

# TECHNICAL DATA SHEET

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## Inductive Proximity Switches Analog Proximity Sensors **Square type**

### 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

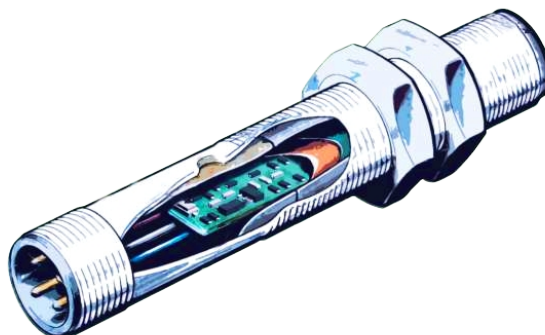
Whichever manufacturer of shoemaking machines, textile machines and papermaking machines has long equipped the mechanical equipment they produce with more automated operation technologies, these control technologies are also equipped with high-quality sensors to achieve their control conditions. They 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	A	4	0	1	5	I	Y	A	E	T	M	P		(LA40-15I-YAE-TM-P)
														<b>Special Instructions</b>
														<b>Shell material:</b> H: nickel-plated brass; S: stainless steel; L: aluminum alloy; P: PBT; T: Teflon; F: PTFE; M: POM;
														<b>Short circuit protection:</b> 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
														<b>Wiring method:</b> 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
														<b>Voltage:</b> 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
														<b>Installation method:</b> A: Shielded    B: Non-shielded
														<b>Connection method:</b> Y: Plug-in type    Z: Cable type
														<b>Output mode:</b> 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
														<b>Detection distance:</b> 1mm-50mm
														<b>Specification(mm):</b> $\phi 3$ , $\phi 4$ , M4, M5, $\phi 6.5$ , M8, M12, M18, M30
														<b>Type:</b> 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
														<b>Series:</b> L: Inductive sensor C: Capacitive sensor





## Square 40\*40mm Series

### Analog Proximity sensors

This series features ultra-compact size, long detection distance, and ultra-high precision. It is ideal for small-sized precision instruments and equipment.

### Features:

· Features: Can detect metals such as iron, stainless steel, brass, aluminum, etc.

Specifications:  $\phi 6.5$ , M8, M12, M18, M30, 40\*40

Output function: analog current output: 0-20mA, voltage output 0-10V

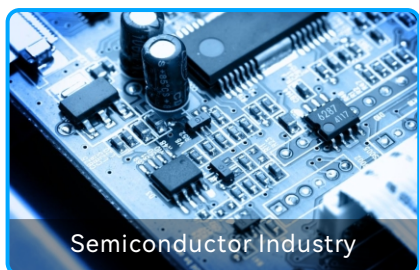
Detection distance: 1-40mm

Switching frequency: 500-1500HZ

Product certification: CE, ROHS



## Application Industry



Semiconductor Industry



Logistics Packaging



Electronics Manufacturing



Automation Industry



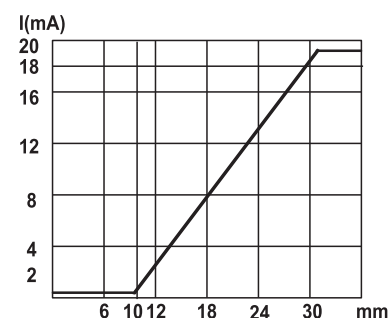
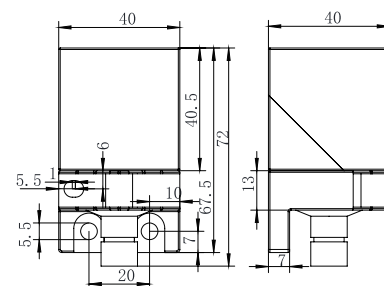
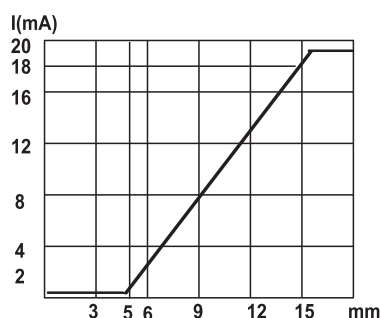
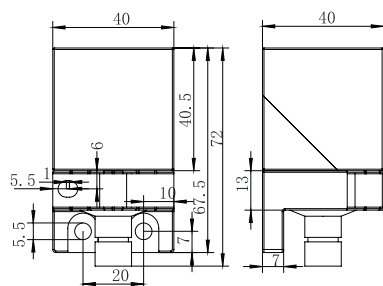
Textile Industry



Printing Industry

# Product Parameters

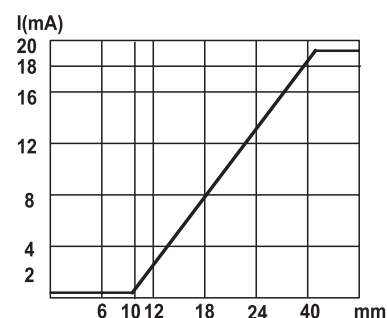
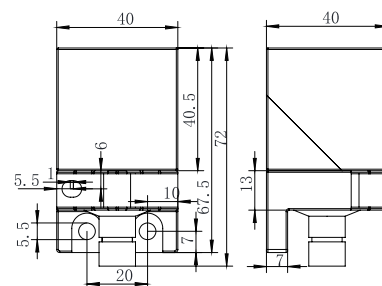
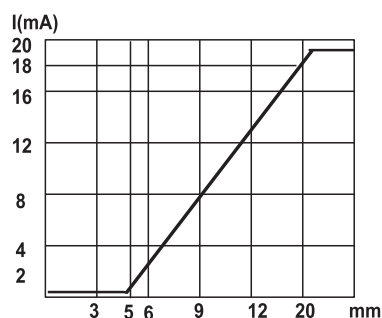
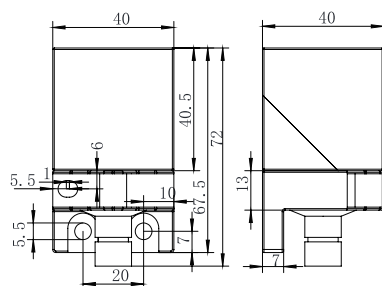
## Analog 40\*40 Series



Size category	40*40	40*40
● Shielded ○ Non-shielded	●	●
Sn: mm	5-15 mm	10-30 mm
Shell material	PBT	PBT
● LED display ○ No LED display	○	○
Operating voltage	18-30VDC	18-30VDC
Maximum allowable ripple voltage	<10%	<10%
No-load current	15mA	15mA
Output voltage/load resistance	-	-
Output current/load resistance	0-20mA/200 Ω	0-20mA/200 Ω
Linearity	<10%(Sr)	<10%(Sr)
Repeat accuracy	0.02mm	0.02mm
Operating temperature	-25°C ~ +70°C	-25°C ~ +70°C
Temperature drift	5%(Sr)	5%(Sr)
Short circuit protection	-	-
Reverse polarity protection	Yes	Yes
Protection level	IP67	IP67
Output signal	PNP-ANALOG	PNP-ANALOG
Maximum switching frequency	500Hz	500Hz
Delay	-	-
EMC	RFI>3V/m / EFT>1KV / ESD>4KV (contact)	RFI>3V/m / EFT>1KV / ESD>4KV (contact)
Shock/vibration	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2
Sensing surface material	PBT	PBT
Connection method	M12 connector	M12 connector
Product model:		
Inductive current output	LA40-15I-YAE-TM-P	LA40-30I-YBE-TM-P
Inductive voltage output		
Inductive voltage & current dual output		

# Product Parameters

## Analog 40\*40 Series



### Size category

40\*40

40\*40

● Shielded ○ Non-shielded

●

●

Sn: mm

5-20 mm

7-40 mm

Shell material

PBT

PBT

● LED display ○ No LED display

○

○

Operating voltage

18-30VDC

18-30VDC

Maximum allowable ripple voltage

<10%

<10%

No-load current

15mA

15mA

Output voltage/load resistance

-

-

Output current/load resistance

0-20mA/200Ω

0-20mA/200Ω

Linearity

<10%(Sr)

<10%(Sr)

Repeat accuracy

0.02mm

0.02mm

Operating temperature

-25°C ~ +70°C

-25°C ~ +70°C

Temperature drift

5%(Sr)

5%(Sr)

Short circuit protection

-

-

Reverse polarity protection

Yes

Yes

Protection level

IP67

IP67

Output signal

PNP-ANALOG

PNP-ANALOG

Maximum switching frequency

500Hz

500Hz

Delay

-

-

EMC RFI>3V/m / EFT>1KV / ESD>4KV (contact)

RFI>3V/m / EFT>1KV / ESD>4KV (contact)

Shock/vibration IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2

IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2

Sensing surface material

PBT

PBT

Connection method

M12 connector

M12 connector

Product model:

Inductive current output

LA40-20I-YAE-TM-P

LA40-40I-YBE-TM-P

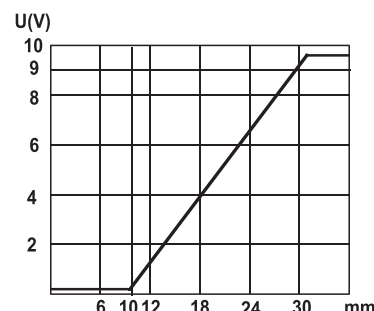
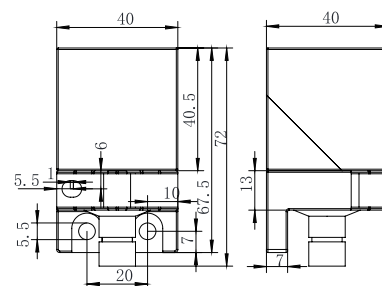
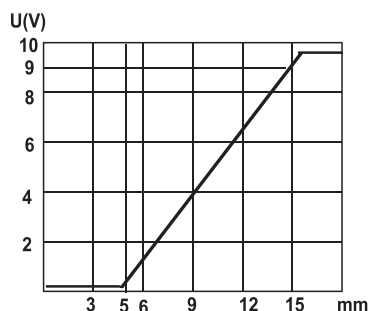
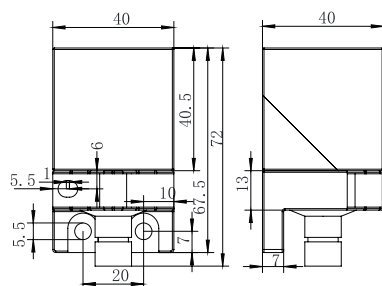
Inductive voltage output

Inductive voltage & current dual output



# Product Parameters

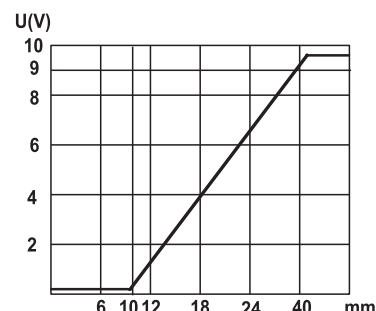
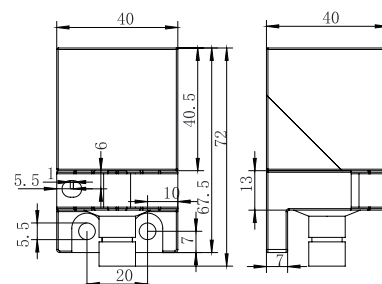
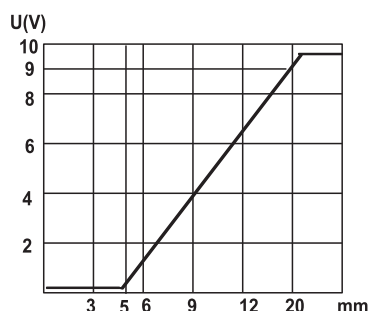
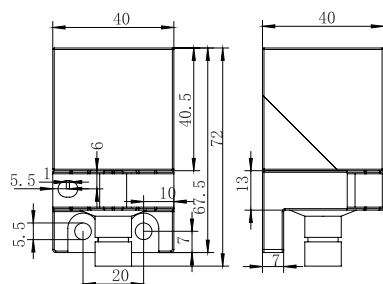
## Analog 40\*40 Series



Size category	40*40	40*40
● Shielded ○ Non-shielded	●	●
Sn: mm	5-15 mm	10-30 mm
Shell material	PBT	PBT
● LED display ○ No LED display	○	○
Operating voltage	18-30VDC	18-30VDC
Maximum allowable ripple voltage	<10%	<10%
No-load current	15mA	15mA
Output voltage/load resistance	0-10VDC / $\geq 4.7K\Omega$	0-10VDC / $\geq 4.7K\Omega$
Output current/load resistance	-	-
Linearity	<10%(Sr)	<10%(Sr)
Repeat accuracy	0.02mm	0.02mm
Operating temperature	-25°C ~ +70°C	-25°C ~ +70°C
Temperature drift	5%(Sr)	5%(Sr)
Short circuit protection	-	-
Reverse polarity protection	Yes	Yes
Protection level	IP67	IP67
Output signal	PNP-ANALOG	PNP-ANALOG
Maximum switching frequency	500Hz	500Hz
Delay	-	-
EMC	RFI>3V/m / EFT>1KV / ESD>4KV (contact)	RFI>3V/m / EFT>1KV / ESD>4KV (contact)
Shock/vibration	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2
Sensing surface material	PBT	PBT
Connection method	M12 connector	M12 connector
Product model:		
Inductive current output		
Inductive voltage output	LA40-15U-YAE-TM-P	LA40-30U-YBE-TM-P
Inductive voltage & current dual output		

# Product Parameters

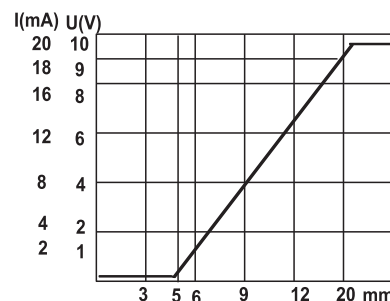
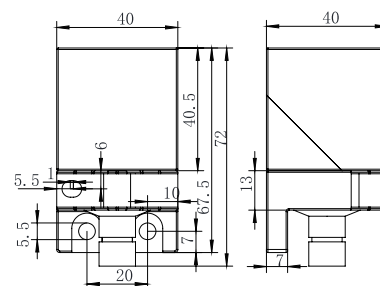
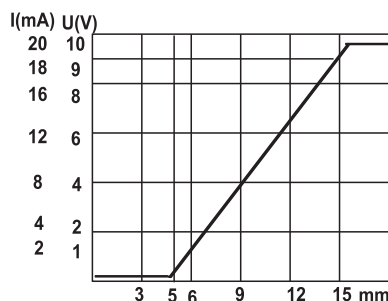
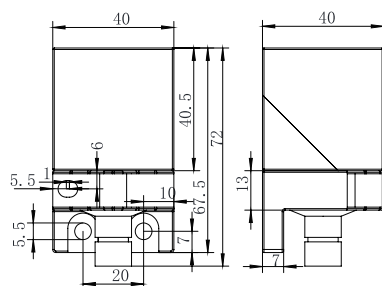
## Analog 40\*40 Series



Size category	40*40	40*40
● Shielded ○ Non-shielded	●	●
Sn: mm	5-20 mm	10-40 mm
Shell material	PBT	PBT
● LED display ○ No LED display	○	○
Operating voltage	18-30VDC	18-30VDC
Maximum allowable ripple voltage	<10%	<10%
No-load current	15mA	15mA
Output voltage/load resistance	0-10VDC / $\geq 4.7K\Omega$	0-10VDC / $\geq 4.7K\Omega$
Output current/load resistance	-	-
Linearity	<10%(Sr)	<10%(Sr)
Repeat accuracy	0.02mm	0.02mm
Operating temperature	-25°C ~ +70°C	-25°C ~ +70°C
Temperature drift	5%(Sr)	5%(Sr)
Short circuit protection	-	-
Reverse polarity protection	Yes	Yes
Protection level	IP67	IP67
Output signal	PNP-ANALOG	PNP-ANALOG
Maximum switching frequency	500Hz	500Hz
Delay	-	-
EMC	RFI>3V/m / EFT>1KV / ESD>4KV (contact)	RFI>3V/m / EFT>1KV / ESD>4KV (contact)
Shock/vibration	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2
Sensing surface material	PBT	PBT
Connection method	M12 connector	M12 connector
Product model:		
Inductive current output		
Inductive voltage output	LA40-20U-YAE-TM-P	LA40-40U-YBE-TM-P
Inductive voltage & current dual output		

# Product Parameters

## Analog 40\*40 Series

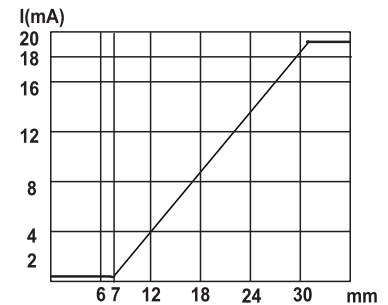
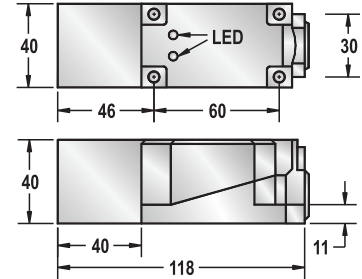
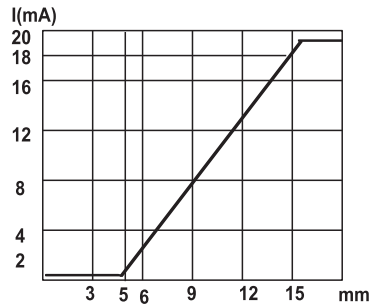
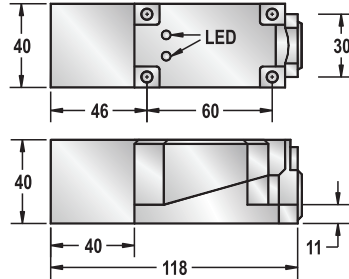


Size category	40*40	40*40
● Shielded ○ Non-shielded	●	●
Sn: mm	5-15 mm	5-20 mm
Shell material	PBT	PBT
● LED display ○ No LED display	○	○
Operating voltage	18-30VDC	18-30VDC
Maximum allowable ripple voltage	<10%	<10%
No-load current	15mA	15mA
Output voltage/load resistance	0-10VDC/≥4.7KΩ	0-10VDC/≥4.7KΩ
Output current/load resistance	0-20mA/200Ω	0-20mA/200Ω
Linearity	<10%(Sr)	<10%(Sr)
Repeat accuracy	0.02mm	0.02mm
Operating temperature	-25°C ~ +70°C	-25°C ~ +70°C
Temperature drift	<5%(Sr)	<5%(Sr)
Short circuit protection	No	No
Reverse polarity protection	Yes	Yes
Protection level	IP67	IP67
Output signal	PNP-ANALOG	PNP-ANALOG
Maximum switching frequency	500Hz	500Hz
Delay	-	-
EMC	RFI>3V/m / EFT>1KV / ESD>4KV (contact)	RFI>3V/m / EFT>1KV / ESD>4KV (contact)
Shock/vibration	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2
Sensing surface material	PBT	PBT
Connection method	M12 connector	M12 connector
Product model:		
Inductive current output		
Inductive voltage output		
Inductive voltage & current dual output	LA40-15V-YAE-4M-P	LA40-20V-YAE-TM-P



# Product Parameters

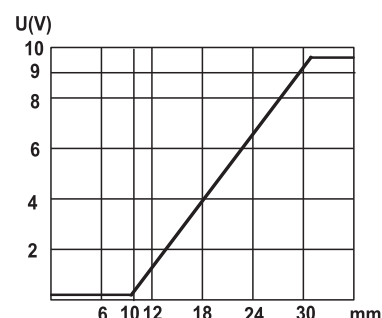
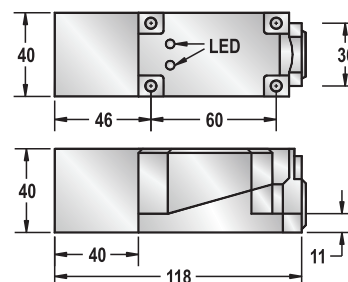
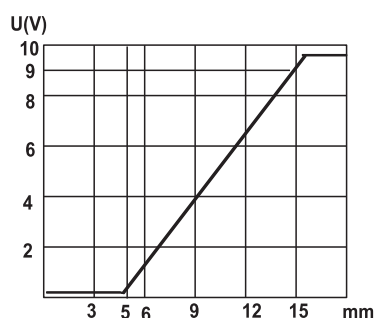
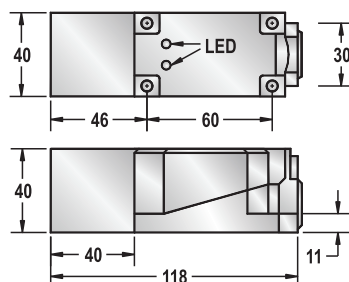
## Analog 40\*40 Series



Size category	40*40	40*40
● Shielded ○ Non-shielded	●	●
Sn: mm	5-15 mm	7-30 mm
Shell material	PBT	PBT
● LED display ○ No LED display	○	○
Operating voltage	18-30VDC	18-30VDC
Maximum allowable ripple voltage	<10%	<10%
No-load current	15mA	15mA
Output voltage/load resistance	-	-
Output current/load resistance	0-20mA/200 Ω	0-20mA/200 Ω
Linearity	<10%(Sr)	<10%(Sr)
Repeat accuracy	0.02mm	0.02mm
Operating temperature	-25°C ~ +70°C	-25°C ~ +70°C
Temperature drift	5%(Sr)	5%(Sr)
Short circuit protection	-	-
Reverse polarity protection	Yes	Yes
Protection level	IP67	IP67
Output signal	PNP-ANALOG	PNP-ANALOG
Maximum switching frequency	500Hz	500Hz
Delay	-	-
EMC	RFI>3V/m / EFT>1KV / ESD>4KV (contact)	RFI>3V/m / EFT>1KV / ESD>4KV (contact)
Shock/vibration	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2
Sensing surface material	PBT	PBT
Connection method	Quick Connectors	Quick Connectors
Product model:		
Inductive current output	LA40-15I-ZAE-3A-P	LA40-30I-ZBE-3A-P
Inductive voltage output		
Inductive voltage & current dual output		

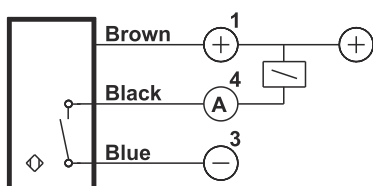
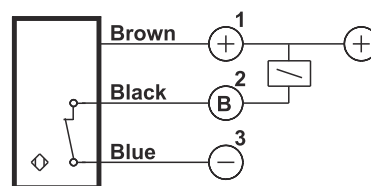
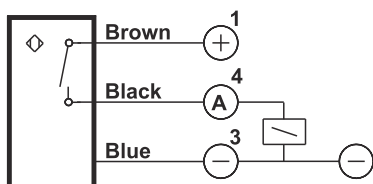
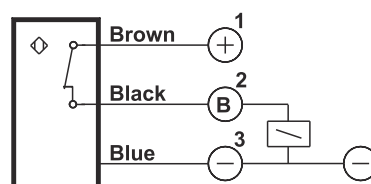
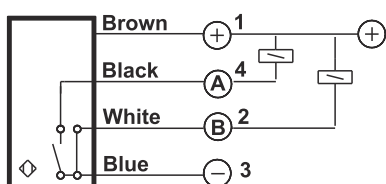
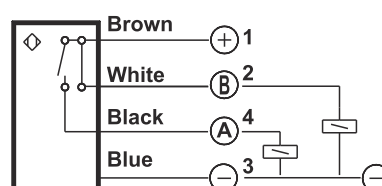
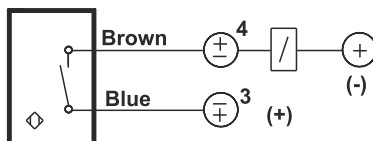
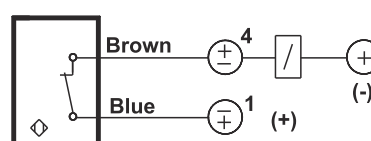
# Product Parameters

## Analog 40\*40 Series

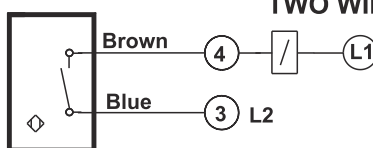


Size category	40*40	40*40
● Shielded ○ Non-shielded	●	●
Sn: mm	5-15 mm	10-30 mm
Shell material	PBT	PBT
● LED display ○ No LED display	○	○
Operating voltage	18-30VDC	18-30VDC
Maximum allowable ripple voltage	<10%	<10%
No-load current	15mA	15mA
Output voltage/load resistance	0-10VDC / ≥4.7KΩ	0-10VDC / ≥4.7KΩ
Output current/load resistance	-	-
Linearity	<10%(Sr)	<10%(Sr)
Repeat accuracy	0.02mm	0.02mm
Operating temperature	-25°C ~ +70°C	-25°C ~ +70°C
Temperature drift	5%(Sr)	5%(Sr)
Short circuit protection	-	-
Reverse polarity protection	Yes	Yes
Protection level	IP67	IP67
Output signal	PNP-ANALOG	PNP-ANALOG
Maximum switching frequency	500Hz	500Hz
Delay	-	-
EMC	RFI>3V/m / EFT>1KV / ESD>4KV (contact)	RFI>3V/m / EFT>1KV / ESD>4KV (contact)
Shock/vibration	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2	IEC 60947-5-2,Part 7.4.1 / IEC 60947-5-2,Part 7.4.2
Sensing surface material	PBT	PBT
Connection method	M12 connector	M12 connector
Product model:		
Inductive current output		
Inductive voltage output	LA40-15U-YAE-3A-P	LA40-30U-YBE-3A-P
Inductive voltage & current dual output		

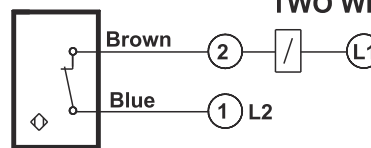
# Wiring Diagram

**DC NPN NO**

**DC NPN NC**

**DC PNP NO**

**DC PNP NC**

**DC NPN NO&NC**

**DC PNP NO&NC**

**DC 2 wire NO**

**DC 2 wire NC**

**Plastic housing**

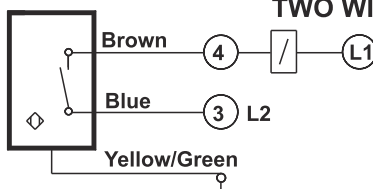
AC/DC 20-250V  
or AC 20-250V  
TWO WIRE-NO


**Plastic housing**

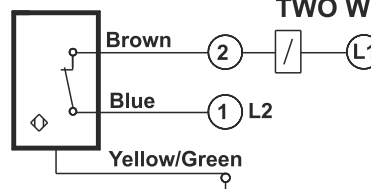
AC/DC 20-250V  
or AC 20-250V  
TWO WIRE-NC


**Metal housing**

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


**Metal housing**

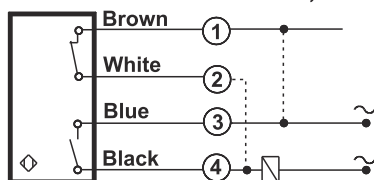
AC/DC 20-250V  
or AC 20-250V  
TWO WIRE-NC



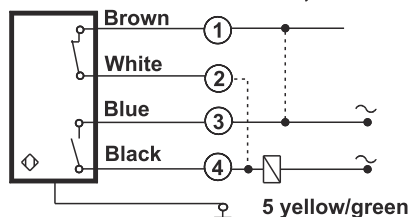


# Wiring Diagram

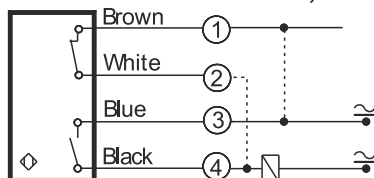
**Plastic housing** **AC 20-250V**  
**NO,NC** **Changeable**



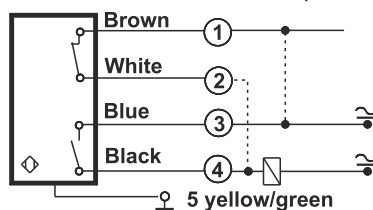
**Metal housing** **AC 20-250V**  
**NO,NC** **Changeable**



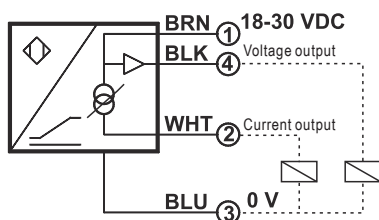
**Plastic housing** **AC 20-250V**  
**NO,NC** **Changeable**



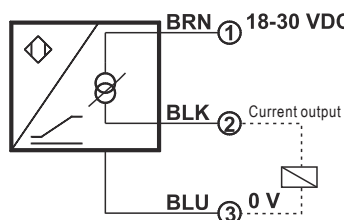
**Metal housing** **AC 20-250V**  
**NO,NC** **Changeable**



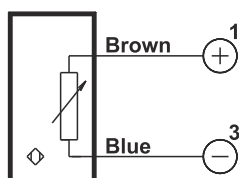
**Analog (current + voltage output type)**



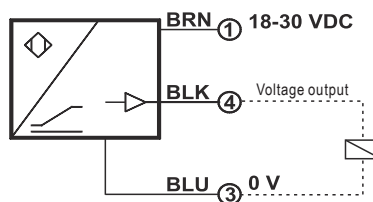
**Analog (current output type)**



**Riot-proof DC 6-12V**

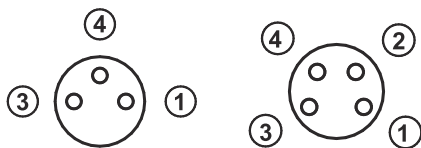


**Analog (voltage output type)**

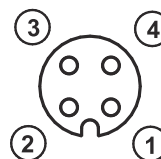


## Connector Diagram

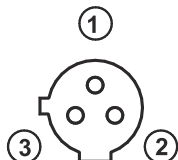
Used for M8 DC  
**M8**



Used for M12 DC  
**M12**



Used for M12 AC  
**M12**



Used for M18 M30 DC or AC

