

OPTEX FA

Fiber-Optic Sensor
Data sheet



D12R-TPC4

OPTEX
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FASTUS | D12R Series

D12R-TPC4

Fiber-Optic Sensor

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Model Configuration



Part No.	20992
Model	D12R-TPC4



Specifications

Product category	Fiber-Optic Sensor	
Type	Stand alone	
Light source	4-element Red LED (Wavelength: 660 nm)	
Response time	50 μ s, 250 μ s, 1 ms, 4 ms	
Teach mode	1 point, 2 points, Auto, Through, 1-point Zone, 2-point Zone, Manual	
Display	Digital display	OLED display 128 x 22 pixel Menu languages: English, Japanese, Traditional Chinese
	Indicators	Output indicator (orange), Power indicator (green)
Timer function	Function	On delay, Off delay, On/off delay, Pulse output, On delay pulse
	Time	Adjustable 0.1 ... 30,000 ms
Control output	PNP, open collector Max. 100 mA/30 VDC residual voltage 1.8 V or less	
Output mode	Light ON/Dark ON, selectable by setting	
External input	Teach input, Emitter off, Zero reset, Trigger	
Protection circuit	Reverse polarity protection, Output overcurrent protection, Output short circuit protection	
Connection	M8 4-pin plug connector	
Interference prevention quantity	Up to 4 units (frequency-selective)	
Supply voltage	10 ... 30 VDC \pm 10 % including 10 % ripple (p-p)	
Current consumption	Eco mode: Off	42 mA at 10 VDC, 19 mA at 30 VDC
	Eco mode: On	30 mA at 10 VDC, 15 mA at 30 VDC
Warm-up time	300 ms	

Specifications are subject to change without prior notice.

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Applicable regulations	EMC	EU EMC directive (2014/30/EU) UK EMC (The Electromagnetic Compatibility Regulations 2016) FCC Part 15 subpart B
	Environment	EU RoHS directive (2011/65/EU) UK RoHS (The Restriction of Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012) China RoHS (MIIT Order No. 32)
Applicable standards		EN/IEC 60947-5-2
NRTL certification		UL Listed certification for the US and Canada
Environmental resistance	Ambient illuminance	Sunlight: 67,000 lx or less, Incandescent light: 99,000 lx or less, LED lighting (DC light): 16,000 lx or less
	Ambient temperature/humidity	-25 ... 55 °C/35 ... 85 % RH (no freezing or condensation)
	Storage temperature/humidity	-40 ... 70 °C/35 ... 85 % RH (no freezing or condensation)
	Vibration resistance	10 ... 55 Hz Double amplitude 1.5 mm 2 hours in each X, Y, Z directions
	Shock resistance	500 m/s ² 3 times in each X, Y, Z directions
	Degree of protection	IP50 (IEC 60529)
Material		Housing, cover: PC
Weight		Approx. 25 g

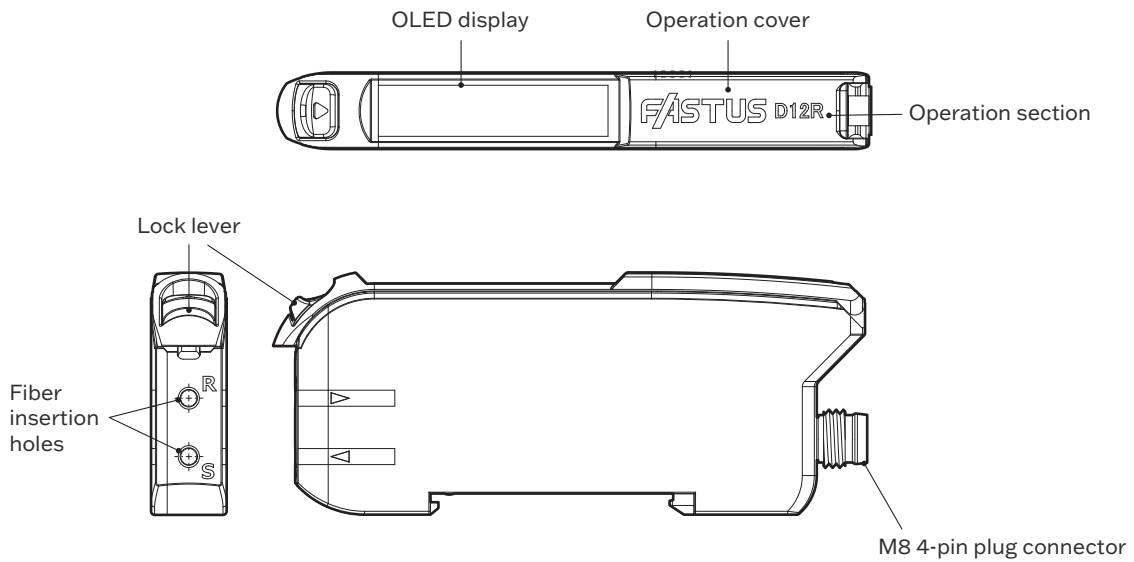
Specifications are subject to change without prior notice.

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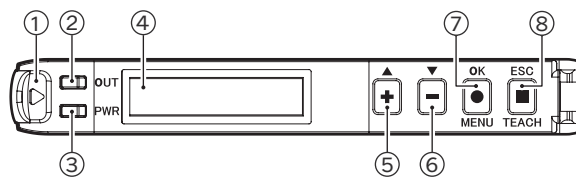
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Part Names



Display and Operation Section



① Lock lever	Locks and releases the fiber cable.
② Output indicator (orange)	Illuminates in orange when output is ON.
③ Power indicator (green)	Illuminates in green when the power is turned on.
④ OLED display	Display the present receiving light level and threshold, and the parameters during set menu.
⑤ Selection keys (+/- keys)	Manually adjusts the threshold. In the settings menu select the item, and during item input, increase/decrease the value.
⑥ OK/MENU key	Selects a setting menu and sets the parameters.
⑦ ESC/TEACH key	Performs teach and exits menus during setting.

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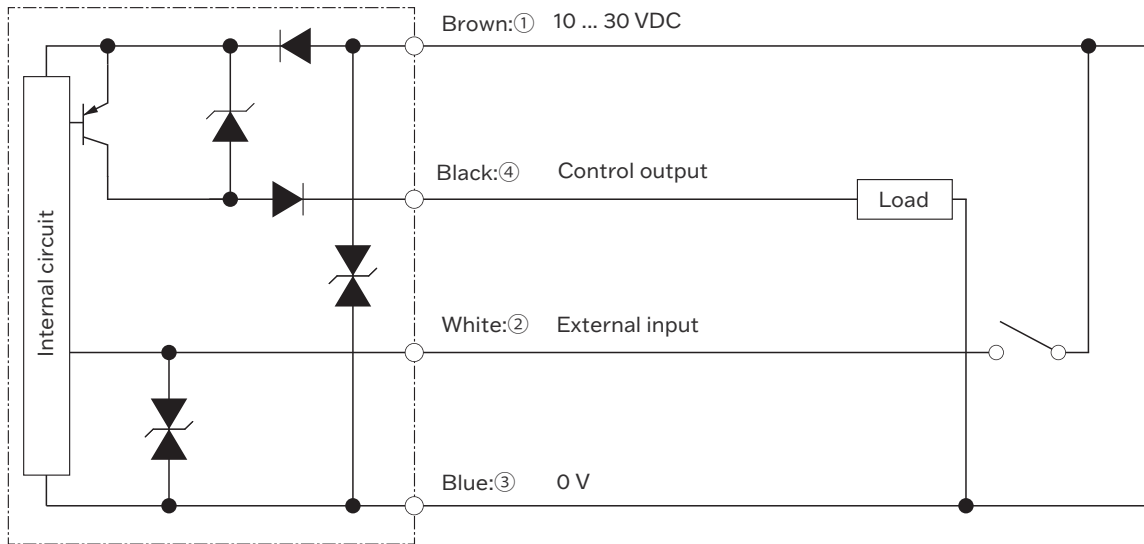
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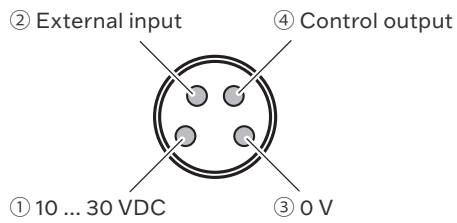
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I/O Circuit Diagrams

PNP or Push-pull setting



M8 connector pin



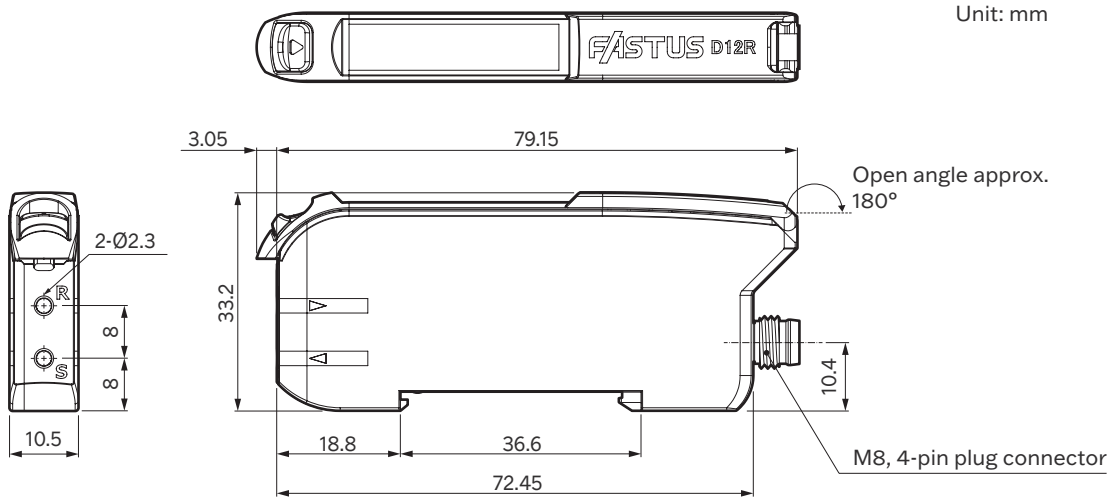
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Dimensions



Accessories

Connector cables



Part No.	20191
Model	M84CN-2S

- Straight
- Cable length: 2 m
- Minimum bending radius: 24 mm (when fixed in place)



Part No.	20193
Model	M84CN-5S

- Straight
- Cable length: 5 m
- Minimum bending radius: 24 mm (when fixed in place)



Part No.	20195
Model	M84CN-10S

- Straight
- Cable length: 10 m
- Minimum bending radius: 24 mm (when fixed in place)

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Part No.	20192
Model	M84CN-2L

- L-shaped
- Cablelength: 2 m
- Minimum bending radius: 24 mm (when fixed in place)



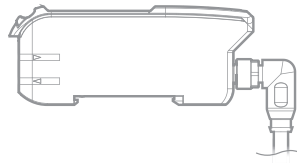
Part No.	20194
Model	M84CN-5L

- L-shaped
- Cablelength: 5 m
- Minimum bending radius: 24 mm (when fixed in place)



Part No.	20196
Model	M84CN-10L

- L-shaped
- Cablelength: 10 m
- Minimum bending radius: 24 mm (when fixed in place)



Connector orientation is as shown in the left diagram when using the L-shaped connector cable. Rotation is not possible.

Mounting bracket



Part No.	21062
Model	BEF-001

End plate



Part No.	21063
Model	BEF-002

- 2 pieces

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