

FIBER
SENSORSLASER
SENSORSPHOTOELECTRIC
SENSORSMICRO
PHOTOELECTRIC
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SENSORSLIGHT CURTAINS /
SAFETY
COMPONENTSPRESSURE /
FLOW
SENSORSINDUCTIVE
PROXIMITY
SENSORSPARTICULAR
USE SENSORSSENSOR
OPTIONSSIMPLE
WIRE-SAVING
UNITSWIRE-SAVING
SYSTEMSMEASUREMENT
SENSORSSTATIC ELECTRICITY
PREVENTION
DEVICESLASER
MARKERS

PLC

HUMAN MACHINE
INTERFACESENERGY CONSUMPTION
VISUALIZATION
COMPONENTS

FA COMPONENTS

MACHINE VISION
SYSTEMSUV CURING
SYSTEMSSelection
Guide

Wafer Detection

Liquid Leak
DetectionLiquid Level
Detection

Water Detection

Color Mark
DetectionHot Melt Glue
Detection

Ultrasonic

Small /
Slim Object
DetectionObstacle
Detection

Other Products

LX-23

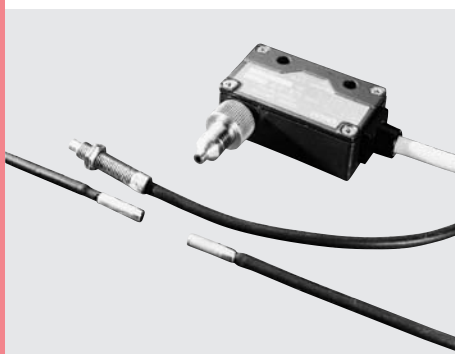
Related Information

■ General terms and conditions..... F-7

■ Sensor selection guide..... P.885~

■ Glossary of terms..... P.1455~

■ General precautions..... P.1458~



- Never use this product as a sensing device for personnel protection.
- In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

panasonic.net/id/pidsx/global

High color sensing ability with a 0.1 ms high-speed response

SPECIFICATIONS

Fibers

Type	Thru-beam	Coaxial reflective	Fixed coaxial reflective	
Item	Model No.	FT-3	FR-3	FF
Applicable amplifier	LX-23			
Sensing range (Note 2)	30 mm 1.181 in	1 to 3 mm 0.039 to 0.118 in (Center: 1.5 mm 0.059 in)		
Min. sensing object	ø1.5 mm ø0.059 in	0.1 mm 0.004 in width black line on white paper (under the optimum condition)		
Fiber cable length	300 mm 11.811 in	300 mm 11.811 in	————	
Allowable bending radius (Note 3)	R 30 mm 1.181 in or more			————
Ambient temperature	-20 to +70 °C -4 to +158 °F (No dew condensation or icing allowed) Storage: -20 to +70 °C -4 to +158 °F			-10 to +40°C +14 to +104 °F (No dew condensation or icing allowed) Storage: -10 to +40 °C +14 to +104 °F
Material	Sheath: Silicone tube Fiber core: Acrylic			Sheath: Brass (nickel plated) Fiber core: Acrylic

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.

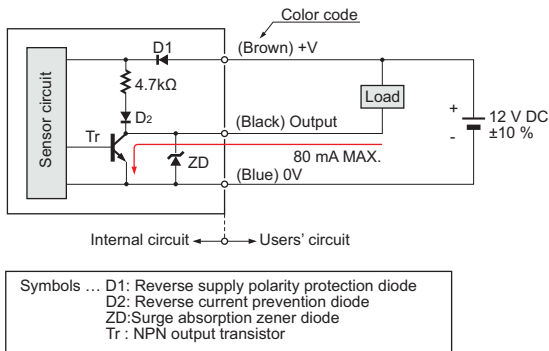
2) The sensing range of the reflective type fiber is specified for white non-glossy paper (50 × 50 mm 1.969 × 1.969 in) as the object.

3) The allowable bending radius indicates the value when bending a fiber at a 90° angle.

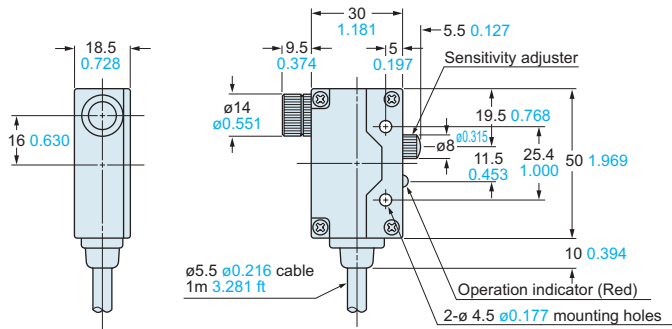
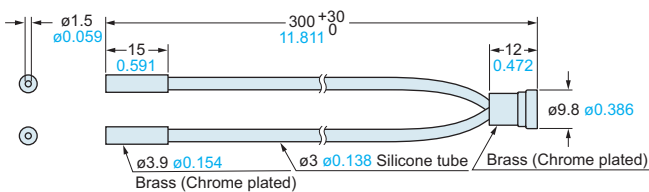
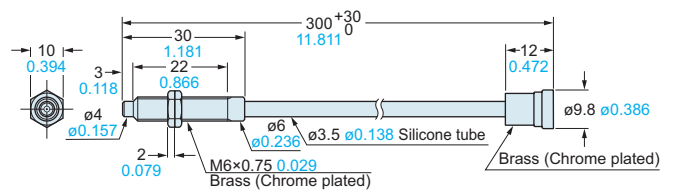
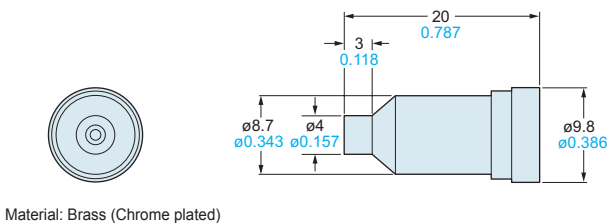
Amplifier

Type		Optical lamp
Item	Model No.	LX-23
Supply voltage		12 V DC ±10 % Ripple P-P 10 % or less
Current consumption		150 mA or less
Output		NPN transistor universal <ul style="list-style-type: none">• Maximum sink current: 80 mA• Residual voltage: 1 V or less (at 80 mA sink current)
	Output operation	Light-ON
Response time		0.1 ms (Max. response frequency: 10 kHz)
Sensitivity adjuster		Optical multi-turn adjuster
Protection		IP62 (IEC)
Ambient temperature		−10 to +40 °C +14 to +104 °F (No dew condensation or icing allowed), Storage: −10 to 40 °C +14 to +104 °F
Emitting element		Optical tungsten lamp (average lifetime: 20,000 hours)
Case grounding type		Direct grounding
Material		Die-cast zinc alloy
Weight		Net weight: 150 g approx.

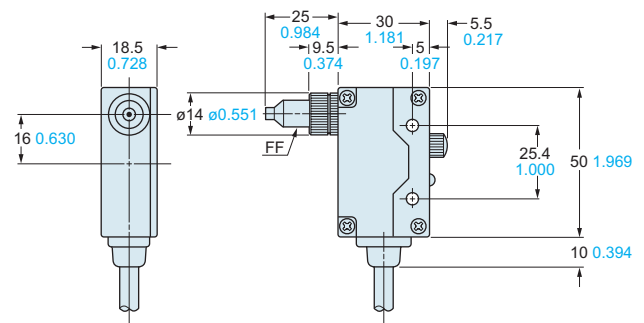
Note: Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F.

I/O CIRCUIT AND WIRING DIAGRAMS**DIMENSIONS (Unit: mm in)**

The CAD data in the dimensions can be downloaded from our website.

LX-23**Amplifier****FT-3****Thru-beam type fiber****FR-3****Coaxial reflective type fiber****FF****Fixed coaxial reflective type fiber**

Material: Brass (Chrome plated)

Assembly dimensionsFIBER
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SYSTEMSSelection
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DetectionLiquid Leak
DetectionLiquid Level
DetectionWater
DetectionColor Mark
DetectionHot Melt Glue
Detection

Ultrasonic

Small / Sim
Object DetectionObstacle
DetectionOther
Products**LX-23**