# Small high precision digital laser displacement sensor **PDE-CR30** series



## Features

- ◆ Ultra-small size, metal housing, solid and durable
- ◆ Convenient operation panel with visualized OLED display to complete all function settings fastly
- ◆ The repetition accuracy can reach 10μm to achieve high-precision segment difference detec
- ◆ Powerful function setting and flexible output way
- ◆ Complete shielded desgin, stronger anti-interference perfomance
- ◆ IP65 protection degree, able to work in water or dusty environment

## Part number

| | | | |
|---|---|---|---|
| RS-485 | PDE-CR30TGR | 4...20mA + 0-5V | PDE-CR30TGIU |

## Technical specifications

| | | | |
|---|---|---|---|
| Center distance | 30mm | Indicator | Laser working indicator:green light on; |
| Measuring range | ±5mm | | Switch output indicator:yellow light |
| Full scale(F.S.) | 25-35mm | Protection circuit④ | Short circuit protection,reverse polarity protection, |
| Supply voltage | 12...24VDC | | overload protection |
| Consumption power | ≤960mW | Built-in function⑤ | Slave address & Baud rate settings;Zero setting; |
| Load current | ≤100mA | | Parameter query;Product self-inspection;Output |
| Voltage drop | <2V | | setting;Ingle-point teaching/two-point |
| Light source | Red laser(650nm);Laser level:Class 2 | | teaching/three-point teaching;Window teaching; |
| Beam diameter⑦ | About Φ50μm(at 3 0 mm) | | Factory data reset |
| Resolution | 1μm | Service environment | Operation temperature:-10...+45℃; |
| Linear accuracy①② | ±0.1%F.S. | | Storage temperature:-20...+60℃; |
| Repeat accuracy①②③ | 10μm | | Ambient temperature:35...85%RH(No condensation) |
| Output 1(Model selection) | Digital value:RS-485(Support Modbus protocol) ; | Anti ambient light | Incandescent light: < 3,000lux; |
| | Switch value:NPN/PNP and NO/NC settable | | Sunlight interference:≤10,000lux |
| Output 2(Model selection) | Analog:4...20mA(Load resistance < 300Ω)/0-5V; | Protection degre | IP65 |
| | Switch value:NPN/PNP and NO/NC settable | Material | Housing:Zinc alloy;Lens:PMMA;Diaplay:Glass |
| Distance setting | RS-485:Keypress/RS-485 setting; | Vibration resist | 10...55Hz Double amplitude1mm,2H each in X,Y,Z |
| | Analog:Keypress setting | | directions |
| Response time | <10ms | Impulse resista | 500m/s²(About 50G)3 times each in X,Y,Z directions |
| Dimension | 45mm*27mm*21mm | Connection | 2m Composite cable(0.2mm²) |
| Display | OLED display(Size:18*10mm) | Accessory | M3 screw(length:30mm)x2,nut x2,gasket x2,mounting |
| Temperature drift | < 0.04%F.S./℃ | | bracket,operation manual |

Remark:①Test conditions:Standard data at 23±5℃;Supply voltage 24VDC;30 minutes' warmup before test;Sampling period 0.6ms;Average sampling times 100;Standard sensing object 90% white card

②The statistical data follows the 3σ criteria

③Repeat accuracy:23±5℃ environment,90% reflectivity white card,100 test data results

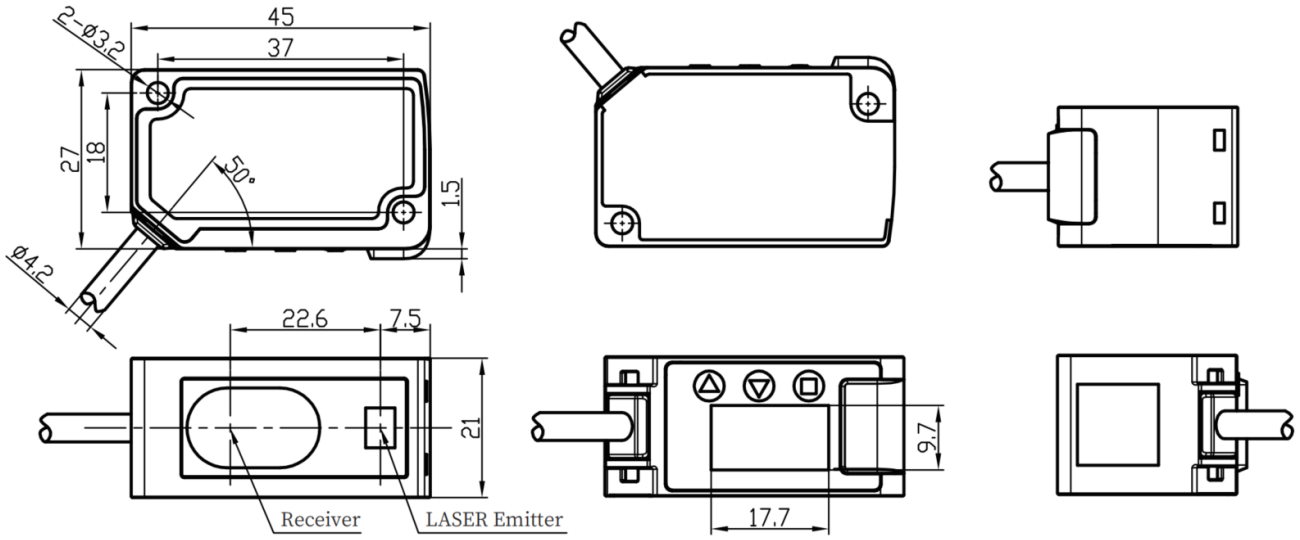
④Slave address,baud rate setting only for RS-485 series

⑤Protecion circuit only for switch output

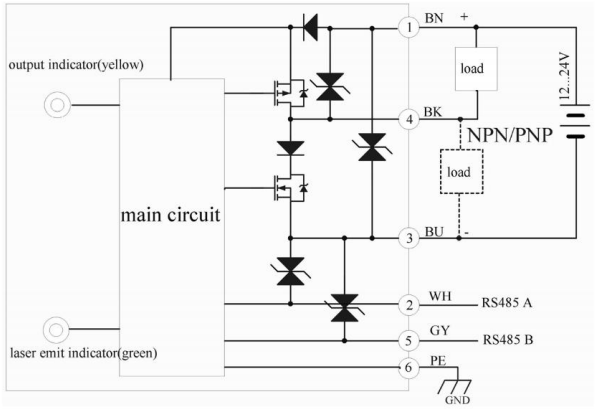
⑥Product operation steps and precautions in "Operation manual"

⑦This data is a value that measures the distance from the center

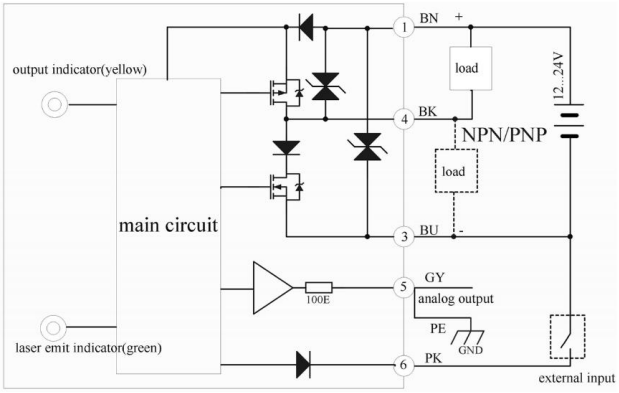
## Dimensions




## Wiring diagram




Serial communication RS-485




Analog output