

Измерительные датчики лазерного смещения PDE

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Small high precision digital laser displacement sensor **PDE-CR400** series



Features

- ◆ Ultra-small size, metal housing, solid and durable
- ◆ Convenient operation panel with visualized OLED display to complete all function settings fastly
- ◆ Tiny 0.5mm diameter beam for precise measurement of very small objects
- ◆ The repetition accuracy can reach 800μm to achieve high-precision segment difference detec
- ◆ Powerful function setting and flexible output way
- ◆ Complete shielded desgin, stronger anti-interference performance

Part number

RS-485	PDE-CR400TGR	4...20mA + 0-5V	PDE-CR400TGIU
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Technical specifications

Center distance	400mm	Temperature drift	< 0.03%F.S./°C
Measuring range	±200mm	Indicator	Laser working indicator:green light on; Switch output indicator:yellow light
Full scale(F.S.)	200-600mm	Protection circuit ^④	Short circuit protection,reverse polarity protection, overload protection
Supply voltage	12...24VDC	Built-in function ^⑤	Slave address & Baud rate settings;Zero setting; Parameter query;Product self-inspection;Output setting;Ingle-point teaching/two-point teaching/three-point teaching;Window teaching; Factory data reset
Consumption power	≤960mW	Service environment	Operation temperature:-10...+45°C; Storage temperature:-20...+60°C; Ambient temperature:35...85%RH(No condensation)
Load current	≤100mA	Anti ambient light	Incandescent light: < 3,000lux;
Voltage drop	<2V	Protection degre	IP65
Light source	Red laser(650nm);Laser level:Class 2	Material	Housing:Zinc alloy;Lens:PMMA;Diaplay:Glass
Beam diameter ^②	About Φ500μm(at 400mm)	Vibration resist	10...55Hz Double amplitude1mm,2H each in X,Y,Z directions
Resolution	100μm	Impulse resista	500m/s ² (About 50G)3 times each in X,Y,Z directions
Linear accuracy ^{①②}	±0.2%F.S.(measuring distance 200mm-400mm) ±0.3%F.S.(measuring distance 400mm-600mm)	Connection	2m Composite cable(0.2mm ²)
Repeat accuracy ^{①②③}	300μm@200mm-400mm 800μm@400mm(Include)-600mm	Accessory	M4 screw(length:35mm)x2,nut x2,gasket x2,mounting bracket,operation manual
Output 1(Model selection)	Digital value:RS-485(Support Modbus protocol) ; Switch value:NPN/PNP and NO/NC settable		
Output 2(Model selection)	Analog:4...20mA(Load resistance < 300Ω)/0-5V; Switch value:NPN/PNP and NO/NC settable		
Distance setting	RS-485:Keypress/RS-485 setting; Analog:Keypress setting		
Response time	<10ms		
Dimension	45mm*27mm*21mm		
Display	OLED display(Size:18*10mm)		

Remark:①Test conditions:Standard data at 23±5°C;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

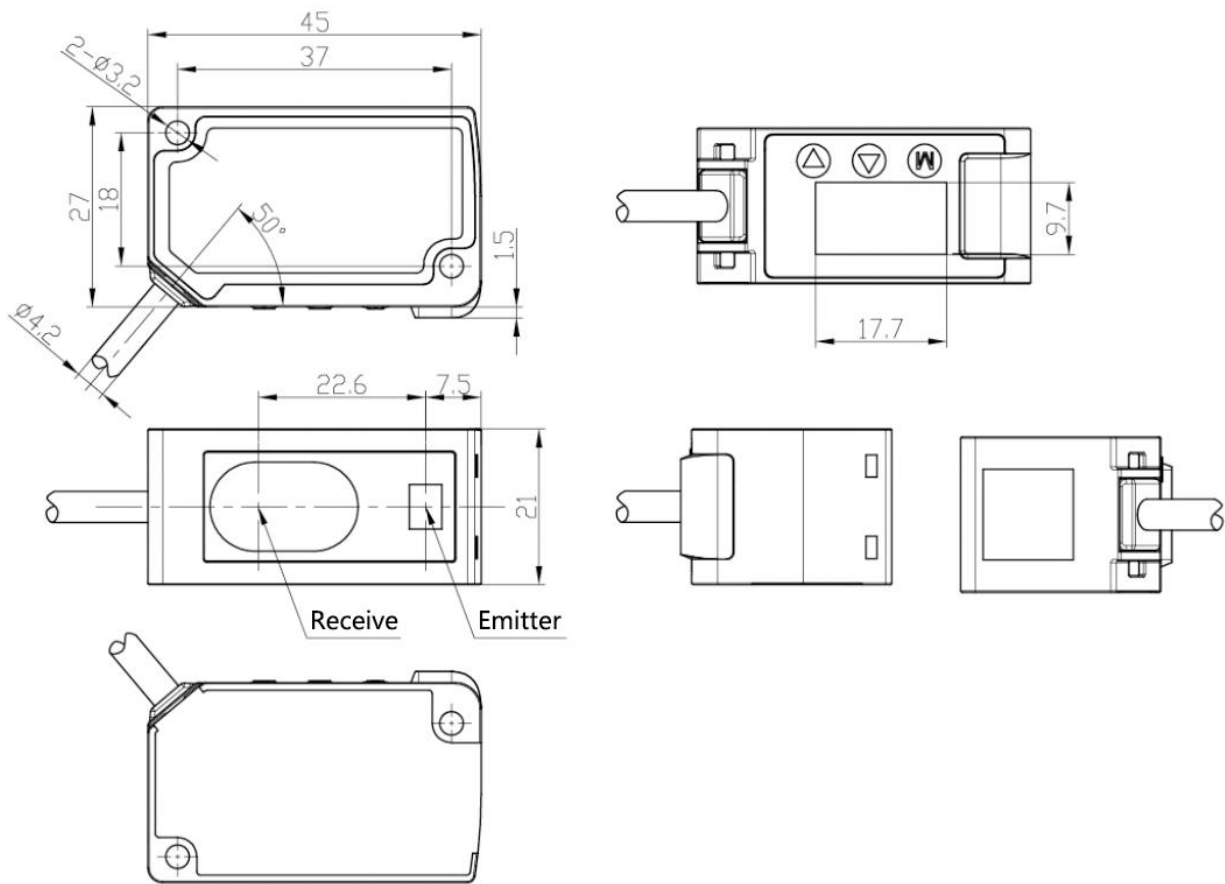
③Repeat accuracy:23±5°C environment,90% reflectivity white card,100 test data results

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

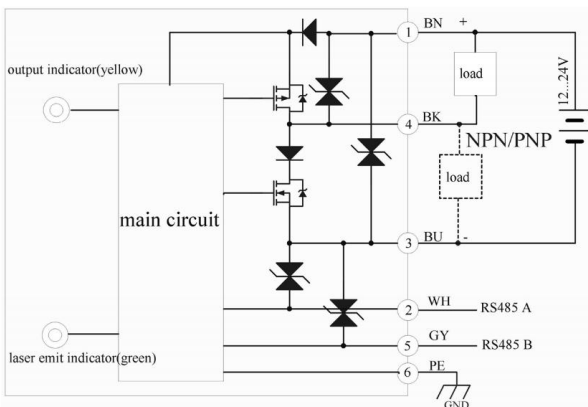
⑤Protecion circuit only for switch output

⑥Product operation steps and precautions in "Operation manual"

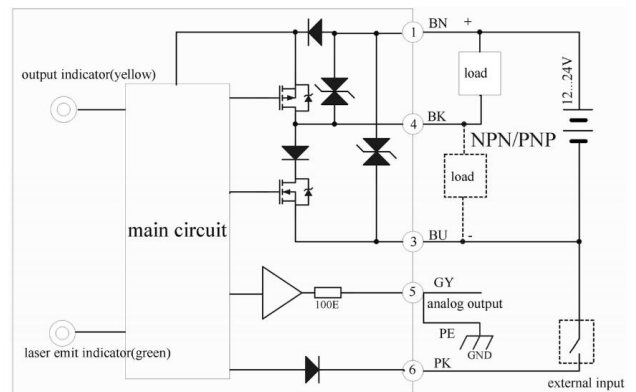
Dimensions



Wiring diagram



Serial communication RS-485



Analog output

Small high precision digital laser displacement sensor **PDE-CR100** series



Features

- ◆ Ultra-small size, metal housing, solid and durable
- ◆ Convenient operation panel with visualized OLED display to complete all function settings fastly
- ◆ Tiny 0.12mm diameter beam for precise measurement of very small objects
- ◆ The repetition accuracy can reach 70μm to achieve high-precision segment difference detect
- ◆ Powerful function setting and flexible output way
- ◆ Complete shielded design, stronger anti-interference performance
- ◆ IP65 protection degree, able to work in water or dusty environment

Part number

RS-485	PDE-CR100TGR	4...20mA + 0-5V	PDE-CR100TGIU
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Technical specifications

Center distance	100mm	Indicator	Laser working indicator:green light on;
Measuring range	±35mm		Switch output indicator:yellow light
Full scale(F.S.)	65-135mm	Protection circuit ^④	Short circuit protection,reverse polarity protection, overload protection
Supply voltage	12...24VDC	Built-in function ^⑤	Slave address & Baud rate settings;Zero setting; Parameter query;Product self-inspection;Output setting;Ingle-point teaching/two-point teaching/three-point teaching;Window teaching; Factory data reset
Consumption power	≤960mW	Service environment	Operation temperature:-10...+45°C; Storage temperature:-20...+60°C; Ambient temperature:35...85%RH(No condensation)
Load current	≤100mA	Anti ambient light	Incandescent light: < 3,000lux; Sunlight interference:≤10,000lux
Voltage drop	<2V	Protection degre	IP65
Light source	Red laser(650nm);Laser level:Class 2	Material	Housing:Zinc alloy;Lens:PMMA;Diaplay:Glass
Beam diameter ^②	About Φ120μm(at 100mm)	Vibration resist	10...55Hz Double amplitude1mm,2H each in X,Y,Z directions
Resolution	10μm	Impulse resista	500m/s ² (About 50G)3 times each in X,Y,Z directions
Linear accuracy ^{①②}	±0.1%F.S.	Connection	2m Composite cable(0.2mm ²)
Repeat accuracy ^{①②③}	70μm	Accessory	M4 screw(length:35mm)x2,nut x2,gasket x2,mounting bracket,operation manual
Output 1(Model selection)	Digital value:RS-485(Support Modbus protocol) ; Switch value:NPN/PNP and NO/NC settable		
Output 2(Model selection)	Analog:4...20mA(Load resistance < 300Ω)/0-5V; Switch value:NPN/PNP and NO/NC settable		
Distance setting	RS-485:Keypress/RS-485 setting; Analog:Keypress setting		
Response time	<10ms		
Dimension	45mm*27mm*21mm		
Display	OLED display(Size:18*10mm)		
Temperature drift	< 0.03%F.S./°C		

Remark:①Test conditions:Standard data at 23±5°C;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

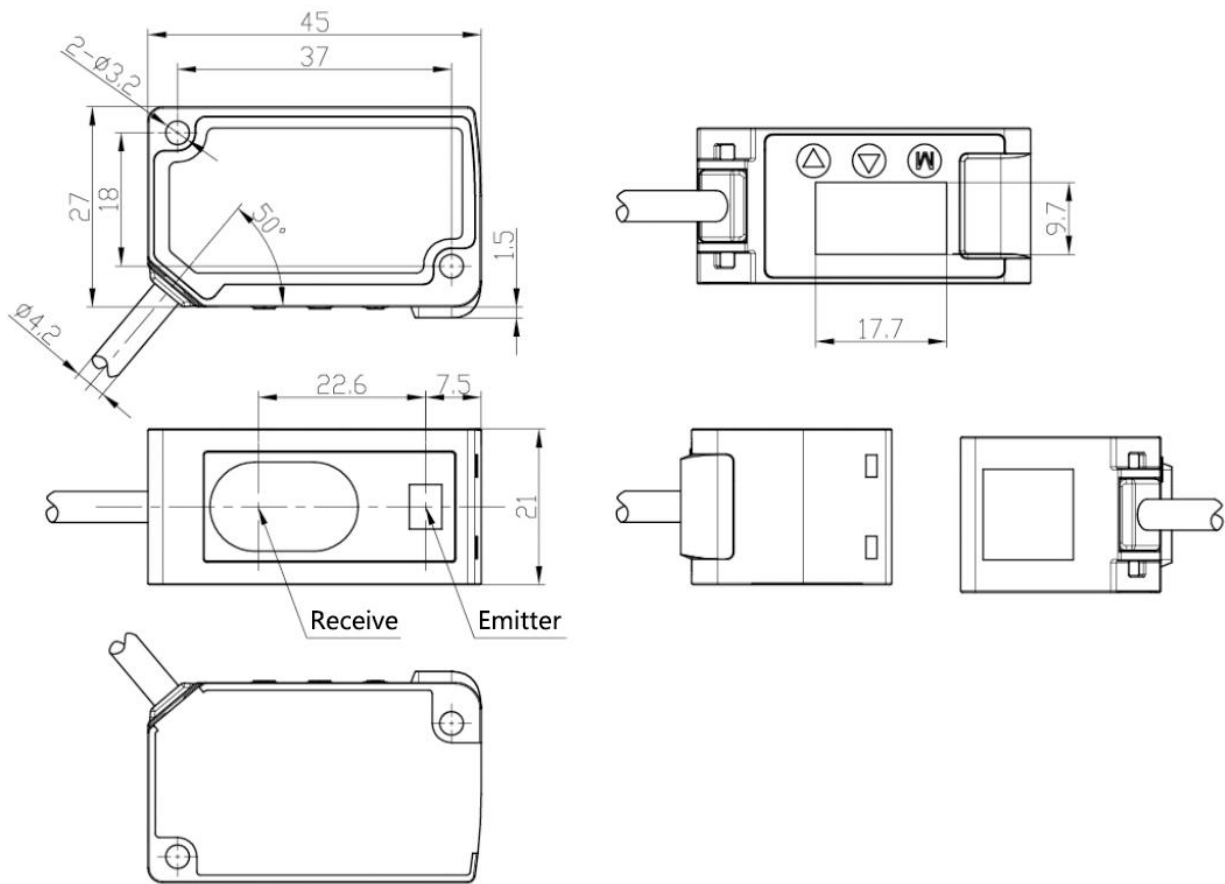
③Repeat accuracy:23±5°C environment,90% reflectivity white card,100 test data results

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

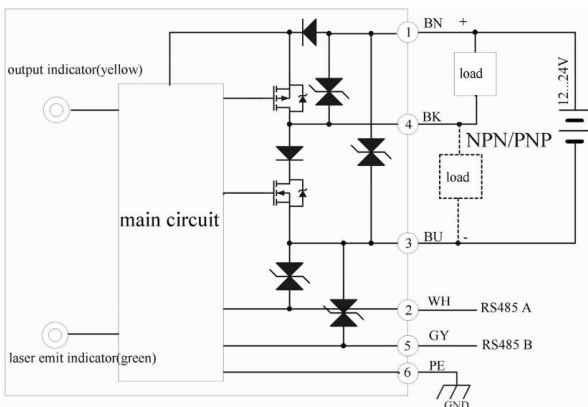
⑤Protecion circuit only for switch output

⑥Product operation steps and precautions in "Operation manual"

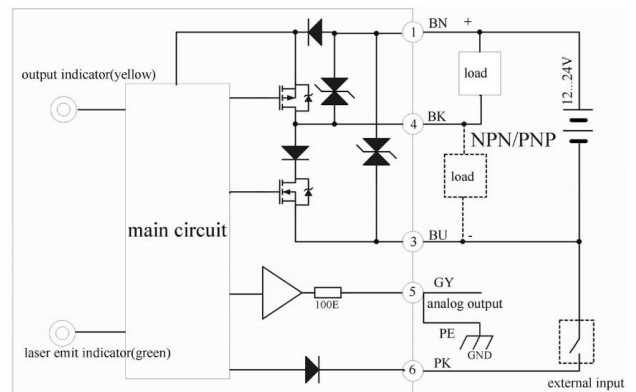
Dimensions



Wiring diagram



Serial communication RS-485



Analog output

Small high precision digital laser displacement sensor **PDE-CR50** 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 30μm to achieve high-precision segment difference detect
- ◆ Powerful function setting and flexible output way
- ◆ Complete shielded design, stronger anti-interference performance
- ◆ IP65 protection degree, able to work in water or dusty environment

Part number

RS-485	PDE-CR50TGR	4...20mA + 0-5V	PDE-CR50TGIU
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Technical specifications

Center distance	50mm	Indicator	Laser working indicator:green light on;
Measuring range	±15mm		Switch output indicator:yellow light
Full scale(F.S.)	35-65mm	Protection circuit ^④	Short circuit protection,reverse polarity protection, overload protection
Supply voltage	12...24VDC	Built-in function ^⑤	Slave address & Baud rate settings;Zero setting; Parameter query;Product self-inspection;Output setting;Ingle-point teaching/two-point teaching/three-point teaching;Window teaching; Factory data reset
Consumption power	≤960mW	Service environment	Operation temperature:-10...+45°C; Storage temperature:-20...+60°C; Ambient temperature:35...85%RH(No condensation)
Load current	≤100mA	Anti ambient light	Incandescent light: < 3,000lux; Sunlight interference:≤10,000lux
Voltage drop	<2V	Protection degre	IP65
Light source	Red laser(650nm);Laser level:Class 2	Material	Housing:Zinc alloy;Lens:PMMA;Diaplay:Glass
Beam diameter ^②	About Φ70μm(at 50mm)	Vibration resist	10...55Hz Double amplitude1mm,2H each in X,Y,Z directions
Resolution	10μm	Impulse resista	500m/s ² (About 50G)3 times each in X,Y,Z directions
Linear accuracy ^{①②}	±0.1%F.S.	Connection	2m Composite cable(0.2mm ²)
Repeat accuracy ^{①②③}	30μm	Accessory	M4 screw(length:35mm)x2,nut x2,gasket x2,mounting bracket,operation manual
Output 1(Model selection)	Digital value:RS-485(Support Modbus protocol) ; Switch value:NPN/PNP and NO/NC settable		
Output 2(Model selection)	Analog:4...20mA(Load resistance < 300Ω)/0-5V; Switch value:NPN/PNP and NO/NC settable		
Distance setting	RS-485:Keypress/RS-485 setting; Analog:Keypress setting		
Response time	<10ms		
Dimension	45mm*27mm*21mm		
Display	OLED display(Size:18*10mm)		
Temperature drift	< 0.03%F.S./°C		

Remark:①Test conditions:Standard data at 23±5°C;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

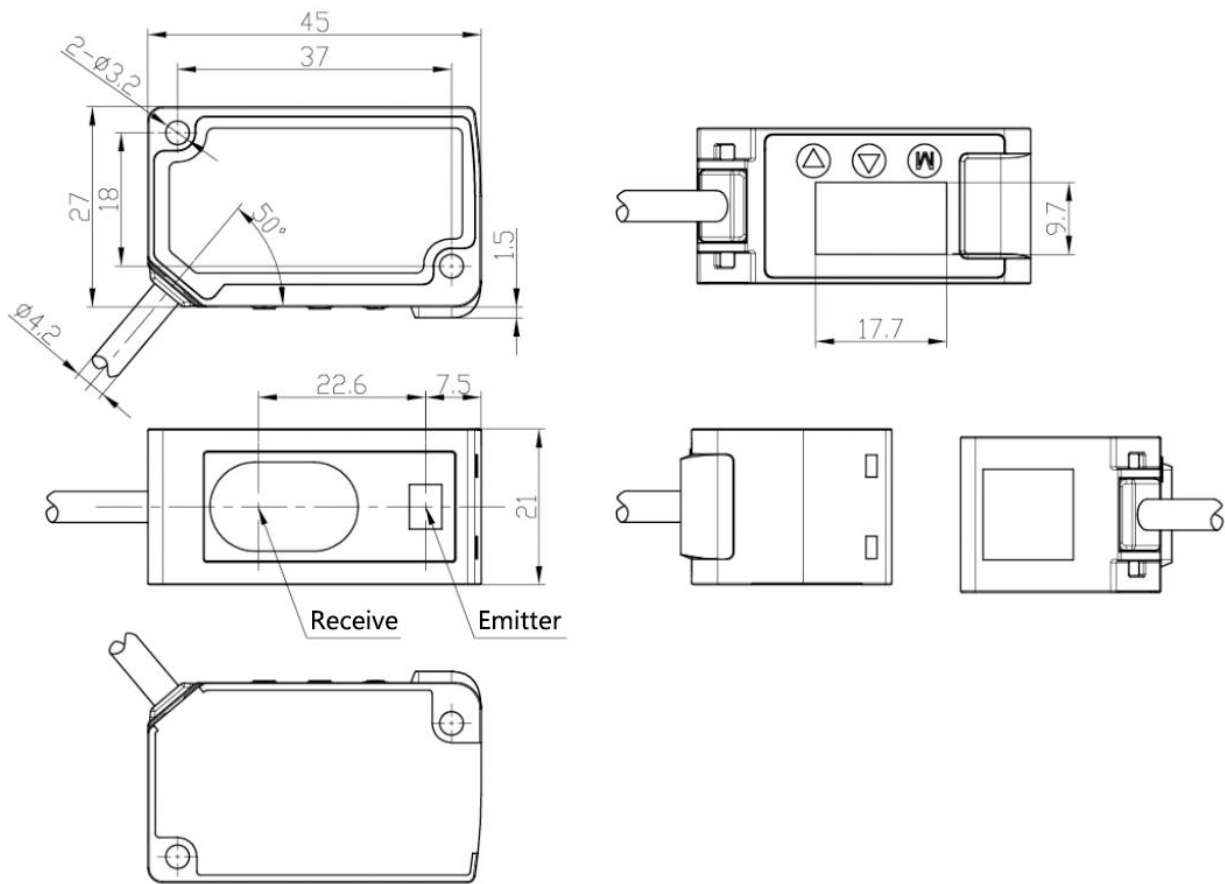
③Repeat accuracy:23±5°C environment,90% reflectivity white card,100 test data results

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

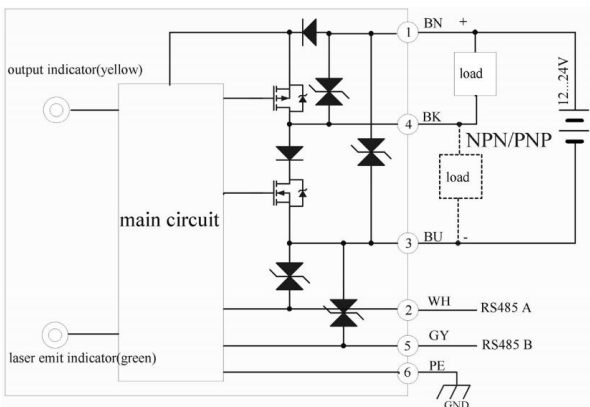
⑤Protecion circuit only for switch output

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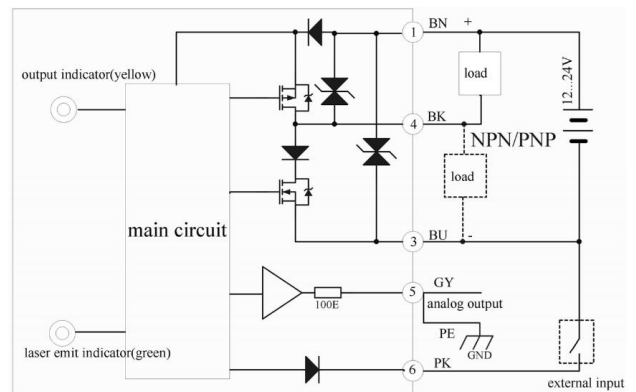
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Wiring diagram



Serial communication RS-485



Analog output

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