

OPTEX FA

Fiber-Optic Sensor
Data sheet



D12R-TN

OPTEX
FA

FASTUS | D12R Series

D12R-TN

Fiber-Optic Sensor

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Model Configuration



Part No.	20989
Model	D12R-TN



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		NPN, 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		2 m Cable, 4 wires, Minimum bending radius: 4 x Cable diameter
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 Recognized Component 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. 72 g

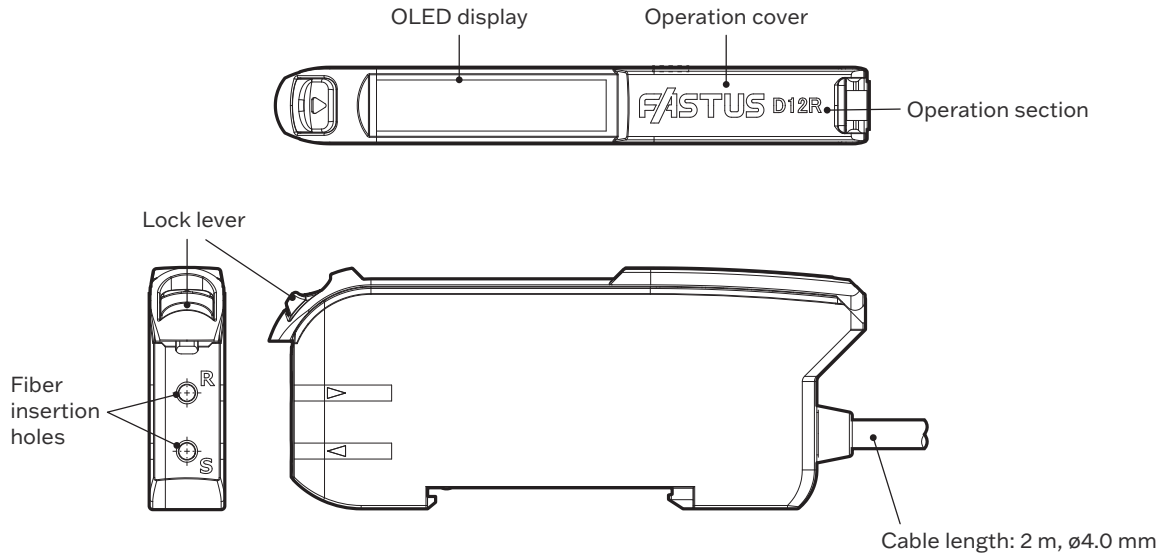
Specifications are subject to change without prior notice.

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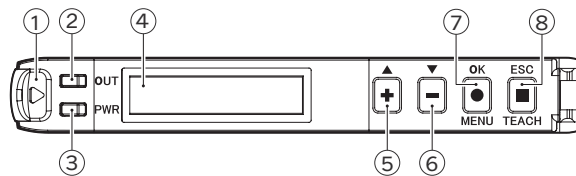
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Part Names



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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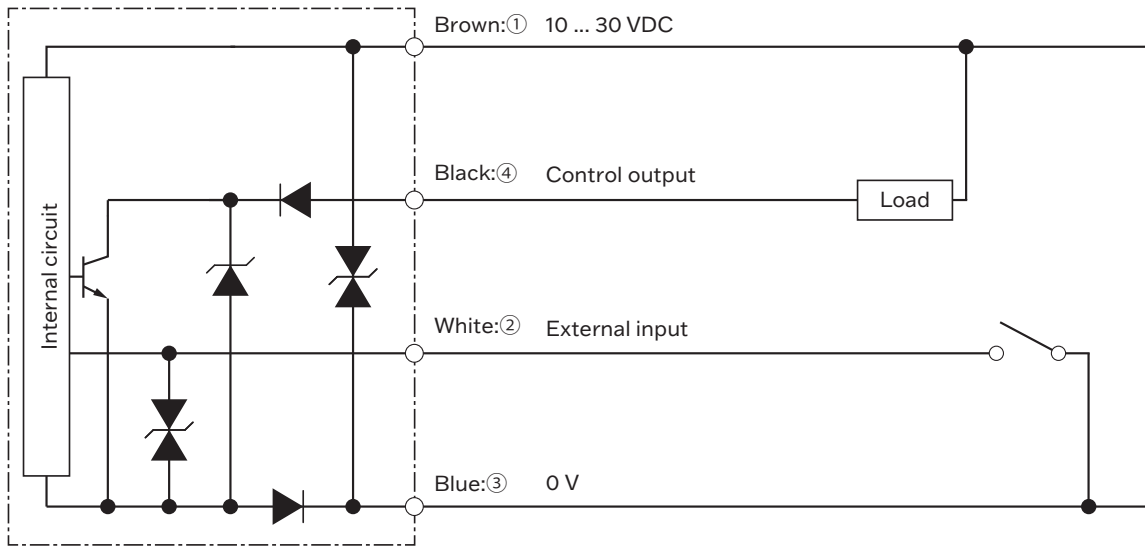
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I/O Circuit Diagrams

NPN setting

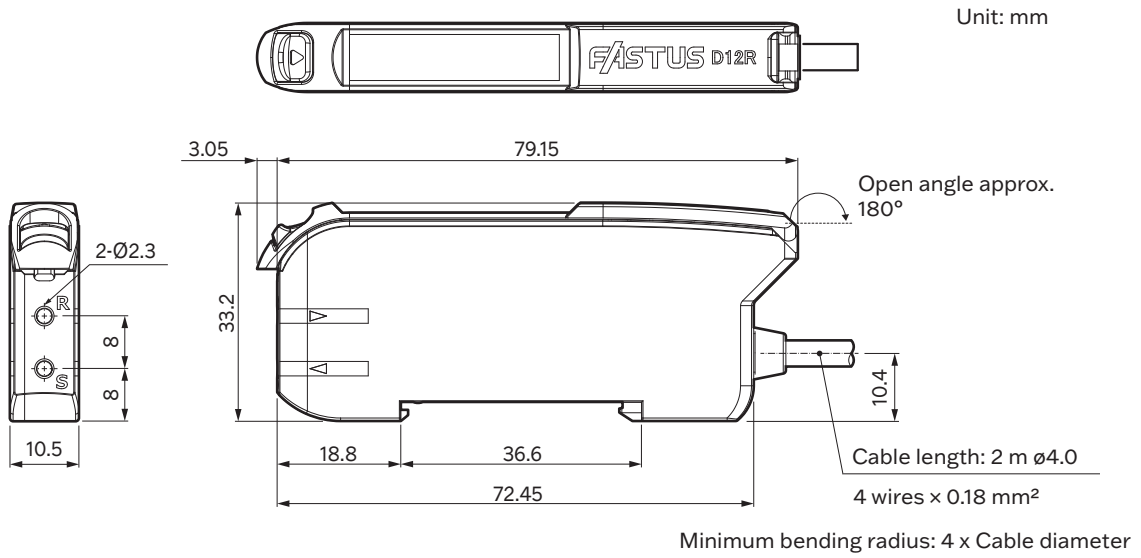


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Dimensions



Accessories

Mounting bracket



Part No.	21062
Model	BEF-001

End plate



Part No.	21063
Model	BEF-002

- 2 pieces

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