	<6V	<6V	<6V
Leakage current	<1mA	<1mA	<1mA	<1mA
Hysteresis	1...20%	1...20%	1...20%	1...20%
Repeat accuracy	<3%	<3%	<3%	<3%
Frequency	800Hz	500Hz	800Hz	500Hz
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Dielectric strength	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

* Cable material and length can be customized



Item Code	LR18X		LR18X	
Mounting	● Flush	◐ Non-flush	● Flush	◐ Non-flush
Sensing distance	5 mm	8mm	5 mm	8mm

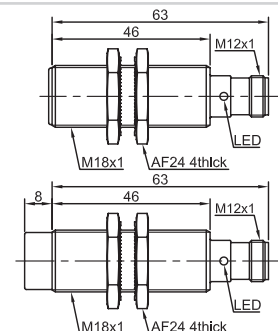
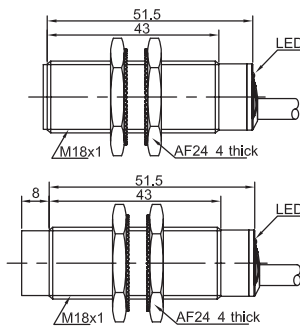


Output	DC 2 Wires NO	LR18XBF05ELO	LR18XBN08ELO	LR18XBF05ELO-E2	LR18XBN08ELO-E2
	DC 2 Wires NC	LR18XBF05ELC	LR18XBN08ELC	LR18XBF05ELC-E2	LR18XBN08ELC-E2

Technical Parameter

Supply voltage	10...60 VDC	10...60 VDC	10...60 VDC	10...60 VDC
Switch point drift	< ±10% Sr	< ±10% Sr	< ±10% Sr	< ±10% Sr
Load current	<100mA	<100mA	<100mA	<100mA
Voltage drop	<6V	<6V	<6V	<6V
Leakage current	<1mA	<1mA	<1mA	<1mA
Hysteresis	1...20%	1...20%	1...20%	1...20%
Repeat accuracy	<3%	<3%	<3%	<3%
Frequency	500Hz	300Hz	500Hz	300Hz
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Dielectric strength	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

* Cable material and length can be customized



Item Code	LR30X		LR30X	
Mounting	● Flush	◐ Non-flush	● Flush	◐ Non-flush
Sensing distance	10mm	15mm	10mm	15mm



Output	DC 2 Wires NO	LR30XB10ELO	LR30XBN15ELO	LR30XB10ELO-E2	LR30XBN15ELO-E2
	DC 2 Wires NC	LR30XB10ELC	LR30XBN15ELC	LR30XB10ELC-E2	LR30XBN15ELC-E2

Technical Parameter

Supply voltage	10...60 VDC	10...60 VDC	10...60 VDC	10...60 VDC
Switch point drift	< ±10% Sr	< ±10% Sr	< ±10% Sr	< ±10% Sr
Load current	<100mA	<100mA	<100mA	<100mA
Voltage drop	<6V	<6V	<6V	<6V
Leakage current	<1mA	<1mA	<1mA	<1mA
Hysteresis	1...20%	1...20%	1...20%	1...20%
Repeat accuracy	<3%	<3%	<3%	<3%
Frequency	300Hz	200Hz	300Hz	200Hz
Output indicator	Yellow LED	Yellow LED	Yellow LED	Yellow LED
Polarity protection	yes	yes	yes	yes
Dielectric strength	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Short-circuit protection	yes	yes	yes	yes
Ambient temperature	-25...+70°C	-25...+70°C	-25...+70°C	-25...+70°C
Ambient moisture	35...95%	35...95%	35...95%	35...95%
Protection degree	IP67	IP67	IP67	IP67
Housing material	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy
Connection	2m PVC Cable	2m PVC Cable	M12 Connector	M12 Connector
Certification	CE	CE	CE	CE

* Cable material and length can be customized

