



## **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.

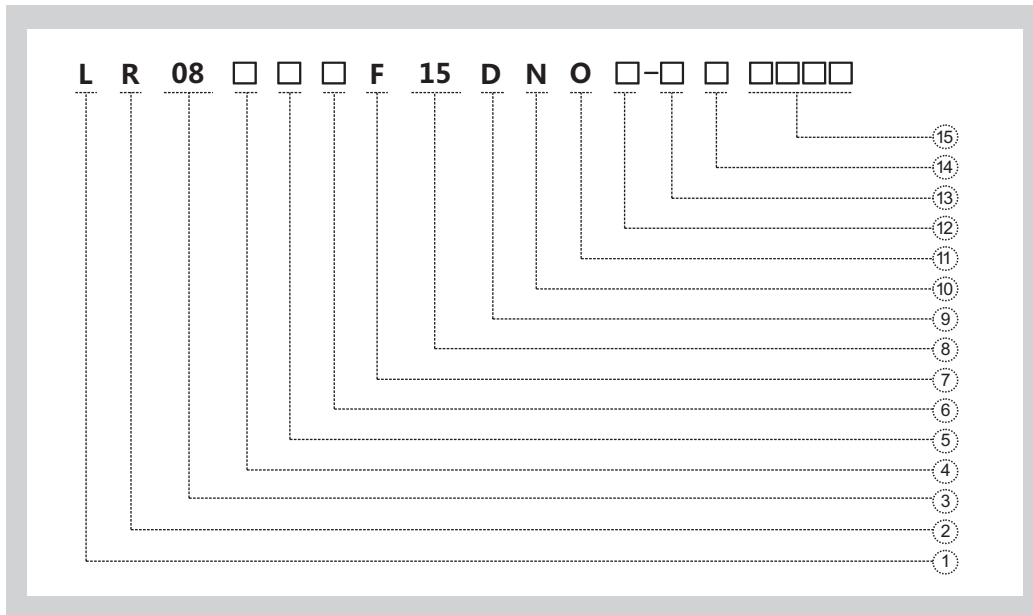
Focus on innovation, quality, service and global market, Lanbao insists on creating maximal value for customers.

## 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
<b>NO</b>				
<b>NC</b>				

DC 3 Wires	Lead wire	M8 Connector	M12 Connector	Terminal connect
<b>NPN NO</b>				
<b>NPN NC</b>				
<b>PNP NO</b>				
<b>PNP NC</b>				

DC 4 Wires	Lead wire	M12 Connector	Terminal connect
<b>NPN NO+NC</b>			
<b>PNP NO+NC</b>			

AC 2 Wires	Lead wire	M12 Connector	Terminal connect
<b>SCR NO</b>			
<b>SCR NC</b>			

# Inductive sensors

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

NAMUR	Lead wire	M8 Connector	M12 Connector	Terminal connect

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

Remarks	M8 Connector	M12 Connector
<b>Connector</b>		

## Welding-immune

P.142

Model	Output	Supply Voltage	Mounting	Sensing Distance	Specifications	Housing Material	Connection
LR12X	DC 3 Wires	DC10-30V	f/nf	2mm,4mm	M12*1*43	Brass+PTFE	Cable
LR12X	DC 3 Wires	DC10-30V	f/nf	2mm,4mm	M12*1*46	Brass+PTFE	M12 Connector
LR18X	DC 3 Wires	DC10-30V	f/nf	5mm,8mm	M18*1*43	Brass+PTFE	Cable
LR18X	DC 3 Wires	DC10-30V	f/nf	5mm,8mm	M18*1*46	Brass+PTFE	M12 Connector
LR30X	DC 3 Wires	DC10-30V	f/nf	10mm,15mm	M30*1.5*43	Brass+PTFE	Cable
LR30X	DC 3 Wires	DC10-30V	f/nf	10mm,15mm	M30*1.5*46	Brass+PTFE	M12 Connector
LE40SZ	DC 3 Wires	DC10-30V	f/nf	15mm,20mm	40*40*66	PBT+PTFE	M12 Connector
LE40XZ	DC 3 Wires	DC10-30V	f/nf	15mm,20mm	40*40*120	PBT+PTFE	Terminal connect

## Rotation speed monitor

P.146

Model	Output	Supply Voltage	Mounting	Sensing Distance	Specifications	Housing Material	Connection
LR18X	DC 3 Wires	DC10-30V	f/nf	5mm,8mm	M18*1*53	Nickel-copper alloy	Cable
LR18X	AC 2 Wires	AC20-250V	f/nf	5mm,8mm	M18*1*53	Nickel-copper alloy	Cable
LR30X	DC 3 Wires	DC10-30V	f/nf	10mm,15mm	M30*1.5*53	Nickel-copper alloy	Cable
LR30X	AC 2 Wires	AC20-250V	f/nf	10mm,15mm	M30*1.5*53	Nickel-copper alloy	Cable

## Self-diagnosed

P.148

Model	Output	Supply Voltage	Mounting	Sensing Distance	Specifications	Housing Material	Connection
LR12X	DC 3 Wires	DC20-30V	nf	3.7mm	M12*1*57	Nickel-copper alloy	Cable
LR12X	DC 3 Wires	DC20-30V	nf	3.7mm	M12*1*40	Nickel-copper alloy	M12 Connector
LR12X	DC 3 Wires	DC20-30V	nf	3.7mm	M12*1*60	Nickel-copper alloy	M12 Connector

Item Code	LR12X		LR12X	
Mounting	● Non-flush	● Non-flush	● Non-flush	
Sensing distance	3.7mm	3.7mm	3.7mm	



Output	PNP NO	LR12XCN37HPOZ	LR12XBN37HPOZ-E2	LR12XDN37HPOZ-E2	
	PNP NC	LR12XCN37HPCZ	LR12XBN37HPCZ-E2	LR12XDN37HPCZ-E2	
Output					

Technical Parameter					
Supply voltage		20...30 VDC	20...30 VDC	20...30 VDC	
Switch point drift		< ±10% Sr	< ±10% Sr	< ±10% Sr	
Load current		<130mA	<130mA	<130mA	
Voltage drop		<5V	<5V	<5V	
Consumption current		<25mA	<25mA	<25mA	
Hysteresis		1...20%	1...20%	1...20%	
Repeat accuracy		<5%	<5%	<5%	
Frequency		300Hz	300Hz	300Hz	
Output indicator		...	...	...	
Polarity protection		yes	yes	yes	
Dielectric strength		1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	
Short-circuit protection		yes	yes	yes	
Ambient temperature		-25...+70°C	-25...+70°C	-25...+70°C	
Ambient moisture		35...95%	35...95%	35...95%	
Protection degree		IP67	IP67	IP67	
Housing material		Nickel-copper alloy	Nickel-copper alloy	Nickel-copper alloy	
Connection		2m PVC Cable	M12 Connector	M12 Connector	
Certification		CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	

\* Cable material and length can be customized

