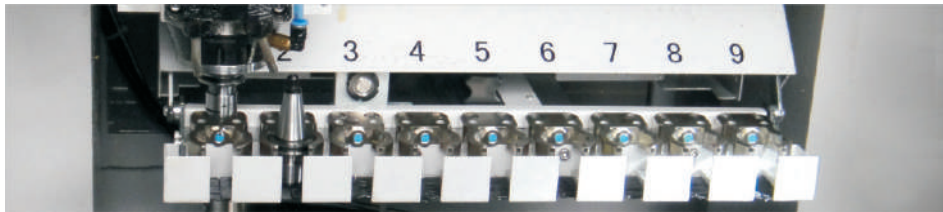


# SENSORS

# INDUCTIVE SENSOR



- Contactless, no abrasion, high reliability.
- LED indicator.
- Diameter from  $\Phi 4$  to M30, multi lengths available, square specifications from 5\*5 to 80\*80.
- Cable and connector connection optional.
- Stable performance with professional IC design.
- With short circuit protection, reverse polarity protection, overload protection and surge protection.
- Widely applied in position controlling and counting function.

# NAMING RULES

**L** **R** **08**    **F** **15** **D** **N** **O**  -

**1** **2** **3** **4** **5** **6** **7** **8** **9** **10** **11** **12** **13** **14** **15**

## 1. TYPE CODE

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: APPEARANCE IMPROVED/FUNCTION ENHANCED PRODUCTS

## 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  
D: 10...30VDC  
E: 10...60VDC  
F: 8.2VDC  
L: 15...30VDC  
H: 20...30VDC  
S: 20...250VAC/DC

## 10. OUTPUT WAY

B: AC/DC WIRES  
L: DC 2 WIRES  
T: AC 2 WIRES  
P: PNP  
N: NPN

## 11. OUTPUT STATUS

B: NO/NC 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)  
L: IO LINK

## 12. SENSOR FUNCTION

N/A: STANDAR FUNCTION  
M: ANALOG  
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  
Z: SELF-DIAGNOSIS  
Y: EXTENDED SENSING DISTANCE  
G: FREQUENCY ENHANCED  
Q: FULL METAL HOUSING  
A: WELDING-IMMUNE  
J: ROTATION SPEED MONITORING

## 13. CABLE LENGHT

e.g: 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)  
D: TERMINAL  
F1: M8 CONNECTOR (3 PINS) + 0.2m CABLE  
F2: M12 CONNECTOR (4 PINS) + 0.2m CABLE

## 15. SPECIAL REQUIREMENT

IN 4 DIGITS

## STANDARD FUNCTION



Shell code	LR04Q	LR05	LR6.5Q	LR08	LR12X	
Dimensions(mm)	Φ4*30, Φ4*54	M5*0.5*30, M5*0.5*40	Φ6.5*40, Φ6.5*43 Φ6.5*49, Φ6.5*52	M8*1*40, M8*1*43 M8*1*49, M8*1*52 M8*1*65, M8*1*68	M12*1*51, M12*1*55	
Mounting	● Flush	● Flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	
Sensing distance	0.8mm	0.8mm	1.5mm, 2mm	1.5mm, 2mm	2mm, 4mm	
Output	DC 3 DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	
	DC 4 DC 4 Wires	/	/	/	NPN NO+NC PNP NO+NC	
	DC 2 DC 2 Wires	/	/	NO NC	NO NC	
	AC 2 AC 2 Wires	/	/	/	/	NO NC
	AC/DC 2 AC/DC 2 Wires	/	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC 20...250 VAC	
Frequency	2000Hz	2000Hz	2000Hz, 1500Hz	2000Hz, 1500Hz	DC3/4: 1500Hz, 1000Hz DC2: 800Hz, 500Hz AC2: 20Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	IP67	
Housing material	Stainless steel	Stainless steel	Stainless steel	Stainless steel Nickel-copper Alloy	Nickel-copper Alloy	
Connection	Cable, M8 Connector	Cable, M8 Connector	Cable, M8 Connector	Cable M8/M12 Connector	Cable	
Certification	CE	CE	CE	CE	CE U	

## STANDARD FUNCTION



Shell code	LR18X	LR30X	LR12X	LR18X	LR30X
Dimensions(mm)	M18*1*51.5 M18*1*59.5	M30*1.5*52 M30*1.5*64	M12*1*63 M12*1*67	M18*1*63 M18*1*71	M30*1.5*63 M30*1.5*75
Mounting	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush
Sensing distance	5mm, 8mm	10mm, 15mm	2mm, 4mm	5mm, 8mm	10mm, 15mm
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC
	DC 2 Wires	NO NC	NO NC	NO NC	NO NC
	AC 2 Wires	NO NC	NO NC	NO NC	NO NC
	AC/DC 2 Wires	NO NC	NO NC	/	NO NC
Supply voltage	10...30 VDC 20...250 VAC 20...250 VAC/DC	10...30 VDC	10...30 VDC 20...250 VAC	10...30 VDC 20...250 VAC 20...250 VAC/DC	10...30 VDC 20...250 VAC 20...250 VAC/DC
Frequency	DC3/4: 1000Hz, 800Hz DC2: 500Hz, 300Hz AC2: 20Hz	DC3/4: 500Hz, 300Hz DC2: 200Hz AC2: 20Hz	DC3/4: 1500Hz, 1000Hz DC2: 800Hz, 500Hz AC2: 20Hz	DC3/4: 1000Hz, 800Hz DC2: 500Hz, 300Hz AC2: 20Hz	DC3/4: 500Hz, 300Hz DC2: 200Hz AC2: 20Hz
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C
Protection degree	IP67	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy
Connection	Cable	Cable	M12 Connector	M12 Connector	M12 Connector
Certification	CE UL	CE UL	CE UL	CE UL	CE UL

## STANDARD FUNCTION



Shell code	LE08	LE08X	LE09	LE11	
Dimensions(mm)	7.5*8*23	7.5*8*23	7.5*8*23	12*7*27	
Mounting	⊙ Non-flush	⊙ Non-flush	⊙ Non-flush	⊙ Non-flush	
Sensing distance	2.5mm	2.5mm	2.5mm	3mm	
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires	/	/	/	/
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 2 Wires	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
Frequency	1000Hz	1000Hz	1000Hz	1000Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	
Housing material	PC	PC	PC	PC	
Connection	Cable	Cable	Cable	Cable	
Certification	CE	CE	CE	CE	

## STANDARD FUNCTION



Shell code	LE10	LE17	LE18	LE20	LE25	
Dimensions(mm)	18*10*30	17*17*28	18*18*35	20*20*38	25*25*39	
Mounting	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	
Sensing distance	5mm, 8mm	5mm, 8mm	5mm, 8mm	5mm, 8mm	7mm, 10mm	
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	
	DC 4 Wires	/	/	/	/	
	DC 2 Wires	/	NO NC	NO NC	NO NC	NO NC
	AC 2 Wires	/	NO NC	NO NC	NO NC	NO NC
	AC/DC 2 Wires	/	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC 90...250 VAC	10...30 VDC 90...250 VAC	10...30 VDC 20...250 VAC	10...30 VDC 20...250 VAC	
Frequency	1000Hz, 800Hz	DC3/4: 700Hz, 500Hz DC2: 700Hz, 500Hz AC2: 20Hz	DC3/4: 700Hz, 500Hz DC2: 700Hz, 500Hz AC2: 20Hz	DC3/4: 700Hz, 500Hz DC2: 700Hz, 500Hz AC2: 20Hz	DC3/4: 700Hz, 500Hz DC2: 700Hz, 500Hz AC2: 20Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	IP67	
Housing material	PBT	PBT	PBT	PBT	PBT	
Connection	Cable	Cable	Cable	Cable	Cable	
Certification	CE	CE	CE	CE	CE	

## STANDARD FUNCTION



Shell code	LE30	LE40	LE50	LE68	LE40SZ	
Dimensions(mm)	30*30*53	40*40*53	25*10*50	20*40*71, 20*40*80	40*40*66	
Mounting	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	
Sensing distance	10mm, 15mm	15mm,20mm	5mm, 8mm	15mm, 25mm	15mm,20mm	
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	
	DC 4 Wires	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC	/	/	NPN NO+NC PNP NO+NC
	DC 2 Wires	NO NC	NO NC	NO NC	NO NC	NO NC
	AC 2 Wires	NO NC	NO NC	NO NC	NO NC	NO NC
	AC/DC 2 Wires	/	/	/	NO NC	NO NC
Supply voltage	10...30 VDC 20...250 VAC	10...30 VDC 20...250 VAC 20...250 VAC/DC	10...30 VDC	10...30 VDC 20...250 VAC 20...250 VAC/DC	10...30 VDC 20...250 VAC 20...250 VAC/DC	
Frequency	DC3/4: 700Hz, 500Hz DC2: 700Hz, 500Hz AC2: 20Hz	DC3/4: 400Hz, 200Hz DC2: 400Hz, 200Hz AC2: 20Hz	700Hz, 500Hz	DC3/4: 500Hz, 300Hz DC2: 500Hz, 300Hz AC2: 20Hz	DC3/4: 500Hz, 300Hz DC2: 500Hz, 300Hz AC2: 20Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	IP67	
Housing material	PBT	PBT	PBT	PBT	PBT	
Connection	Cable	Cable	Cable	Cable, M12 Connector	M12 Connector	
Certification	CE	CE	CE	CE	CE	



## STANDARD FUNCTION



Shell code	LE40XZ	LE80XZ	LE05	LE81	LE82	
Dimensions(mm)	40*40*120, 40*40*129	40*80*98, 40*80*104	5*5*25	8*8*40, 8*8*50	8*8*40, 8*8*50	
Mounting	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush	● Flush	● Flush	
Sensing distance	15mm,20mm	40mm, 50mm	0.8mm	1.5mm	1.5mm	
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC	/	/	/
	DC 2 Wires	NO NC	NO NC	NO NC	/	/
	AC 2 Wires	NO NC	NO NC	/	/	/
	AC/DC 2 Wires	NO NC	NO NC	/	/	/
Supply voltage	10...30 VDC 20...250 VAC 20...250 VAC/DC	10...30 VDC 20...250 VAC 20...250 VAC/DC	10...30 VDC	10...30 VDC	10...30 VDC	
Frequency	DC3/4: 500Hz, 300Hz DC2: 500Hz, 300Hz AC2: 20Hz	DC3/4: 100Hz, 50Hz DC2: 100Hz, 50Hz AC2: 10Hz	1800Hz	2000Hz	2000Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	IP67	
Housing material	PBT	PBT	铝合金 Aluminum alloy	铝合金 Aluminum alloy	铝合金 Aluminum alloy	
Connection	M12 Connector Terminal connect	M12 Connector Terminal connect	Cable, M8 Trunk line type	Cable, M8 Connector	Cable, M8 Connector	
Certification	CE	CE	CE	CE	CE	

## STANDARD FUNCTION TYPE-INTRINCICALLY SAFE SERIE



外壳代号 Shell code		LR05	LR6.5Q	LR08	LR12X	LR18X
Dimensions(mm)		M5*0.5*30	M5*6.5*22 M5*6.5*25	M8*1*22, M8*1*25	M12*1*31, M12*1*35	M18*1*31.5 M18*1*39.5
Mounting		● Flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush
Sensing distance		0.8mm	1.5mm, 2mm	1.5mm, 2mm	2mm, 4mm	5mm, 8mm
Output	NAMUR	NC	NC	NC	NC	NC
	DC 3 Wires	/	/	/	/	/
	DC 4 Wires	/	/	/	/	/
	DC 2 Wires	/	/	/	/	/
	AC 2 Wires	/	/	/	/	/
Supply voltage		7.7...9 VDC	7.7...9 VDC	7.7...9 VDC	7.7...9 VDC	7.7...9 VDC
Frequency		3000Hz	3000Hz	2500Hz, 2000Hz	2000Hz, 1500Hz	1500Hz, 1000Hz
Ambient temperature		-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C
Protection degree		IP67	IP67	IP67	IP67	IP67
Housing material		Stainless steel	Stainless steel	Stainless steel	Nickel-copper Alloy	Nickel-copper Alloy
Connection		Cable	Cable	Cable	Cable	Cable
Certification		CE	CE	CE	CE	CE

## STANDARD FUNCTION TYPE-INTRINSICALLY SAFE SERIE



Shell code	LR30X	LE40SZ	LE40XZ	LE80XZ	
Dimensions(mm)	M30*1.5*32 M30*1.5*44	40*40*66	40*40*120, 40*40*129	40*80*98, 40*80*104	
Mounting	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	
Sensing distance	10mm, 15mm	15mm, 20mm	15mm, 20mm	40mm, 50mm	
Output	NAMUR	NC	NC	NC	
	DC 3 Wires	/	/	/	
	DC 4 Wires	/	/	/	
	DC 2 Wires	/	/	/	
	AC 2 Wires	/	/	/	
Supply voltage	7.7...9 VDC	7.7...9 VDC	7.7...9 VDC	7.7...9 VDC	
Frequency	1000Hz, 800Hz	400Hz, 250Hz	400Hz, 250Hz	100Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	
Housing material	Nickel-copper Alloy	PBT	PBT	PBT	
Connection	Cable	M12 Connector	M12 Connector Terminal connect	M12 Connector Terminal connect	
Certification	CE	CE	CE	CE	

## FREQUENCY ENHANCED

## EXTENDED SENSING DISTANCE



Shell code	LR12X	LR18X	LR04Q	LR05	LR6.5Q
Dimensions(mm)	M12*1*61, M12*1*65 M12*1*73, M12*1*77	M18*1*61.5, M18*1*69.5 M18*1*73, M18*1*81	Φ4*30, Φ4*54	M5*0.5*30, M5*0.5*40	Φ6.5*40, Φ6.5*43 Φ6.5*49, Φ6.5*52
Mounting	● Flush, ◐ Non-flush	● Flush, ◐ Non-flush	● Quasi-flush	● Quasi-flush	● Quasi-flush ◐ Non-flush
Sensing distance	2mm, 4mm	5mm, 8mm	1.5mm	1.5mm	2mm, 4mm
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires	/	/	/	NO NC
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Frequency	4000Hz, 3000Hz	2000Hz, 1500Hz	1200Hz	1200Hz	DC3/4: 1500Hz, 1000Hz DC2: 1500Hz, 1000Hz
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C
Protection degree	IP67	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Stainless steel	Stainless steel	Stainless steel
Connection	Cable, M12 Connector	Cable, M12 Connector	Cable, M8 Connector	Cable, M8 Connector	Cable M8/M12 Connector
Certification	CE	CE	CE	CE	CE

## EXTENDED SENSING DISTANCE



Shell code	LR08	LR12X	LR18X	LR30X	LE40SZ
Dimensions(mm)	M8*1*40, M8*1*54 M8*1*65	M12*1*51, M12*1*55 M12*1*63, M12*1*67 M12*1*61, M12*1*65 M12*1*73, M12*1*77	M18*1*51.5, M18*1*59.5 M18*1*63, M18*1*71 M18*1*61.5, M18*1*69.5 M18*1*73, M18*1*81	M30*1.5*52, M30*1.5*64 M30*1.5*63, M30*1.5*75 M30*1.5*62, M30*1.5*74 M30*1.5*73, M30*1.5*85	40*40*66
Mounting	● Quasi-flush ⓪ Non-flush	● Quasi-flush ⓪ Non-flush	● Quasi-flush ⓪ Non-flush	● Quasi-flush ⓪ Non-flush	● Quasi-flush ⓪ Non-flush
Sensing distance	2mm, 4mm	4mm, 6mm, 8mm 10mm	8mm, 12mm, 20mm	15mm, 22mm, 40mm	25mm, 40mm
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires	/	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC
	DC 2 Wires	NO NC	NO NC	NO NC	NO NC
	AC 2 Wires	/	/	NO NC	NO NC
	AC/DC 2 Wires	/	/	NO NC	NO NC
Supply voltage	10...30 VDC	10...30 VDC 20...250 VAC	10...30 VDC 20...250 VAC 20...250 VAC/DC	10...30 VDC 20...250 VAC 20...250 VAC/DC	10...30 VDC 20...250 VAC 20...250 VAC/DC
Frequency	DC3/4: 1500Hz, 1000Hz DC2: 1500Hz, 1000Hz	DC3/4: 800Hz, 500Hz 600Hz, 400Hz DC2: 800Hz, 500Hz AC2: 20Hz	DC3/4: 400Hz, 200Hz 200Hz, 100Hz DC2: 400Hz, 200Hz AC2: 20Hz	DC3/4: 300Hz, 150Hz 100Hz, 50Hz DC2: 300Hz, 150Hz AC2: 20Hz	DC3/4: 200Hz, 100Hz DC2: 200Hz, 100Hz AC2: 20Hz
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C
Protection degree	IP67	IP67	IP67	IP67	IP67
Housing material	Stainless steel	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	PBT
Connection	Cable M8/M12 Connector	Cable, M12 Connector	Cable, M12 Connector	Cable, M12 Connector	M12 Connector
Certification	CE	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>	CE

## EXTENDED SENSING DISTANCE



Shell code	LE40XZ	LE80XZ			
Dimensions(mm)	40*40*120, 40*40*129	40*80*98, 40*80*104			
Mounting	<ul style="list-style-type: none"> <li>● Quasi-flush</li> <li>○ Non-flush</li> </ul>	<ul style="list-style-type: none"> <li>● Quasi-flush</li> <li>○ Non-flush</li> </ul>			
Sensing distance	25mm, 40mm	50mm, 70mm			
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC		
	DC 4 Wires	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC		
	DC 2 Wires	NO NC	NO NC		
	AC 2 Wires	NO NC	NO NC		
	AC/DC 2 Wires	NO NC	NO NC		
Supply voltage	10...30 VDC 20...250 VAC 20...250 VAC/DC	10...30 VDC 20...250 VAC 20...250 VAC/DC			
Frequency	DC3/4: 200Hz, 100Hz DC2: 200Hz, 100Hz AC2: 20Hz	DC3/4: 50Hz, 30Hz DC2: 50Hz, 30Hz AC2: 20Hz			
Ambient temperature	-25°C...70°C	-25°C...70°C			
Protection degree	IP67	IP67			
Housing material	PBT	PBT			
Connection	M12 Connector Terminal connect	M12 Connector Terminal connect			
Certification	CE	CE			

## EXTENDED SENSING DISTANCE



Shell code	LR12X	LR18X	LR30X	LE40SZ	LE40XZ
Dimensions(mm)	M12*1*61,M12*1*65 M12*1*73,M12*1*77	M18*1*61.5,M18*1*69.5 M18*1*73,M18*1*81	M30*1.5*62,M30*1.5*74 M30*1.5*73,M30*1.5*85	40*40*66	40*40*120, 40*40*129
Mounting	● Flush, ◐ Non-flush	● Flush, ◐ Non-flush	● Flush, ◐ Non-flush	● Flush, ◐ Non-flush	● Flush, ◐ Non-flush
Sensing distance	0.4...2mm 0.8...4mm	1...5mm 1.6...8mm	2...10mm 3...15mm	2...10mm 3...15mm	2...10mm 3...15mm
Output	Voltage output	0...10V	0...10V	0...10V	0...10V
	Current output	0...20mA/4...20mA	0...20mA/4...20mA	0...20mA/4...20mA	0...20mA/4...20mA
	Voltage+Current output	0...10V+0...20mA	0...10V+0...20mA	0...10V+0...20mA	0...10V+0...20mA
Supply voltage	15...30 VDC	15...30 VDC	15...30 VDC	15...30 VDC	15...30 VDC
Frequency	200Hz, 100Hz	200Hz, 100Hz	200Hz, 100Hz	100Hz, 50Hz	100Hz, 50Hz
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C
Protection degree	IP67	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	PBT	PBT
Connection	Cable, M12 Connector	Cable, M12 Connector	Cable, M12 Connector	M12 Connector	M12 Connector Terminal connect
Certification	CE UL	CE UL	CE UL	CE	CE

## EXTENDED SENSING DISTANCE



外壳代号 Shell code	LR12X	LR18X	LR30X	LE40SZ	LE40XZ
Dimensions(mm)	M12*1*51,M12*1*55 M12*1*63,M12*1*67	M18*1*51.5,M18*1*59.5 M18*1*63,M18*1*71	M30*1.5*52,M30*1.5*64 M30*1.5*63,M30*1.5*75	40*40*66	40*40*120, 40*40*129
Mounting	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush
Sensing distance	2mm, 4mm	5mm, 8mm	10mm, 15mm	15mm, 20mm	15mm, 20mm
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires	/	/	/	/
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 2 Wires	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Frequency	1500Hz, 1000Hz	1000Hz, 800Hz	5000Hz, 300Hz	300Hz, 200Hz	300Hz, 200Hz
Ambient temperature	-40°C...70°C -25°C...120°C	-40°C...70°C -25°C...120°C	-40°C...70°C -25°C...120°C	-40°C...70°C -25°C...100°C	-40°C...70°C -25°C...100°C
Protection degree	IP67	IP67	IP67	IP67	IP67
Housing material	Nick-copper Alloy	Nick-copper Alloy	Nick-copper Alloy	PBT	PBT
Connection	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector	M12 Connector	M12 Connector Terminal connect
Certification	CE U	CE U	CE U	CE	CE



## HIGH PRESSURE RESISTANT



Shell code	LR12X	LR14X	LR16X	LR18X	
Dimensions(mm)	M12*1*62, M12*1*77	M14*1*54, M14*1*64	M16*1*63, M16*1*73	M18*1*58, M18*1*74	
Mounting	● Flush	● Flush	● Flush	● Flush	
Sensing distance	1.5mm	1.5mm, 3mm	2mm	2mm	
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires	/	/	/	/
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 2 Wires	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
Frequency	600Hz	600Hz	600Hz	200Hz	
Withstand pressure	500Bar	500Bar	500Bar	500Bar	
Ambient temperature	-25°C...70°C	-25°C...80°C	-25°C...80°C	-25°C...80°C	
Protection degree	IP68	IP68	IP68	IP68	
Housing material	Stainless steel	Stainless steel	Stainless steel	Stainless steel	
Connection	Cable, M12 Connector	Cable, M12 Connector	Cable, M12 Connector	Cable, M12 Connector	
Certification	CE U	CE	CE U	CE U	

## FULL METAL HOUSING



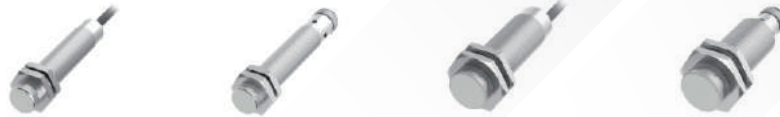
Shell code	LR12X	LR18X	LR30X		
Dimensions(mm)	M12*1*74	M18*1*74	M30*1*74		
Mounting	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush		
Sensing distance	2mm, 4mm	5mm, 8mm	10mm, 15mm		
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	
	DC 4 Wires	/	/	/	
	DC 2 Wires	/	/	/	
	AC 2 Wires	/	/	/	
	AC/DC 2 Wires	/	/	/	
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC		
Frequency	300Hz	200Hz	100Hz		
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C		
Protection degree	IP67	IP67	IP67		
Housing material	316L Stainless steel	316L Stainless steel	316L Stainless steel		
Connection	M12 Connector	M12 Connector	M12 Connector		
Certification	CE U <sub>L</sub>	CE U <sub>L</sub>	CE U <sub>L</sub>		

## ROTATION SPEED MONITOR



Shell code	LR18X	LR30X			
Dimensions(mm)	M18*1*61.5 M18*1*69.5	M30*1.5*62 M30*1.5*74			
Mounting	● Flush, ○ Non-flush	● Flush, ○ Non-flush			
Sensing distance	5mm, 8mm	10mm, 15mm			
Output	DC 3 Wires	NPN NC PNP NC	NPN NC PNP NC		
	DC 4 Wires	/	/		
	DC 2 Wires	/	/		
	AC 2 Wires	NC	NC		
	AC/DC 2 Wires	/	/		
Supply voltage	10...30 VDC 20...250 VAC	10...30 VDC 20...250 VAC			
Frequency	DC: 3...3000 times/min AC: 3...1200 times/min	DC: 3...3000 times/min AC: 3...1200 times/min			
Ambient temperature	-25°C...70°C	-25°C...70°C			
Protection degree	IP67	IP67			
Housing material	Nickel-copper Alloy	Nickel-copper Alloy			
Connection	Cable	Cable			
Certification	CE	CE			

## GEAR SPEED MONITORING



Shell code	FY12		FY18		
Dimensions(mm)	M12*1*61	M12*1*73	M18*1*61.5	M18*1*73	
Mounting	● Flush	● Flush	● Flush	● Flush	
Sensing distance	2mm	2mm	2mm	2mm	
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires	/	/	/	/
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 2 Wires	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
Frequency	25000Hz	25000Hz	25000Hz	25000Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	
Housing material	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	
Connection	Cable	M12 Connector	Cable	M12 Connector	
Certification	/	/	/	/	

## WELDING-IMMUNE



Shell code	LR12X	LR18X	LR30X	LE21	
Dimensions(mm)	M12*1*51,M12*1*55 M12*1*63,M12*1*67	M18*1*51.5,M18*1*59.5 M18*1*63,M18*1*71	M30*1.5*52,M30*1.5*64 M30*1.5*63,M30*1.5*75	26.2*20.2*10.5	
Mounting	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush	
Sensing distance	2mm, 4mm	5mm, 8mm	10mm, 15mm	0.3mm	
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO
	DC 4 Wires	/	/	/	/
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 2 Wires	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
Frequency	3000Hz, 2000Hz	1500Hz, 1000Hz	800Hz, 500Hz	500Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	
Housing material	Brass+PTFE	Brass+PTFE	Brass+PTFE	PA66	
Connection	Cable, M12 Connector	Cable, M12 Connector	Cable, M12 Connector	Cable	
Certification	CE	CE	CE	CE	

## SELF-DIAGNOSIS

## FACTOR ONE



Shell code	LR12X	LR12X	LR12X	LR18X	LR30X	
Dimensions(mm)	M12*1*70	M12*1*69, M12*1*89	M12*1*51, M12*1*55 M12*1*63, M12*1*67	M18*1*51.5, M18*1*59.5 M18*1*63, M18*1*71	M30*1.5*52, M30*1.5*64 M30*1.5*63, M30*1.5*75	
Mounting	○ Non-flush	○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	
Sensing distance	3.7mm	3.7mm	2mm, 4mm	5mm, 8mm	10mm, 15mm	
Output	DC 3 Wires	PNP NO; PNP NC	PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires	/	/	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC
	DC 2 Wires	/	/	/	/	/
	AC 2 Wires	/	/	/	/	/
	AC/DC 2 Wires	/	/	/	/	/
Supply voltage	20...30 VDC	20...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
Frequency	300Hz	300Hz	800Hz, 500Hz	400Hz, 200Hz	300Hz, 150Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	IP67	
Housing material	Nick-copper Alloy	Nick-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	Nickel-copper Alloy	
Connection	Cable	M12 Connector	Cable, M12 Connector	Cable, M12 Connector	Cable, M12 Connector	
Certification	CE U	CE U	CE	CE	CE	

## FACTOR ONE

## WIDE VOLTAGE



Shell code	LE40SZ	LE40XZ	LE40SZ	LE40XZ	LE80XZ	
Dimensions(mm)	40*40*66	40*40*120,40*40*129	40*40*66	40*40*120,40*40*129	40*80*98,40*80*104	
Mounting	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	● Flush, ○ Non-flush	
Sensing distance	15mm, 20mm	15mm, 20mm	25mm,40mm	25mm,40mm	50mm,70mm	
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC
	DC 2 Wires	/	/	NO NC	NO NC	NO NC
	AC 2 Wires	/	/	/	/	/
	AC/DC 2 Wires	/	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...60 VDC	10...60 VDC	10...60 VDC	
Frequency	200Hz, 100Hz	200Hz, 100Hz	DC3/4: 500Hz, 300Hz DC2: 500Hz, 300Hz	DC3/4: 500Hz, 300Hz DC2: 500Hz, 300Hz	DC3/4: 100Hz, 50Hz DC2: 100Hz, 50Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	IP67	
Housing material	PBT	PBT	PBT	PBT	PBT	
Connection	M12 Connector	M12 Connector Terminal connect	M12 Connector	M12 Connector Terminal connect	M12 Connector Terminal connect	
Certification	CE	CE	CE	CE	CE	

## CLAMP POSITION SERIES



Shell code	LT18 (V1)	LT18 (V2)	LT18 (V3)	LT18 (V4)	
Dimensions(mm)	47*18*35	47*18*35	47*18*35	47*18*35	
Mounting	● Non-flush	● Non-flush	● Non-flush	● Non-flush	
Sensing distance	2mm	2mm	2mm	2mm	
Output	DC 3 Wires	/	/	/	
	DC 4 Wires	NPN NO+NO PNP NO+NO	NPN NO+NO PNP NO+NO	NPN NO+NO PNP NO+NO	NPN NO+NO PNP NO+NO
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 2 Wires	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
Withstand pressure	/	/	/	/	
Frequency	30Hz	30Hz	30Hz	30Hz	
Ambient temperature	-25°C...70°C	-25°C...70°C	-25°C...70°C	-25°C...70°C	
Protection degree	IP67	IP67	IP67	IP67	
Housing material	PA66	PA66	PA66	PA66	
Connection	M12 Connector	M12 Connector	M12 Connector	M12 Connector	
Certification	CE	CE	CE	CE	



## HIGH PRESSURE RESISTANT SPEED MONITORING



Shell code	FYG12	FYG12T			
Dimensions(mm)	M12*77	M12*77.5			
Mounting	● Flush	● Flush			
Sensing distance	4mm	2mm			
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC		
	DC 4 Wires	/	/		
	DC 2 Wires	/	/		
	AC 2 Wires	/	/		
	AC/DC 2 Wires	/	/		
Supply voltage	7...30 VDC	10...30 VDC			
Withstand pressure	500Bar	500Bar			
Frequency	5000Hz	20000Hz			
Ambient temperature	-30°C...110°C	-40°C...80°C			
Protection degree	IP68	IP68			
Housing material	Stainless steel	Stainless steel			
Connection	M12 Connector	M12 Connector			
Certification	CE	CE			