

Digital type Optical Fiber Sensor

PDF SERIES

Digital display of setting value & light-receiving amount

Wide range detection by full specifications

- 8 digits monitor is provided. It displays the current light-receiving amount & setting value.
- LED display with 2 colors, light-receiving amount (red) & setting value (green).
- It makes severe detection possible by providing APC function.
- 2 channels outputs are provided.
- 6 kinds of teaching are provided.



Specifications

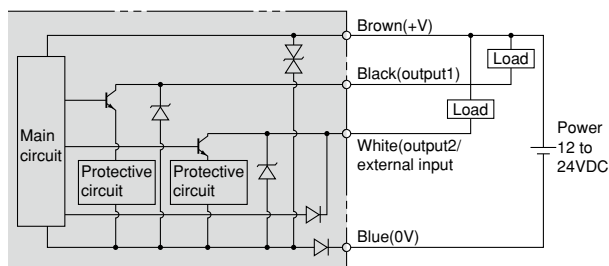
Model No.	PDF-CR	PDF-CRA	PDF-CG	PDF-CGA
Power source	12 to 24VDC ($\pm 10\%$, ripple 10% or less)			
Current consumption	45mA or less (24VDC)			
Light source	4-element red LED		Green LED	
Operating mode	Changeover of Light-ON/Dark-ON			
Output	2 outputs, NPN open-collector output, 30VDC/100mA or less, residual voltage 1.8V or less	2 outputs, PNP open-collector output, 30VDC/100mA or less, residual voltage 1.8V or less	2 outputs, NPN open-collector output, 30VDC/100mA or less, residual voltage 1.8V or less	2 outputs, PNP open-collector output, 30VDC/100mA or less, residual voltage 1.8V or less
Response time	Fast: 60 μ sec, Standard 250 μ sec, Long: 2msec			
Sensitivity adjustment	Teaching or manual adjustment			
Teaching	Max.sensitivity teaching/One point teaching/Two points teaching/Auto-teaching/Zone teaching/Transparent object teaching			
Protective circuit	Short-circuit protection, reverse-connection protection, over-current protection (output)			
Detecting mode	Normal detection, rising edge detection, trailing edge detection			
Sensing mode	Fast: response time 60 μ sec, detecting distance 100mm* for high speed detection Standard: response time 250 μ sec, detecting distance 250mm* for standard mode Long: response time 2msec, detecting distance 450mm* for stable detection			
Counter mode	0 to 9999999 Increment/decrement changeover			
Timer mode	ON-delay, OFF-delay, One-shot, Without timer (Timer time:1 to 9,000msec)			
Automatic gain/power control	APC/ASC (automatic sensitivity adjustment system)			
External input	Choice from external teaching and counter reset			
Indication lamps	Output1/2 lamp: orange LED			
Indications	Numerical indication: 4 digits (red) +4 digits (green), 7-segment LED Display: standard, bar, %, counting numbers, OFF (only run mode)			
Connection	Cable type (length 2m, ϕ 3.8mm, 4 cores 0.2mm ²)			
Ambient illuminance	Sunlight: 10,000lx or less, incandescent lamp: 3,000lx or less			
Ambient temperature	-25 to +55℃ (-40 to +70℃ when stored)			
Ambient humidity	35 to 85% (35 to 95% when stored), not icing/not condensing			
Insulation resistance	20M Ω or more (500VDC megger)			
Withstand voltage	1,000VAC/min.			
Vibration resistance	Double amplitude 1.5mm, 10 to 55Hz, each 2 hour in X, Y and Z directions			
Impact resistance	1,000m/s ² , each 3 time in X, Y and Z directions			
Protective structure	IP66 (IEC standard), (IP50 when not connecting the fiber unit)			
Case material	Case: PPE resin, cover: polycarbonate			
Weight	Approx. 65g (including cable)			
Accessory	Bracket			
Mounting	DIN-rail or by fitting metal			

*This value is for PDF-CR and EP6-1101.

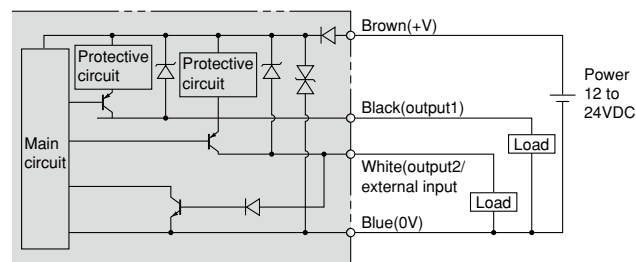
★Reflection sheet(DGS 100×100)(RRRP016) is available as option.

Output circuit

NPN output



PNP output



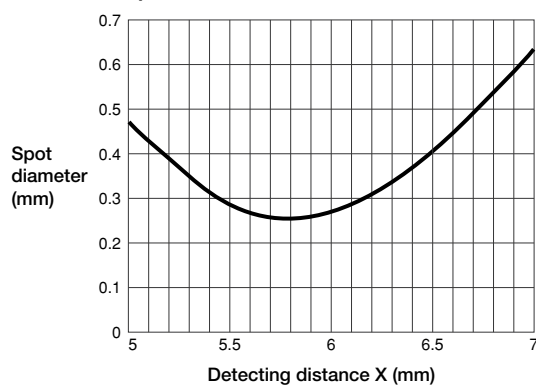
Caution

- (1) Don't make a parallel wiring with high voltage line or power line. Also, it may cause a malfunction by induction.
- (2) Be sure to make FG (frame ground terminal) and G (ground terminal) if using the commercial switching regulator.
- (3) Don't operate it during approx. 100msec after putting power source in.

Characteristic data (typical example)

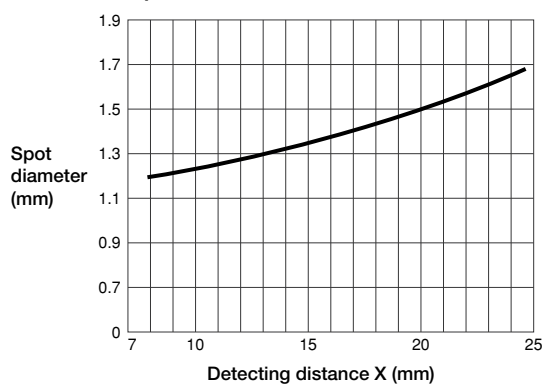
Reflection type (PDF-CR+EP8-1201+FP2-A05N)

Distance - spot diameter

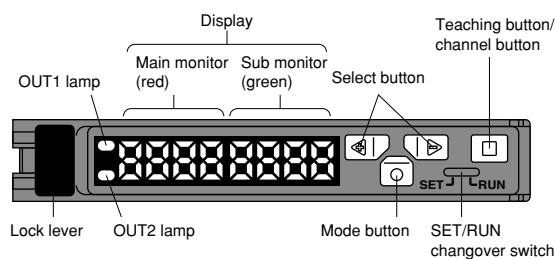


Reflection type (PDF-CR+EP8-1201+FP2-A06N)

Distance - spot diameter



Amplifier



External dimensions

