

SENSORS

PHOTOELECTRIC SENSOR



- Easy to set up and adjust distance.
- Short-circuit protection, reverse polarity protection.
- Cable and connector connection optional.
- Stainless steel housing, strong and durable. Plastic housing, economical and easy to install.
- Light ON/dark ON conversion function.
- Built-in power supply, AC, DC or AC/DC universal power supply.
- Relay output, capacity up to 250VAC*3A.

NAMING RULES

P **R** **12** - **B** **C15** **D** **N** **O** -

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

1. TYPE CODE

PHOTOELECTRIC

2. SHAPE CODE

R: THREADED CYLINDRICAL
U: U-SHAPED
Q: SMOOTH CYLINDRICAL

2 LETTERS: RECTANGULAR HOUSING CODE

TE TF TB SE SS
 SM SR SV ST

3. SIZE CODE

NUMBER: HOUSING DIAMETER
E.G.: 08:M8

4. HOUSING MATERIAL

N/A: COPPER
S: PLASTIC

5. HOUSING LENGTH

N/A: STANDARD
S: SHORT
L: LONG

6. MOUNTING

B: DIFFUSE REFLECTION
D: RETRO REFLECTION
P: POLARIZED REFLECTION
S: FOCUS REFLECTION
T: THROUGH BEAM REFLECTION
M: COLOR MARK DETECT
Y: BACKGROUND SUPPRESSION
G: GLASS BOTTLE DETECTION

7. SENSING DISTANCE

C10: 10cm
C40: 40cm
M5: 5m
M10: 10m
R50: 50mm

8. SUPPLY VOLTAGE

A: 20...250VAC
A2: 220VAC
B: 90...250VAC
C: 380VAC
D: 10...30VDC
J: 5VDC
S: 20...240VDC
T: 12...24VDC

9. OUTPUT WAY

T: AC 2 WIRES
P: PNP
N: NPN
E: NPN/PNP
F: NPN + PNP
K: RELAY
G: PUSH-PULL

10. OUTPUT STATUS

O: NO
C: NC
R: NO + NC
A: NO/NC REVERSIBLE
B: NO/NC OPTIONAL
 CABLE OPTIONAL; POTENTIOMETER OPTIONAL
 NOTE: RELAY OUTPUT IS OPTIONAL
L: IO LINK

11. LIGHT SOURCE TYPE

No: INFRARED LIGHT SOURCE
R: RED LIGHT SOURCE
L: LASER LIGHT SOURCE
X: LINE LIGHT SOURCE

12. CABLE LENGTH

E.G.: N/A:2m
3M: 3m

13. CONNECTION

N/A: 2m CABLE
E1: M8 CONNECTOR (3 PINS)
E2: M12 CONNECTOR (4 PINS)
E3: M8 CONNECTOR (4 PINS)
E4: M12 CONNECTOR (4 PINS)
E5: M12 CONNECTOR (5 PINS)
D: TERMINAL
F3: M8 CONNECTOR (3 PINS) + 0.2m CABLE

14. SPECIAL REQUIREMENTS

IN 4 DIGITS

THROUGH BEAM



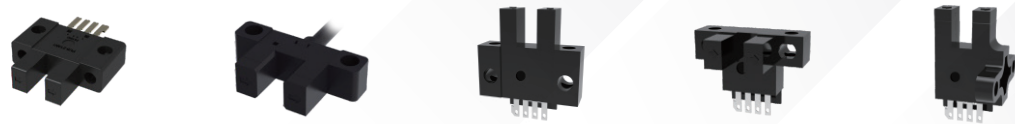
Shell code	PR12	PR18	PSM	PSS	PR18G
Sensing distance	5m, 10m	10m, 20m	20m	20m	10m, 20m
Output	DC 3 Wires NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	/	/	NPN NO; NPN NC PNP NO; PNP NC
	DC 4 Wires /	NPN NO+NC PNP NO+NC	NPN NO/NC PNP NO/NC	NPN NO/NC PNP NO/NC	NPN NO+NC PNP NO+NC
	DC 2 Wires /	/	/	/	/
	AC 2 Wires /	NO NC	/	/	NO NC
	AC/DC 5 Wires /	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC 20...250 VAC	10...30 VDC	10...30 VDC	10...30 VDC 20...250 VAC
Response time	DC: <8.2ms	DC: <8.2ms AC: <50 ms	DC: ≤1ms	DC: ≤1ms	DC: <8.2ms AC: <50 ms
Ambient temperature	-15°C...55°C	-15°C...55°C	-25°C...55°C	-25°C...55°C	-15°C...55°C
Protection degree	IP67	IP67	IP67	IP67	IP65
Housing material	Nickel-copper Alloy, PBT	Nickel-copper Alloy, PBT	Nickel-copper Alloy	PC/ABS	Nickel-copper Alloy, PBT
Connection	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector
Certification	CE U	CE U	CE	CE	CE U

THROUGH BEAM



Shell code	PR30	PR30L			
Sensing distance	20m, 40m	100m, 150m			
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 /	/			
	AC 2 Wires NO NC	/			
	AC/DC 5 Wires /	/			
Supply voltage	10...30 VDC 20...250 VAC	10...30 VDC			
Response time	DC: <8.2ms AC: <50 ms	DC: <8.2ms			
Ambient temperature	-15°C...55°C	-15°C...55°C			
Protection degree	IP67	IP67			
Housing material	Nickel-copper Alloy,PBT	Nickel-copper Alloy,PBT			
Connection	Cable M12 Connector	Cable			
Certification	CE 	CE			

THROUGH BEAM



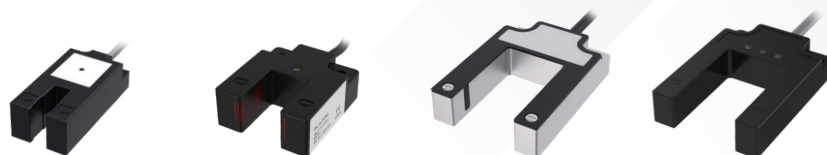
Shell code	PU5-21	PU5-31	PU05-K	PU05-L	PU05-T1
Sensing distance	5mm	5mm	5mm	5mm	5mm
Output	DC 3 Wires	/	/	/	/
	DC 4 Wires	NPN NO/NC PNP NO/NC	NPN NO/NC PNP NO/NC	NPN NO/NC PNP NO/NC	NPN NO/NC PNP NO/NC
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 5 Wires	/	/	/	/
Supply voltage	5...24 VDC	5...24 VDC	5...24 VDC	5...24 VDC	5...24 VDC
Response time	DC: <0.33ms	DC: <0.33ms	DC: <0.5ms	DC: <0.5ms	DC: <0.5ms
Ambient temperature	-25°C...55°C	-25°C...55°C	-25°C...55°C	-25°C...55°C	-25°C...55°C
Protection degree	IP50	IP50	IP50	IP50	IP50
Housing material	PA66+20%GF	PA66+20%GF	PBT	PBT	PBT
Connection	Connector type	Cable	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector
Certification	CE	CE	CE	CE	CE

THROUGH BEAM



Shell code	PU05-T2	PU05-Y1	PU05-Y2	PU05-F	PU05-R
Sensing distance	5mm	5mm	5mm	5mm	5mm
Output	DC 3 Wires	/	/	/	/
	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	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 5 Wires	/	/	/	/
Supply voltage	5...24 VDC	5...24 VDC	5...24 VDC	5...24 VDC	5...24 VDC
Response time	DC: < 0.5ms	DC: < 0.5ms	DC: < 0.5ms	DC: < 0.5ms	DC: < 0.5ms
Ambient temperature	-25°C...55°C	-25°C...55°C	-25°C...55°C	-25°C...55°C	-25°C...55°C
Protection degree	IP50	IP50	IP50	IP50	IP50
Housing material	PBT	PBT	PBT	PBT	PBT
Connection	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector
Certification	CE	CE	CE	CE	CE

THROUGH BEAM



Shell code	PU07	PU15	PU30	PU30S	
Sensing distance	7mm	15mm	30mm	30mm	
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	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 5 Wires	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
Response time	DC: <1ms	DC: <1ms	DC: <1ms	DC: <0.6ms	
Ambient temperature	-15°C...55°C	-15°C...55°C	-15°C...55°C	-25°C...55°C	
Protection degree	IP64	IP64	IP60	IP67	
Housing material	PBT	PBT	Aluminum alloy+PC	PBT	
Connection	Cable	Cable	Cable	Cable	
Certification	CE	CE	CE	CE	

THROUGH BEAM



Shell code		PSV	PSV-S	PST	PSJ	PSE
Sensing distance		50cm	50cm	2m	1.5m	5m,10m,20m
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/NC PNP NO/NC
	DC 4 Wires	/	/	/	/	/
	DC 2 Wires	/	/	/	/	/
	AC 2 Wires	/	/	/	/	/
	AC/DC 5 Wires	/	/	/	/	/
Supply voltage		10...30 VDC	10...30 VDC	10...30 VDC	12...24 VDC	10...30 VDC
Response time		DC: <1ms	DC: <1ms	DC: <0.5ms	DC: <1ms	DC: <1ms
Ambient temperature		-20°C...55°C	-20°C...55°C	-20°C...55°C	-20°C...55°C	-25°C...55°C
Protection degree		IP65	IP65	IP67	IP40	IP67
Housing material		PC+PBT	PC+PBT	ABS	PC/ABS	PC/ABS
Connection		Cable	Cable	Cable, M8 Trunk line type	Cable	Cable M8 Connector
Certification		CE	CE	CE	CE	CE

THROUGH BEAM



Shell code		PSR	PTF	PTE	PTL	
Sensing distance		20m	10m, 20m	60m	20m, 30m, 40m	
Output	DC 3 Wires	/	NPN NO; NPN NC PNP NO; PNP NC	/	/	
	DC 4 Wires	NPN NO/NC PNP NO/NC	NPN NO+NC PNP NO+NC	NPN+PNP NO/NC	NPN NO+NC PNP NO+NC	
	DC 2 Wires	/	/	/	/	
	AC 2 Wires	/	/	/	/	
	AC/DC 5 Wires	/	Relay output NO+NC	Relay output NO+NC	Relay output NO+NC	
Supply voltage		10...30 VDC	10...30 VDC 24...240 VAC/ 12...240 VDC	10...30 VDC 24...240 VAC/DC	10...30 VDC 24...240 VAC/ 12...240 VDC	
Response time		DC: < 1ms	DC: < 8.2ms AC: < 30 ms	DC: < 2ms AC/DC: < 10ms	DC: < 8.2ms AC: < 30 ms	
Ambient temperature		-15°C...60°C	-15°C...55°C	-25°C...55°C	-15°C...55°C	
Protection degree		IP67	IP64	IP67	IP67	
Housing material		ABS	PC/ABS	PC/ABS	PC/ABS	
Connection		Cable M12 Connector	Cable M12 Connector	Cable M12 Connector	Terminal	
Certification		CE	CE	CE	CE	

RETRO REFLECTION



Shell code	PR18	PR18G	PR30	PTL	PST	
Sensing distance	3m	3m	5m	5m	25cm	
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	/	/	/	/	/
	AC 2 Wires	NO NC	NO NC	NO NC	/	/
	AC/DC 5 Wires	/	/	/	Relay output NO+NC	/
Supply voltage	10...30 VDC 20...250 VAC	10...30 VDC 20...250 VAC	10...30 VDC 20...250 VAC	10...30 VDC 24...240 VAC/ 12...240 VDC	10...30 VDC	
Response time	DC: < 8.2ms AC: < 50 ms	DC: < 8.2ms AC: < 50 ms	DC: < 8.2ms AC: < 50 ms	DC: < 8.2ms AC: < 30 ms	DC: < 0.5ms	
Ambient temperature	-15°C...55°C	-15°C...55°C	-15°C...55°C	-15°C...55°C	-20°C...55°C	
Protection degree	IP67	IP65	IP67	IP67	IP67	
Housing material	Nickel-copper Alloy, PBT	Nickel-copper Alloy, PBT	Nickel-copper Alloy, PBT	PC/ABS	ABS	
Connection	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector	Terminal	Cable, M8 Trunk line type	
Certification	CEUL	CEUL	CEUL	CE	CE	

POLARIZED REFLECTION



Shell code	PSM	PSS	PTL	PSR	PSE
Sensing distance	3m	3m	12m	3m	3m
Output	DC 3 Wires	/	/	/	NPN NO/NC PNP NO/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 5 Wires	/	/	Relay output NO+NC	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC 24...240 VAC/ 12...240 VDC	10...30 VDC	10...30 VDC
Response time	DC: ≤0.5ms	DC: ≤0.5ms	DC: < 8.2ms AC: < 30 ms	DC: < 0.5ms	DC: < 0.5ms
Ambient temperature	-25°C...55°C	-25°C...55°C	-15°C...55°C	-15°C...60°C	-25°C...55°C
Protection degree	IP67	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	PC/ABS	PC/ABS	ABS	PC/ABS
Connection	Cable M12 Connector	Cable M12 Connector	Terminal	Cable M12 Connector	Cable M8 Connector
Certification	CE	CE	CE	CE	CE



Shell code		PSM	PSS	PSE		
Sensing distance		2m	2m	2m,50cm		
Output	DC 3 Wires	/	/	NPN NO/NC PNP NO/NC		
	DC 4 Wires	NPN NO/NC PNP NO/NC	NPN NO/NC PNP NO/NC	/		
	DC 2 Wires	/	/	/		
	AC 2 Wires	/	/	/		
	AC/DC 5Wires	/	/	/		
Supply voltage		10...30 VDC	10...30 VDC	10...30 VDC		
Response time		DC: ≤0.5ms	DC: ≤0.5ms	DC: ≤0.5ms		
Ambient temperature		-25°C...55°C	-25°C...55°C	-25°C...55°C		
Protection degree		IP67	IP67	IP67		
Housing material		Nickel-copper Alloy	PC/ABS	PC+ABS		
Connection		Cable M12 Connector	Cable M12 Connector	Cable M8 Connector		
Certification		CE	CE	CE		

DIFFUSE REFLECTION



Shell code	PR12	PR18	PR18G	PR30	PSM
Sensing distance	15cm	10cm,40cm	10cm,40cm	50cm,100cm	10cm,40cm, 40cm,100cm
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	/	NPN NO+NC PNP NO+NC	NPN NO+NC PNP NO+NC	NPN NO/NC PNP NO/NC
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	NO NC	NO NC	/
	AC/DC 5 Wires	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC 20...250 VAC	10...30 VDC 20...250 VAC	10...30 VDC 20...250 VAC	10...30 VDC
Response time	DC: <8.2ms	DC: <8.2ms AC: <50 ms	DC: <8.2ms AC: <50 ms	DC: <8.2ms AC: <50 ms	DC: ≤0.5ms
Ambient temperature	-15°C...55°C	-15°C...55°C	-15°C...55°C	-15°C...55°C	-25°C...55°C
Protection degree	IP67	IP67	IP65	IP67	IP67
Housing material	Nickel-copper Alloy, PBT	Nickel-copper Alloy, PBT	Nickel-copper Alloy, PBT	Nickel-copper Alloy, PBT	Nickel-copper Alloy
Connection	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector	Cable M12 Connector
Certification	CE	CE UL	CE UL	CE	CE

DIFFUSE REFLECTION



Shell code	PSS	PBA	PSE	PTF	PTE
Sensing distance	10cm, 40cm(红外) 40cm(红光), 100cm	2m	30cm, 10cm, 100cm	50cm, 100cm	30cm, 200cm
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO/NC PNP NO/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+PNP NO/NC
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 5 Wires	/	/	Relay output NO+NC	Relay output NO+NC
Supply voltage	10...30 VDC	12...24 VDC	10...30 VDC	10...30 VDC 24...240 VAC/ 12...240 VDC	10...30 VDC 24...240 VAC/DC
Response time	DC: ≤0.5ms	DC: <3ms	DC: <0.5ms	DC: <8.2ms AC: <30 ms	DC: <2 ms AC/DC: <10 ms
Ambient temperature	-25°C...55°C	-15°C...55°C	-25°C...55°C	-15°C...55°C	-25°C...55°C
Protection degree	IP67	IP54	IP67	IP64	IP67
Housing material	PC/ABS	PC/ABS	PC/ABS	PC/ABS	PC/ABS
Connection	Cable M12 Connector	Cable	Cable M8 Connector	Cable M12 Connector	Cable M12 Connector
Certification	CE	CE	CE	CE	CE

DIFFUSE REFLECTION



Shell code	PTL	PSR	PSV		
Sensing distance	80cm,200cm	30cm	10cm		
Output	DC 3 Wires	/	/	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	/	/	/	
	AC 2 Wires	/	/	/	
	AC/DC 5 Wires	Relay output NO+NC	/	/	
Supply voltage	10...30 VDC 24...240 VAC/ 12...240 VDC	10...30 VDC	10...30 VDC		
Response time	DC: < 8.2ms AC: < 30 ms	DC: < 0.5ms	DC: < 1ms		
Ambient temperature	-15°C...55°C	-15°C...60°C	-20°C...55°C		
Protection degree	IP67	IP67	IP65		
Housing material	PC/ABS	ABS	PC+PBT		
Connection	Terminal	Cable M12 Connector	Cable		
Certification	CE	CE	CE		

BACKGROUND SUPPRESSION



Shell code	PSM	PSS	PSE	PSE	PTB
Sensing distance	10cm	10cm	5cm	25cm,35cm	2m
Output	DC 3 Wires	/	/	/	/
	DC 4 Wires	NPN NO/NC PNP NO/NC	NPN NO/NC PNP NO/NC	NPN NO; NPN NC PNP NO; PNP NC	NPN+PNP NO/NC
	DC 2 Wires	/	/	/	/
	AC 2 Wires	/	/	/	/
	AC/DC 5 Wires	/	/	/	/
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Response time	DC: ≤0.5ms	DC: ≤0.5ms	DC: ≤0.5ms	DC: ≤1ms	DC: < 2ms
Ambient temperature	-25°C...55°C	-25°C...55°C	-25°C...55°C	-25°C...55°C	-15°C...55°C
Protection degree	IP67	IP67	IP67	IP67	IP67
Housing material	Nickel-copper Alloy	PC/ABS	PC+ABS	PC+ABS	ABS
Connection	Cable M12 Connector	Cable M12 Connector	Cable M8 Connector	Cable M8 Connector	Cable M12 Connector
Certification	CE	CE	CE	CE	CE



Shell code		PSR	PST	PSV		
Sensing distance		10cm	8cm	30mm		
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	/	/		
	DC 2 Wires	/	/	/		
	AC 2 Wires	/	/	/		
	AC/DC 5 Wires	/	/	/		
Supply voltage		10...30 VDC	10...30 VDC	10...30 VDC		
Response time		DC: < 0.5ms	DC: < 0.5ms	DC: < 1ms		
Ambient temperature		-15°C...60°C	-20°C...55°C	-20°C...55°C		
Protection degree		IP67	IP67	IP65		
Housing material		ABS	ABS	PC+PBT		
Connection		Cable M12 Connector	Cable, M8 Trunk line type	Cable		
Certification		CE	CE	CE		

FOCUS REFLECTION



Shell code	PST	PSV	PSE		
Sensing distance	25mm	25mm	5cm		
Output	DC 3 Wires	NPN NO; NPN NC PNP NO; PNP NC	NPN NO; NPN NC PNP NO; PNP NC	NPN NO/NC PNP NO/NC	
	DC 4 Wires	/	/	/	
	DC 2 Wires	/	/	/	
	AC 2 Wires	/	/	/	
	AC/DC 5 Wires	/	/	/	
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC		
Response time	DC: < 0.5ms	DC: < 1ms	DC: < 0.5ms		
Ambient temperature	-20°C...55°C	-20°C...55°C	-25°C...55°C		
Protection degree	IP67	IP65	IP67		
Housing material	ABS	PC+PBT	PC+ABS		
Connection	Cable, M8 Trunk line type	Cable	Cable M8 Connector		
Certification	CE	CE	CE		

COLOR SENSORS



Shell code	CPES-B	CPES-F	PU03
Sensing distance	28±3mm	28±3mm	3mm
Response time	25uS	150uS	40uS
Output	Push-pull output+Analog output(0...5V)	Push-pull output+Analog output(0...5V)	Push-pull output
Supply voltage	12...24 VDC	12...24 VDC	10...30 VDC
Light source	White light	Ultraviolet light	Infrared light
Spot diameter	3mm@28mm	6mm...8mm@50mm	/
Adjustment method	MARK Key and BKGD Key	MARK Key and BKGD Key	Teach-in key
Withstanding voltage	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s	1000V/AC 50/60Hz 60s
Ambient temperature	-10°C...55°C	-10°C...55°C	-20°C...55°C
Protection degree	IP65	IP65	IP65
Housing material	PBT	PBT	PBT
Connection	M12 Connector, Cable	M12 Connector	M8 Connector

MARK SENSORS



Shell code	SPM
Sensing distance	10±2mm
Response time	1ms
Output	NPN NO/NC PNP NO/NC
Supply voltage	12...24 VDC
Light source	Red light/green light, White light/blue light
Withstanding voltage	1000V/AC 50/60Hz 60s
Insulation resistance	≥50MΩ(500VDC)
Anti-vibration	10...50Hz,repeat-amplitude;1.5mm, (2 hours each for x,y,z direction)
Ambient temperature	-25°C...55°C
Protection degree	IP65
Housing material	PBT
Connection	Cable

OPTICAL FIBER SENSORS



Shell code	FD1	FD2
Sensing distance	Depand on fiber type	Depand on fiber type
Response time	< 1ms	< 200μs (FINE) < 300μs (TURBO) < 550μs (SUPER)
Output	NPN+PNP NO/NC	NPN NO/NC PNP NO/NC
Supply voltage	10...30 VDC	12...24 VDC
Illumination intensity	Incandescent lamp:intensity of illumination 3,000lux	
Withstanding voltage	AC1,000V 1 minute 50/60Hz	
Insulation resistance	> 50MΩ,base on DC500V megger	> 20MΩ, base on DC500V megger
Anti-vibration	10...55Hz,amplitude;1mm, (2 hours each for x,y,z direction)	10...55Hz,amplitude;1.5mm, (2 hours each for x,y,z direction)
Anti-concussion	Acceleration:500m/s²(approx:30G) 3 times each for x,y and z direction	Acceleration:500m/s²(approx:50G) 3 times each for x,y and z direction
Ambient temperature	0°C...55°C (dewed or iced forbidden)	-10°C...50°C (dewed or iced forbidden)
Ambient humidity	35...85%RH	
Protection degree	IP54	
Housing material	PC+ABS	
Connection	Cable	

OPTICAL FIBER SENSORS



Shell code		PFR-610	PFRC-610	PFRD-410	PFRC-410	PFRD-310	PFRC-310
Dimensions		M6	M6	M4	M4	M3	M3
Min bending radius		R25	R25	R15	R15	R15	R15
Sensing distance	FD1 Fiber optic amplifier	100	90	60	40	40	40
	FD2 Fiber optic amplifier	FINE:110 TURBO:190 SUPER:290	FINE:80 TURBO:170 SUPER:280	FINE:40 TURBO:90 SUPER:240	FINE:40 TURBO:70 SUPER:160	FINE:40 TURBO:70 SUPER:120	FINE:40 TURBO:80 SUPER:120
Min detected target		φ 0.2	φ 0.1	φ 0.1	φ 0.1	φ 0.1	φ 0.05



Shell code		PFT-610	PFT-410	PFT-310
Dimensions		M6	M4	M3
Min bending radius		R25	R25	R25
Sensing distance	FD1 Fiber optic amplifier	280	250	200
	FD2 Fiber optic amplifier	FINE:300 TURBO:500 SUPER:800	FINE:300 TURBO:500 SUPER:800	FINE:200 TURBO:400 SUPER:700
Min detected target		φ 0.5	φ 0.5	φ 0.5

INFRARED RANGING SENSOR



Shell code	PTK
Item code	PTK-CM12DR55-2M
Sensing distance	0.15...12m
Repeated accuracy①	5%
Detection precision①	5%
Response time	40ms
Output	RS485
Divergence angle	±1.8°
Current consumption	≤120mA
Supply voltage	10...30 VDC
Light source	Infrared LED (850nm)
Color sensitivity②	≤10%
Ambient temperature	-15°C...65°C
Protection degree	IP67
Housing material	ABS
Circuit protection	Polarity protection(Between 2 poles of the power supply)
Impulse withstand	1000V/AC 50/60Hz 60s
Ambient light	100,000lux
Electromagnetic compatibility	EN 60947-5-2
Dimension	52.3*21*23.7mm
Weight	≤65g (Including 2m PVC flat cables)

Notes Detection distance is 0.8Sn (Sn is max detection distance), target is white card with 90% reflectivity;

Detection distance is 0.8Sn (Sn is max detection distance), distance difference between black and white card.

INFRARED RANGING SENSOR



Shell code	PTK
Item code	PTK-CM12DG55-2M
Sensing distance	Channel1(black line):0.3...12m(Adjustable); Channel2(white line):0.3...12m(Adjustable)
Response time	100ms
Output	PUSH-PULL (NO/NC for PNP); Manual/Teach setting
Divergence angle	±1.8°
Hysteresis error	3...20%
Current consumption	≤70mA
Load current	200mA
Supply voltage	10...30 VDC
Light source	Infrared LED (850nm)
Color sensitivity②	≤10%
Ambient temperature	-15°C...65°C
Protection degree	IP67
Housing material	ABS
Circuit protection	Polarity protection(Between 2 poles of the power supply)
Impulse withstand	1000V/AC 50/60Hz 60s
Ambient light	100,000lux
Electromagnetic compatibility	EN 60947-5-2
Dimension	52.3*21*23.7mm
Weight	≤65g (Including 2m PVC flat cables)

Notes Detection distance is 0.8Sn (Sn is max detection distance), target is white card with 90% reflectivity;

 Detection distance is 0.8Sn (Sn is max detection distance), distance difference between black and white card.

INFRARED RANGING SENSOR



Shell Code		PDA	
Type			
Series code	RS...485	PDA-CC10DGR	PDA-CC10DGRM
	4...20mA	PDA-CC10TGI	PDA-CC10TGIM
Light source		Red Laser (650nm)	
Laser class		Class 2	
Spot diameter		1mm*3mm@100mm	
Measuring range		30...100mm	
Linear accuracy①②		RS-485: $\pm 0.3\%$ F.S. 4...20mA: $\pm 0.4\%$ F.S.	RS-485/4...20mA: $\pm 0.1\%$ F.S.
Repeated accuracy①②③		10um@30mm; 30um@50mm; 100um@100mm	
Resolution		5um@30mm; 50um@100mm	
Supply voltage		RS-485:10...30VDC 4...20mA:12...24VDC	
Voltage drop		<2.5V	
Power consumption		≤ 700 mW	
Load current		200mA	
Circuit protection④		Short circuit, reverse polarity, overload protection	
Output		RS-485(Support Modbus protocol); 4...20mA(Load resistance < 390Ω)	
Integrated function⑤		Slave address;Port rate setting;Product self-check;Output setting;Analog map settings; Average setting;Parameter query;Single point teach;window teach;Window Teach-in setting	
Indicator		Power indicator: GreenLED; Action indicator: YellowLED; Alarm indicator: YellowLED	
Ambient temperature		-10°C...50°C	
Temperature drift		$\pm 0.02\%$ F.S./°C	
Response time		2ms/16ms/40ms(Configurable)	
Ambient humidity		35...85%RH(No condensation)	
Anti-ambient light		Incandescent light: < 3,000lux	
Impulse withsand		500m/s²(Approximate 50G),3 times each in X, Y,Z direction	
Vibration resistance		10...55Hz Double amplitude1mm, 2H each in X, Y, Z directions	
Protection degree		IP67	
Material		Housing: Aluminum; Lens cover: PMMA; Display panel: PC	
Dimension		65*51*23mm	
Connection		2m 5-pin/4-pin PVC cable(5-pin: RS...485 output; 4-pin: analog output)	

DIGITAL LASER DISTANCE SENSORS



Shell Code		PDA	
Type			
Series code	RS...485	PDA-CC50DGR	PDA-CC50DGRM
	4...20mA	PDA-CC50TGI	PDA-CC50TGIM
Light source		Red Laser (650nm)	
Laser class		Class 2	
Spot diameter		Φ2.5mm@500mm	
Measuring range		80...500mm	
Linear accuracy ^{①②}		RS-485: ±0.3%F.S. 4...20mA: ±0.4%F.S.	RS-485/4...20mA: ±0.15%F.S. (80...250mm) ±0.3%F.S. (250...500mm)
Repeated accuracy ^{①②③}		30um@80mm; 250um@250mm; 1000um@500mm	
Resolution		15um@80mm; 500um@500mm	
Supply voltage		RS-485:10...30VDC; 4...20mA:12...24VDC	
Voltage drop		<2.5V	
Power consumption		≤700mW	
Load current		200mA	
Circuit protection ^④		Short circuit, reverse polarity, overload protection	
Output		RS-485(Support Modbus protocol); 4...20mA(Load resistance < 390Ω)	
Integrated function ^⑤		Slave address,Port rate setting;Product self-check;Output setting;Analog map settings; Average setting;Parameter query;Single point teach;window teach;Window Teach-in setting	
Indicator		Power indicator: GreenLED; Action indicator: YellowLED; Alarm indicator: YellowLED	
Ambient temperature		-10°C...50°C	
Temperature drift		±0.02%F.S./°C	
Response time		2ms/16ms/40ms(Configurable)	
Ambient humidity		35...85%RH(No condensation)	
Anti-ambient light		Incandescent light: < 3,000lux	
Impulse withstand		500m/s²(Approximate 50G),3 times each in X, Y,Z direction	
Vibration resistance		10...55Hz Double amplitude1mm, 2H each in X, Y, Z directions	
Protection degree		IP67	
Material		Housing: Aluminum; Lens cover: PMMA; Display panel: PC	
Dimension		65*51*23mm	
Connection		2m 5-pin/4-pin PVC cable (5-pin: RS...485 output; 4-pin: analog output)	

DIGITAL LASER DISTANCE SENSORS



Shell Code		PDA	
Type			
Series code	RS...485	PDA-CC100DGR	PDA-CC100DGRM
	4...20mA	PDA-CC100TGI	PDA-CC100TGIM
Light source		Red Laser (650nm)	
Laser class		Class 2	
Spot diameter		Φ3mm@1000mm	
Measuring range		150...1000mm	
Linear accuracy①②		RS-485/4...20mA: ±0.6%F.S.	RS-485/4...20mA: ±0.3%F.S. (150...450mm) ±0.6%F.S. (450...1000mm)
Repeated accuracy①②③		100um@150mm; 520um@500mm; 4000um@1000mm	
Resolution		50um@150mm; 2000um@1000mm	
Supply voltage		RS-485:10...30VDC; 4...20mA:12...24VDC	
Voltage drop		<2.5V	
Power consumption		≤700mW	
Load current		200mA	
Circuit protection④		Short circuit, reverse polarity, overload protection	
Output		RS-485(Support Modbus protocol); 4...20mA(Load resistance < 390Ω)	
Integrated function⑤		Slave address;Port rate setting;Product self-check;Output setting;Analog map settings; Average setting;Parameter query;Single point teach;window teach;Window Teach-in setting	
Indicator		Power indicator: GreenLED; Action indicator: YellowLED; Alarm indicator: YellowLED	
Ambient temperature		-10°C...50°C	
Temperature drift		±0.02%F.S./°C	
Response time		2ms/16ms/40ms(Configurable)	
Ambient humidity		35...85%RH(No condensation)	
Anti-ambient light		Incandescent light: < 3,000lux	
Impulse withsand		500m/s²(Approximate 50G),3 times each in X, Y,Z direction	
Vibration resistance		10...55Hz Double amplitude1mm, 2H each in X, Y, Z directions	
Protection degree		IP67	
Material		Housing: Aluminum; Lens cover: PMMA; Display panel: PC	
Dimension		65*51*23mm	
Connection		2m 5-pin/4-pin PVC cable(5-pin: RS...485 output; 4-pin: analog output)	

LASER DISTANCE SENSORS



Shell Code		PDB
Series code	RS...485	PDB-CC50DGR
	4...20mA	PDB-CC50TGI
Light source	Red Laser (650nm)	
Laser class	Class 2	
Spot diameter	Φ2.5mm@500mm	
Measuring range	80...500mm	
Linear accuracy①②	RS-485: ±0.3%F.S. 4...20mA: ±0.4%F.S.	
Repeated accuracy①②③	30um@80mm; 250um@250mm; 1000um@500mm	
Resolution	15um@80mm; 500um@500mm	
Supply voltage	RS-485:10...30VDC; 4...20mA:12...24VDC	
Voltage drop	<2.5V	
Power consumption	≤700mW	
Load current	200mA	
Circuit protection④	Short circuit, reverse polarity, overload protection	
Output	RS-485(Support Modbus protocol); 4...20mA(Load resistance < 390Ω)	
Integrated function⑤	Slave address; Port rate setting; Product self-check; Output setting; Average setting; Parameter query; Single point teach; window teach; Window Teach-in setting	
Indicator	Power indicator: GreenLED; Action indicator: YellowLED; Alarm indicator: YellowLED	
Ambient temperature	-10°C...50°C	
Temperature drift	±0.02%F.S./°C	
Response time	2ms/16ms/40ms(Configurable)	
Ambient humidity	35...85%RH(No condensation)	
Anti-ambient light	Incandescent light: < 3,000lux	
Impulse withstand	500m/s²(Approximate 50G), 3 times each in X, Y, Z direction	
Vibration resistance	10...55Hz Double amplitude1mm, 2H each in X, Y, Z directions	
Protection degree	IP67	
Material	Housing:ABS; Lens cover:PMMA	
Dimension	65*51*23mm	
Connection	RS...485:2m 5-pin PVC cable; 4...20mA:2m 4-pin PVC cable	

DIGITAL LASER DISPLACEMENT SENSORS



Shell Code		PDA	
Type			
Series code	RS...485	PDA-CR30DGR	PDA-CR30DGRM
	4...20mA	PDA-CR30TGI	PDA-CR30TGIM
Measuring center distance		30mm	
Measuring range		±5mm	
Light source		Red Laser (650nm)	
Laser class		Class 2	
Spot diameter		Φ0.5mm@30mm	
Linear accuracy①②		RS-485: ±0.3%F.S.; 4...20mA: ±0.4%F.S.	RS-485/4...20mA: ±0.1%F.S.
Repeated accuracy①②③		5μm	
Resolution		2.5μm@30mm	
Supply voltage		RS-485:10...30VDC; 4...20mA:12...24VDC	
Voltage drop		<2.5V	
Power consumption		≤700mW	
Load current		200mA	
Circuit protection④		Short circuit, reverse polarity, overload protection	
Output		RS-485(Support Modbus protocol); 4...20mA(Load resistance < 390Ω)	
Integrated function⑤		Slave address,Port rate setting;Zero setting;Product self-check;Output setting;Analog map settings; Average setting;Parameter query;Single point teach;window teach;Window Teach-in setting	
Indicator		Power indicator: GreenLED; Action indicator: YellowLED; Alarm indicator: YellowLED	
Ambient temperature		-10°C...50°C	
Temperature drift		±0.08%F.S./°C	
Response time		2ms/16ms/40ms(Configurable)	
Ambient humidity		35...85%RH(No condensation)	
Anti-ambient light		Incandescent light: < 3,000lux	
Impulse withstand		500m/s²(Approximate 50G),3 times each in X, Y,Z direction	
Vibration resistance		10...55Hz Double amplitude1mm, 2H each in X, Y, Z directions	
Protection degree		IP67	
Material		Housing: Aluminum; Lens cover: PMMA; Display panel: PC	
Dimension		65*51*23mm	
Connection		2m 5-pin/4-pin PVC cable(5-pin: RS...485 output; 4-pin: analog output)	

DIGITAL LASER DISPLACEMENT SENSORS



Shell Code		PDA	
Type			
Series code	RS...485	PDA-CR50DGR	PDA-CR50DGRM
	4...20mA	PDA-CR50TGI	PDA-CR50TGIM
Measuring center distance		50mm	
Measuring range		±15mm	
Light source		Red Laser (650nm)	
Laser class		Class 2	
Spot diameter		Φ0.5mm@50mm	
Linear accuracy①②		RS-485: ±0.3%F.S.; 4...20mA: ±0.4%F.S.	RS-485/4...20mA: ±0.1%F.S.
Repeated accuracy①②③		20um	
Resolution		10um@50mm	
Supply voltage		RS-485:10...30VDC; 4...20mA:12...24VDC	
Voltage drop		<2.5V	
Power consumption		≤700mW	
Load current		200mA	
Circuit protection④		Short circuit, reverse polarity, overload protection	
Output		RS-485(Support Modbus protocol); 4...20mA(Load resistance < 390Ω)	
Integrated function⑤		Slave address;Port rate setting;Zero setting;Product self-check;Output setting;Analog map settings; Average setting;Parameter query;Single point teach;window teach;Window Teach-in setting	
Indicator		Power indicator: GreenLED; Action indicator: YellowLED; Alarm indicator: YellowLED	
Ambient temperature		-10°C...50°C	
Temperature drift		±0.02%F.S./°C	
Response time		2ms/16ms/40ms(Configurable)	
Ambient humidity		35...85%RH(No condensation)	
Anti-ambient light		Incandescent light: < 3,000lux	
Impulse withstand		500m/s²(Approximate 50G),3 times each in X, Y,Z direction	
Vibration resistance		10...55Hz Double amplitude1mm, 2H each in X, Y, Z directions	
Protection degree		IP67	
Material		Housing: Aluminum; Lens cover: PMMA; Display panel: PC	
Dimension		65*51*23mm	
Connection		2m 5-pin/4-pin PVC cable (5-pin: RS...485 output; 4-pin: analog output)	

DIGITAL LASER DISPLACEMENT SENSORS



Shell Code		PDA	
Type			
Series code	RS...485	PDA-CR85DGR	PDA-CR85DGRM
	4...20mA	PDA-CR85TGI	PDA-CR85TGIM
Measuring center distance		85mm	
Measuring range		±25mm	
Light source		Red Laser (650nm)	
Laser class		Class 2	
Spot diameter		Φ0.5mm@85mm	
Linear accuracy①②		RS-485: ±0.3%F.S.; 4...20mA: ±0.4%F.S.	RS-485/4...20mA: ±0.1%F.S.
Repeated accuracy①②③		60um	
Resolution		30um@85mm	
Supply voltage		RS-485:10...30VDC; 4...20mA:12...24VDC	
Voltage drop		<2.5V	
Power consumption		≤700mW	
Load current		200mA	
Circuit protection④		Short circuit, reverse polarity, overload protection	
Output		RS-485(Support Modbus protocol);4...20mA(Load resistance < 390Ω)	
Integrated function⑤		Slave address,Port rate setting;Zero setting;Product self-check;Output setting;Analog map settings; Average setting;Parameter query;Single point teach>window teach;Window Teach-in setting	
Indicator		Power indicator: GreenLED; Action indicator: YellowLED; Alarm indicator: YellowLED	
Ambient temperature		-10°C...50°C	
Temperature drift		±0.04%F.S./°C	
Response time		2ms/16ms/40ms(Configurable)	
Ambient humidity		35...85%RH(No condensation)	
Anti-ambient light		Incandescent light: < 3,000lux	
Impulse withsand		500m/s²(Approximate 50G),3 times each in X, Y,Z direction	
Vibration resistance		10...55Hz Double amplitude1mm, 2H each in X, Y, Z directions	
Protection degree		IP67	
Material		Housing: Aluminum; Lens cover: PMMA; Display panel: PC	
Dimension		65*51*23mm	
Connection		2m 5-pin/4-pin PVC cable(5-pin: RS...485 output; 4-pin: analog output)	

LASER DISPLACEMENT SENSORS



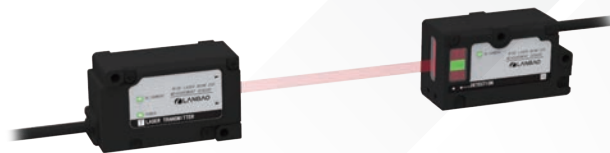
Shell Code		PDB
Series code	RS...485	PDB-CR50DGR
	4...20mA	PDB-CR50TGI
Measuring center distance	50mm	
Measuring range	±15mm	
Light source	Red Laser (650nm)	
Laser class	Class 2	
Spot diameter	Φ0.5mm@50mm	
Linear accuracy①②	RS-485: ±0.3%F.S.; 4...20mA: ±0.4%F.S.	
Repeated accuracy①②③	20um	
Resolution	10um@50mm	
Supply voltage	RS-485:10...30VDC; 4...20mA:12...24VDC	
Voltage drop	<2.5V	
Power consumption	≤700mW	
Load current	200mA	
Circuit protection④	Short circuit, reverse polarity, overload protection	
Output	RS-485(Support Modbus protocol);4...20mA(Load resistance < 390Ω)	
Integrated function⑤	Slave address;Port rate setting;Zero setting;Product self-check;Output setting;Average setting;Parameter query;Single point teach;window teach;Window Teach-in setting	
Indicator	Power indicator: GreenLED; Action indicator: YellowLED; Alarm indicator: YellowLED	
Ambient temperature	-10°C...50°C	
Temperature drift	±0.02%F.S./°C	
Response time	2ms/16ms/40ms(Configurable)	
Ambient humidity	35...85%RH(No condensation)	
Anti-ambient light	Incandescent light: < 3,000lux	
Impulse withstand	500m/s²(Approximate 50G),3 times each in X, Y,Z direction	
Vibration resistance	10...55Hz Double amplitude1mm, 2H each in X, Y, Z directions	
Protection degree	IP67	
Material	Housing:ABS;Lens cover:PMMA	
Dimension	65*51*23mm	
Connection	RS...485:2m 5-pin PVCcable; 4...20mA:2m 4-pin PVC cable	

2D LASER SCANNERS



Shell Code	PDL		
Item code	PDL-CM20	PDL-CM30	PDL-CM50
Detection range	0.05...20 m	0.05...30 m	0.05...50 m
Light source	Infrard (905nm)		
Laser class	CLASS I		
Scanning frequency	50 Hz		
Angle resolution	0.5°		
Heating device	Yes		
Aperture angle	180°	270°	
Protection range@6% reflectivity	18 m	27 m	30 m
Rain & fog correction	Yes		
Response time	≥20 ms		
Warm-up time	<5 min		
Absolute accuracy	±30 mm		
Integrated functions	Field monitoring with flexible shapes		
Number of simultaneous evaluation areas	8		
Ethernet (Function)	Parameter settings		
Ethernet (Data transmission rate)	10/100 Mbit/s		
CAN	Yes		
Digital output	2 relay		
RS232	9.6 kBaud ... 230.4 kBaud		
Status indication	OLED, Resolution: 128*64, Size: 36*19.5mm		
Connection	1 x M18 4pins male aviation connector;1 x M18 5pins female aviation connector;1 x M18 9pins female aviation connector;		
Power supply	16...30 VDC		
Power consumption	Typ.8W/38W (with heating)		
Enclosure rating	IP68 (GB/T 4208-2017)		
Weight	1.25kg		
Dimensions	174.5*115*102 mm		
EMC	IEC 61000-6-4:2001/IEC61000-6-2:2005		
Vibration resistance	GB/T2423.10-2008		
Shock resistance	GB/T2423.5-1995		
Ambient temperature	-30 °C ... 50 °C		
Storage temperature			
Anti-ambient light	70klux		

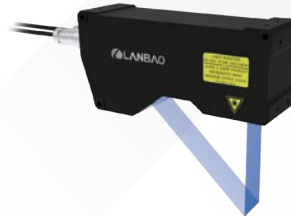
CCD LASER DIAMETER MEASUREMENT



Shell Code	PDM
Item code	PDM-TC50TGR
Detection range	Width mode:10mm;Edge mode:±5mm
Installation distance	0...50cm
Smallest detector	Φ0.5mm(Sensor head:500 mm)①
Light source	Red laser;Laser level:Class 1
Light spot size	14*12mm
Supply voltage	12...24VDC
Voltage drop	<2.5V
Linear accuracy	±0.28%F.S.
Repeat accuracy	10μm(Setting distance:100 mm) ②;15μm(Setting distance:500 mm)②
Dimension	Emitter:55*32*23mm;Receiver:55*32*23mm
Temperature drift	±0.02 %F.S./°C(6mm plug gauge)③
Indicator (emission)	Optical axis calibration indication:Gréen LED;power indicator:Green LED
Indicator (receive)	Optical axis calibration indication: Green LED; Position indicator:Double strip LED(Red, Green)
Anti ambient light	Incandescent light < 3,000lux
Protection degree	IP50
Ambient temperature	-10...45°C(No freezing)
Environment humidity	35...85%RH(Non-condensing)
Material	Housing:Aluminium
Connection method	PVC cable

Controller	
Supply voltage	12...24VDC
Consumption current	≤900mA(Emitter and receiver)
Display resolution	1 μm
Display range	-99.999...99.999
Display method	Double-digit 7-segment display; Upper, lower: Red, 6-digit
Response time	2ms
Output 1	NPN/PNPNO/NC Settable
Output 2	RS485 Output
Ambient temperature	-10...45°C(Non-condensing)
Environment humidity	35...85%RH(Non-condensing)
Housing	Aluminium
Installation	Guide rail installation

3D LASER SCANNERS



Shell Code	PHM			
Item code	PHM3020	PHM3072	PHM3140	PHM3215
Detection range	28mm	72mm	400mm	500mm
Net distance	42mm	72mm	365mm	1500mm
Light source	蓝色激光 (450nm) Blue laser(450nm)			
Laser level	Class II			
Supply voltage	12...24 VDC			
Consumption power	≤800mW			
Linearity (Z direction)	0.1% F.S.			
Resolution(X direction)	17...21um	40...57um	150...240um	410...1250um
Near end field of view (X direction)	17mm	50mm	185mm	520mm
Far end field of view (X direction)	20mm	70mm	302mm	1580mm
Dimension	144*92*43mm	167*80*50mm	360*120*51mm	530*98.5*60mm
Output type	Switch value/RS485/Ethernet			
Response time	6ms			
Protection circuit	Short circuit, reverse polarity, surge			
Operating temperature	-10...50°C			
Storage temperature	-20...70°C			
Protection degree	IP65			
Material	Aluminium			
Vibration resistance	10...55Hz Double amplitude1mm, 2H each in X, Y, Z directions			
Impact resistance	500m/s ² (Approximate 50G),3 times each in X, Y,Z direction			
Connection method	Sensor connect to controller:USB 3.0			

Notes Standard sensing object : 90% reflectivity white card;

Customers can set and customize the measurement area according to application requirements.