



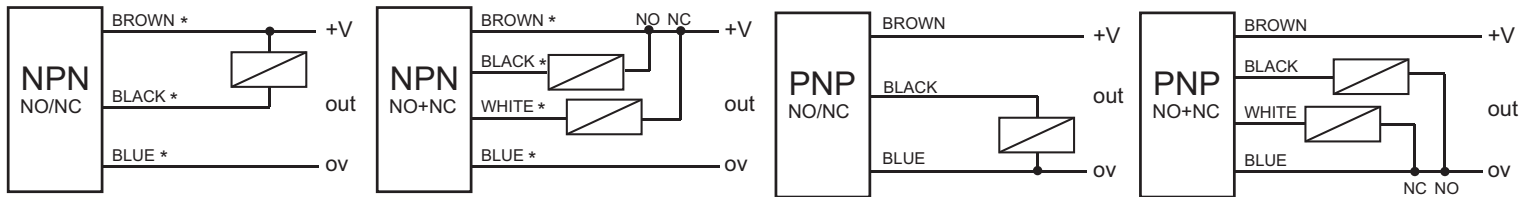
 **Googolplex**
Electric Co. Ltd.

Proximity Sensors & Connectors Catalogue

Features

- Inductive proximity sensor
- Style: cylinder shape (M12, M18, M30).
- With LED operation indicator, easily identifiable.
- Brass nickle plated, proof of oil, water acid, alkaline.
- Standard sensing object: inductive sensor: ferrous metals.
- Over-load and short circuit protection; polarity reversal protection.
- RPM measuring in mechanism.
- Protection rate: IP67, water resistant.
- Shielded.
- Connection mode: M12 connector.
- DC 3-wire(10-30V DC).

Connections

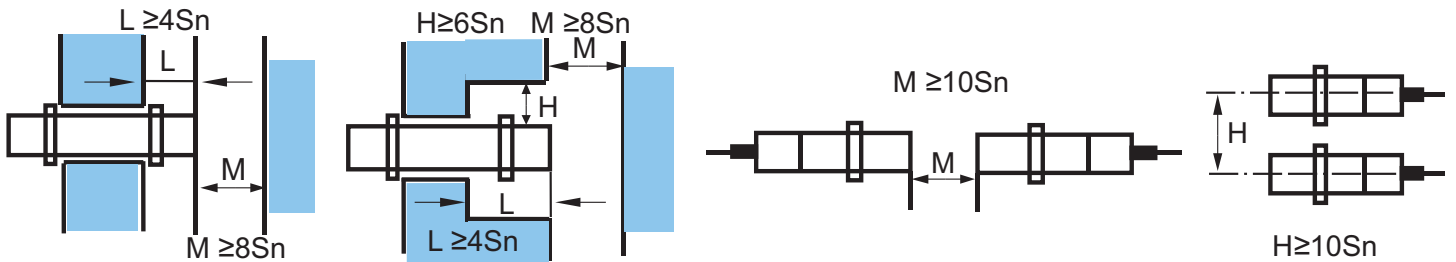


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Brown	Power Wire
Black	Switching/Signal Wire
White	Switching/Signal Wire
Blue	Ground Wire

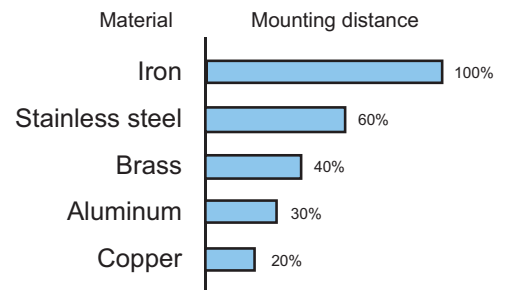
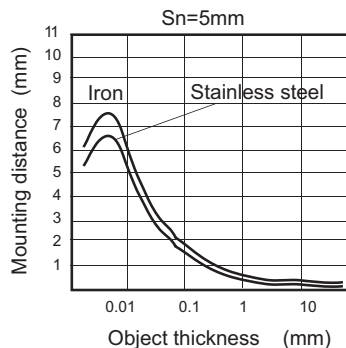
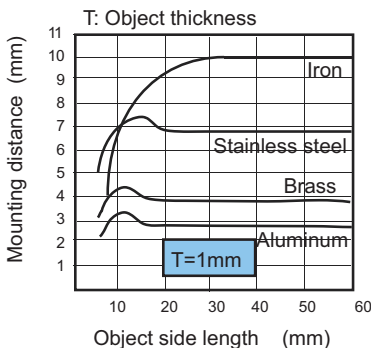
Installation

- When used in an area surrounded by metal or juxtaposed, install the sensor as follows. (Sn Sensing distance)

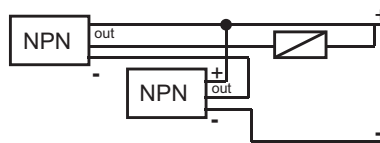
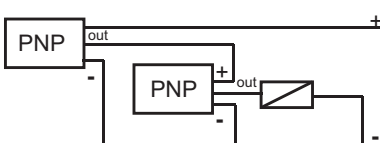


• IPS INDUCTIVE PROXIMITY APPLICATION DIRECTION

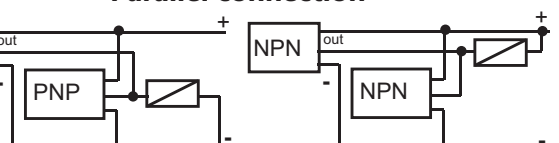
- Mounting distance should be set equal 80% Sn.
- Set mounting distance equals 50% Sn, when sensor applies in measuring mounting frequency or operating in high speed circumstance.
- Mounting distance varies with measuring object (iron, stainless steel, brass, copper, and aluminum).



Series connection



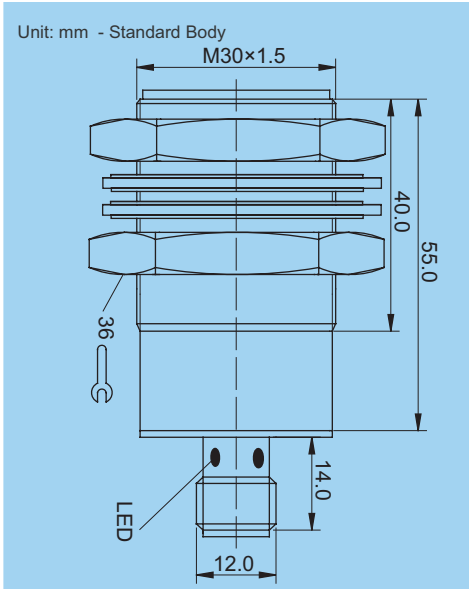
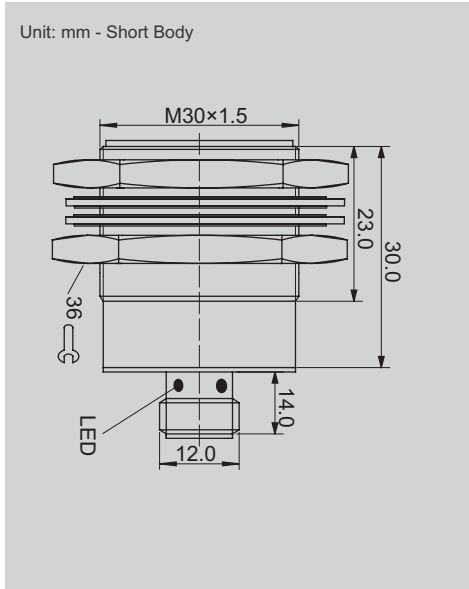
Parallel connection



Inductive Proximity Sensor

M30 Series

Dimension	M30 x1.5	M30 x1.5
Installation	Flush (shielded)	Flush (shielded)
Mounting distance Sn	10.0mm	10.0mm
Detect distance Sn	0...9.0mm	0...9.0mm



PNP	DC 3 wires	NO	DSS-CPS-POM30SB-10FM	DSS-CPS-POM30LB-10FM
		NC	DSS-CPS-PCM30SB-10FM	DSS-CPS-PCM30LB-10FM
NPN	DC 3 wires	NO	DSS-CPS-NOM30SB-10FM	DSS-CPS-NOM30LB-10FM
		NC	DSS-CPS-NCM30SB-10FM	DSS-CPS-NCM30LB-10FM

Rated operational voltage (DC/AC)	24V DC	24V DC
Supply voltage (DC/AC)	10-30V DC	10-30V DC
Voltage drop	≤ 2.0V	≤ 2.0V
Rated insulation voltage	≥ 20M Ω	≥ 20M Ω
Load current capacity (DC/AC)	200mA	200mA
Off-state current (NPN/PNP)	≤ 15mA	≤ 15mA
Leak current	≤ 20 μA	≤ 20 μA
Against polarity reversal	YES	YES
Short circuit protected	YES	YES
Load capacity	≤ 1μF	≤ 1μF

Repeated accuracy	≤ 5%	≤ 5%
Ambient temperature range	-25...+70°C	-25...+70°C
Frequency (DC 3/2wires / AC 2 wires)	500Hz/400Hz	500Hz/400Hz
Function indication	Red LED Indicator	Red LED Indicator

IP ratings	IP67	IP67
Housing material	Nickle plate brass	Nickle plate brass
Material of sensing face	ABS	ABS
Plug-in connector	M12 3/4 Wire	M12 3/4 Wire
Approvals	CE	CE

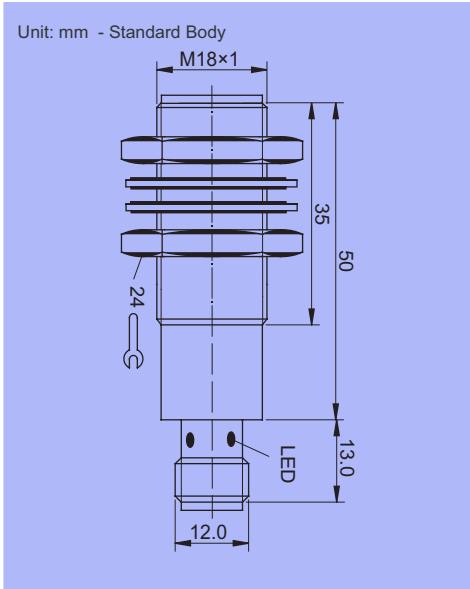
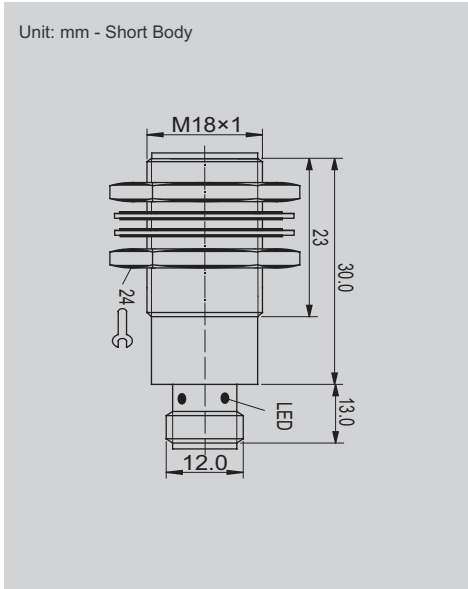
Normally Open (NO):
When metal is within proximity to the sensor, the circuit will close and the indicating LED light will be ON.

Normally Closed (NC):
When metal is within proximity to the sensor, the circuit will open and the indicating LED light will be OFF.

Inductive Proximity Sensor

M18 Series

Dimension	M18 x1	M18 x1
Installation	Flush (shielded)	Flush (shielded)
Mounting distance Sn	5.0mm	5.0mm
Detect distance Sn	0...4.0mm	0...4.0mm



PNP	DC 3 wires	NO	DSS-CPS-POM18SB-5FM	DSS-CPS-POM18LB-5FM
		NC	DSS-CPS-PCM18SB-5FM	DSS-CPS-PCM18LB-5FM
NPN	DC 3 wires	NO	DSS-CPS-NOM18SB-5FM	DSS-CPS-NOM18LB-5FM
		NC	DSS-CPS-NCM18SB-5FM	DSS-CPS-NCM18LB-5FM

Rated operational voltage (DC/AC)	24V DC	24V DC
Supply voltage (DC/AC)	10-30V DC	10-30V DC
Voltage drop	≤ 2.0V	≤ 2.0V
Rated insulation voltage	≥ 20M Ω	≥ 20M Ω
Load current capacity (DC/AC)	200mA	200mA
Off-state current (NPN/PNP)	≤ 15mA	≤ 10mA
Leak current	≤ 20 μA	≤ 20 μA
Against polarity reversal	YES	YES
Short circuit protected	YES	YES
Load capacity	≤ 1μF	≤ 1μF

Repeated accuracy	≤ 5%	≤ 5%
Ambient temperature range	-25...+70°C	-25...+70°C
Frequency (DC 3/2wires / AC 2 wires)	700Hz/400Hz	700Hz/400Hz
Function indication	Red LED Indicator	Red LED Indicator

IP ratings	IP67	IP67
Housing material	Nickle plate brass	Nickle plate brass
Material of sensing face	ABS	ABS
Plug-in connector	M12 3/4 Wire	M12 3/4 Wire
Approvals	CE	CE

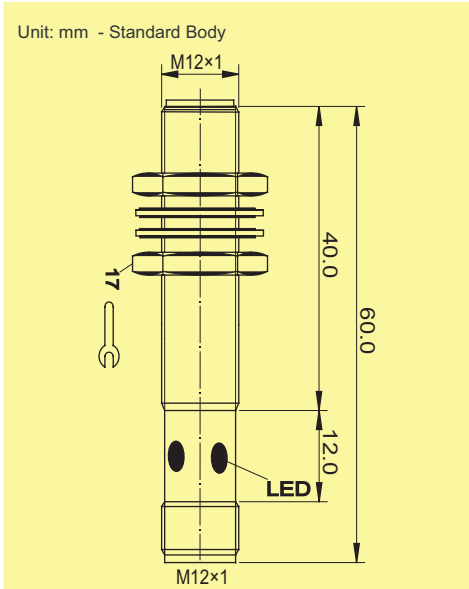
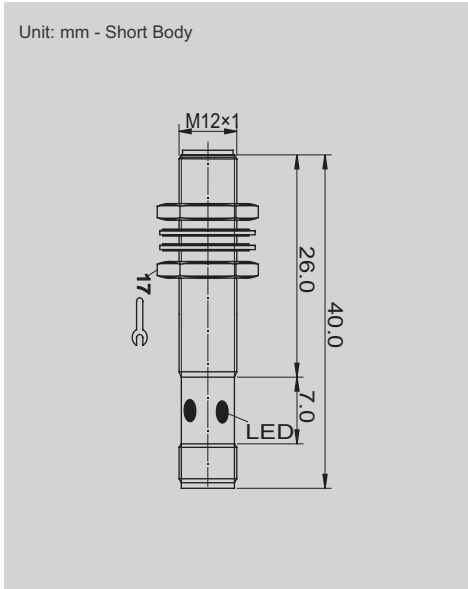
Normally Open (NO):
When metal is within proximity to the sensor, the circuit will close and the indicating LED light will be ON.

Normally Closed (NC):
When metal is within proximity to the sensor, the circuit will open and the indicating LED light will be OFF.

Inductive Proximity Sensor

M12 Series

Dimension	M12 x1	M12 x1
Installation	Flush (shielded)	Flush (shielded)
Mounting distance Sn	4.0mm	4.0mm
Detect distance Sn	0...3.6mm	0...3.6mm



PNP	DC 3 wires	NO	DSS-CPS-POM12SB-4FM	DSS-CPS-POM12LB-4FM
		NC	DSS-CPS-PCM12SB-4FM	DSS-CPS-PCM12LB-4FM
NPN	DC 3 wires	NO	DSS-CPS-NOM12SB-4FM	DSS-CPS-NOM12LB-4FM
		NC	DSS-CPS-NCM12SB-4FM	DSS-CPS-NCM12LB-4FM

Rated operational voltage (DC/AC)	24V DC	24V DC
Supply voltage (DC/AC)	10-30V DC	10-30V DC
Voltage drop	≤ 2.0V	≤ 2.0V
Rated insulation voltage	≥ 20M Ω	≥ 20M Ω
Load current capacity (DC/AC)	100mA	200mA
Off-state current (NPN/PNP)	≤ 15mA	≤ 15mA
Leak current	≤ 20 μA	≤ 20 μA
Against polarity reversal	YES	YES
Short circuit protected	YES	YES
Load capacity	≤ 1μF	≤ 1μF

Repeated accuracy	≤ 5%	≤ 5%
Ambient temperature range	-25...+70°C	-25...+70°C
Frequency (DC 3/2wires / AC 2 wires)	800Hz/400Hz	800Hz/400Hz
Function indication	Red LED Indicator	Red LED Indicator

IP ratings	IP67	IP67
Housing material	Nickle plate brass	Nickle plate brass
Material of sensing face	ABS	ABS
Plug-in connector	M12 3/4 Wire	M12 3/4 Wire
Approvals	CE	CE

Normally Open (NO):
When metal is within proximity to the sensor, the circuit will close and the indicating LED light will be ON.

Normally Closed (NC):
When metal is within proximity to the sensor, the circuit will open and the indicating LED light will be OFF.

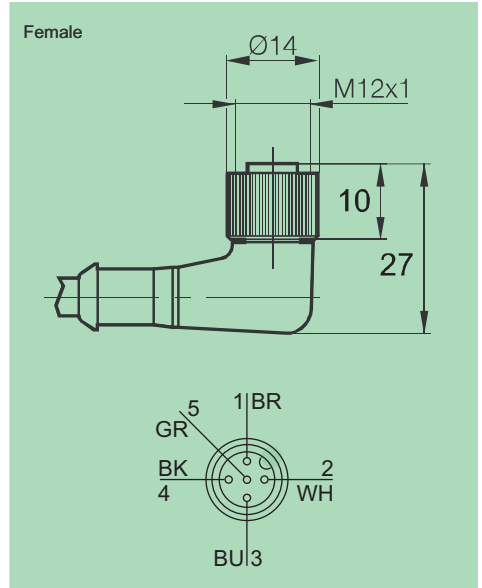
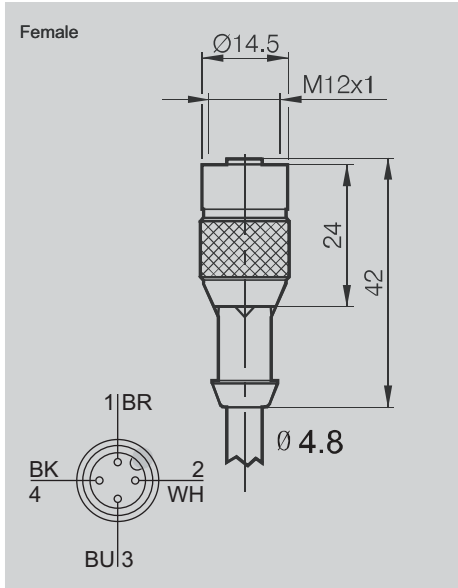
Plug-In Cables

Cables

Connector

M12 Straight 3/4 Pole (Pin)

M12 90° Angled 3/4 Pole (Pin)



- DSS-CCS-M12-F4A-3M
- DSS-CCS-M12-F4A-5M
- DSS-CCS-M12-F4A-10M

- DSS-CCA-M12-F4A-3M
- DSS-CCA-M12-F4A-5M
- DSS-CCA-M12-F4A-10M

Cable Lengths Available	3 Meter, 5 Meter, 10 Meter	3 Meter, 5 Meter, 10 Meter
No. of Cores	16X0.15	16X0.15
Section of Each Core	3(4) X 0.3mm ²	3(4) X 0.3mm ²
Material (Cable/Injection)	PVC	PVC
Material (Pole/Pin)	Copper	Copper
LED Lamp	NO	NO
Rated Voltage	DC 12~220V	DC 12~220V
Resistance of Each Core	17.24 X 10 ⁻³ Ω	17.24 X 10 ⁻³ Ω
Installation Strength	>200 MΩ	>200 MΩ
IP Rating (Cable/Injection)	IP67/IP65	IP67/IP65

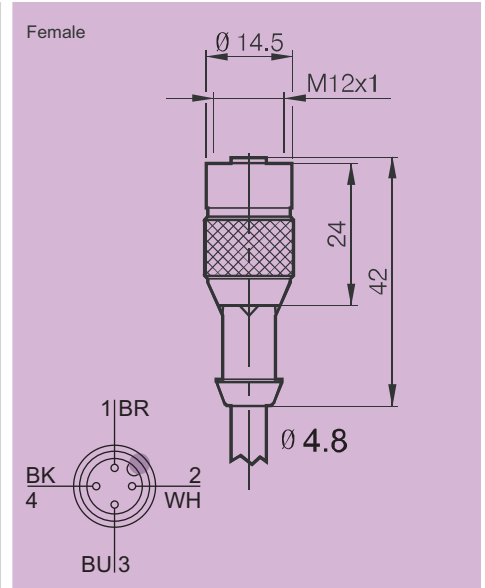
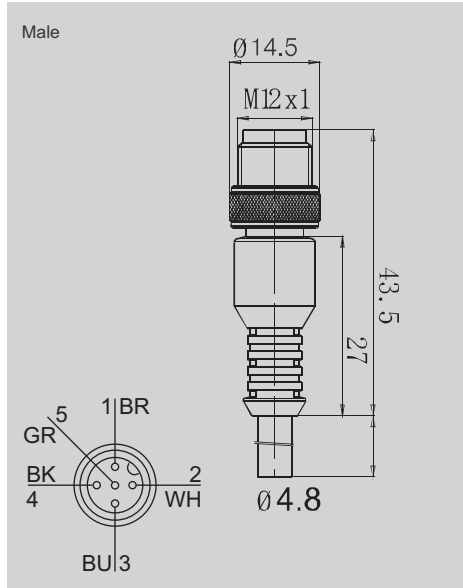
Interconnecting Cables

Cables

Connector

**M12 Male
3/4 Pole (Pin)**

**M12 Female
3/4 Pole (Pin)**


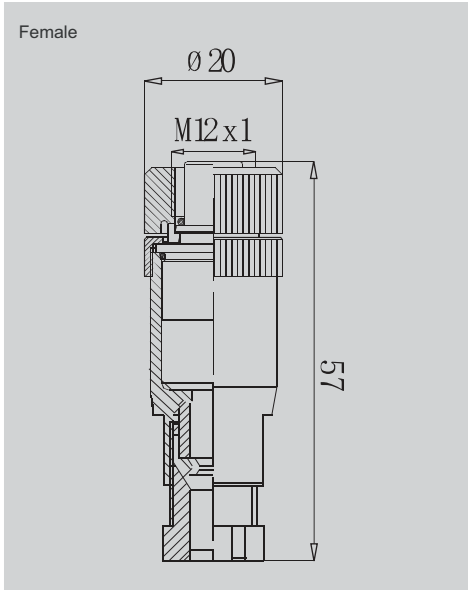
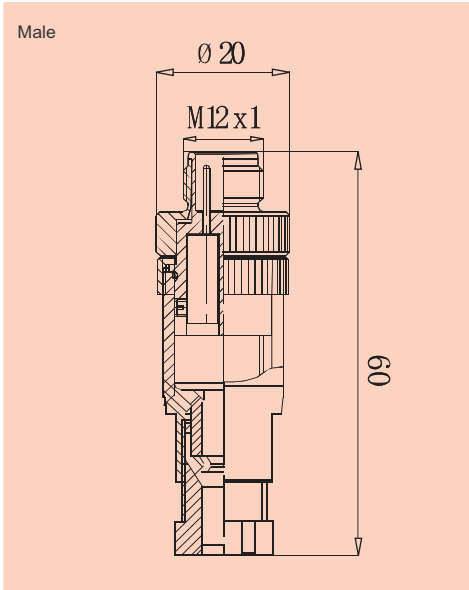


- DSS-CCS-FM12-F4A-3M**
- DSS-CCS-FM12-F4A-5M**
- DSS-CCS-FM12-F4A-10M**

Cable Lengths Available	3 Meter, 5 Meter, 10 Meter
No. of Cores	16X0.15
Section of Each Core	3(4) X 0.3mm ²
Material (Cable/Injection)	PVC
Material (Pole/Pin)	Copper
LED Lamp	NO
Rated Voltage	DC 12~220V
Resistance of Each Core	17.24 X 10 ⁻³ Ω
Installation Strength	>200 MΩ
IP Rating (Cable/Injection)	IP67/IP65
Connection	Male - Female

Joining Connectors

Connectors

Connector	M12 Female 4 Poles (Pins)	M12 Male 4 Poles (Pins)
		
	DSS-CCS-F-4A	DSS-CCS-M-4A
Cable	User Connect	User Connect
No. of Poles/Pins	3 or 4	3 or 4
Material of Housing	ABS	ABS
Material (Pole/Pin)	Nickle Plated Brass	Nickle Plated Brass
LED Lamp	NO	NO
Rated Voltage	AC/DC 12~250V	AC/DC 12~250V
Rated Current	AC 3A	AC 3A
Connection Method	Terminals	Terminals
Installation Strength	>200 M Ω	>200 M Ω
IP Rating (Housing)	IP67	IP67