



Photoelectric Sensor
V SERIES AC/DC Type
DC Type

- AC/DC Type DC Type
- VT-4000 · VT-3000
 - VR-1000 · VR-800
 - VD-130 · VD-100
 - VD-300 · VD-250

**INSTRUCTION
MANUAL**

- Confirm if the item meets your needs.
- Before the use, you should first thoroughly read this manual and operate correctly as mentioned.
- You should keep this manual at hand for proper use.

SPECIFICATIONS

Type	Terminal M12 connector	AC/DC type								DC type			
		Through Beam		Retro Reflection (with Polarizing filter)		Diffused Reflection		Diffused Reflection (Long Range type)		Through Beam	Retro Reflection (with Polarizing filter)	Diffused Reflection	Diffused Reflection (Long Range type)
		without timer	with timer	without timer	with timer	without timer	with timer	without timer	with timer				
Detecting distance		40m	10m	10m	1.3m	3m		30m	8m	1m	2.5m		
Supply Voltage		DC12~240V±10%				AC24~240V±10%				DC10~30V±10%			
Power/Current Consumption		8.5VA				5VA				35mA max.			
Detecting Object		φ30mm		φ50mm		□20cm		□40cm		φ30mm		φ50mm	
Response Time		20ms max.											
Hysteresis		20% max.											
Light Source		Red LED						IR LED		Red LED		IR LED	
Sensitivity Adjustment Indicator		1 rotation volume (240°)											
Timer function		Output indicator (Orange) Power indicator for Emitter (Red)											
Operating Mode		Light ON											
Control Output		Relay output 1c AC240V 3A max./DC30V 3A max. (Resistive load)						NPN/PNP Open collector DC30V 100mA max.					
Connection		Terminal base (Diameter of applicable cable: φ6~φ10mm)						Terminal base (Diameter of applicable cable: φ6~φ10mm)/M12 Connector					
Ambient Temperature		-25~+55°C (No freezing)											
Ambient Humidity		35~85% RH											
Environmental Illuminance		Sun Light : 10,000lux max. Halogen light : 3,000lux max.											
Insulation Resistor		20MΩ/DC500V											
Withstand Voltage		AC2700V 1 minute											
Vibration Resistance		10~55Hz amplitude 1.5mm X.Y.Z each 2 hours											
Shock Resistance		50G (500m/s) X.Y.Z each 2 hours											
Protection category		IEC144 IP67											
Material		Case/Cover : ABS (glass fiber Included) Lens : PMMA											

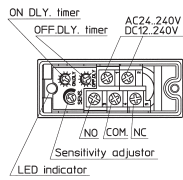
OTHER PRECAUTIONS

- Be careful not to install the sensor at the following locations, as it may otherwise malfunction.
 - Where a lot of dust, vapor, or the like is present.
 - Where corrosive gas is produced.
 - Where water, oil or the like flies directly onto the sensor.
 - Where strong vibration or shock is caused to the sensor.
- Do not use organic solvent, such as thinner, to remove contaminants from the body case, lid, and lens which are all of plastics. Using a dry rag, just wipe clean.
- When a switching regulator is to be used with a power supply, be sure to ground the Frame Ground Terminal.
- Do not use the sensor in a transient state at power on.(about 100ms)
- Do not run sensor cable near a high-voltage lines, or power lines or put them together in the same raceway. This warning should be strictly observed to prevent malfunctions caused by inductive interference.

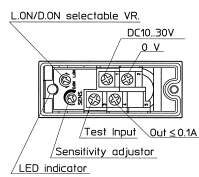
Must not use this item as safety equipment for the purpose of human body protection

NAME OF PARTS

○ AC/DC type



○ DC type

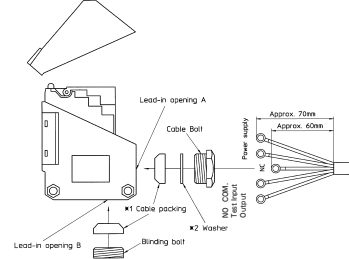


※Test Input function for through-beam type is equipped to emitter.

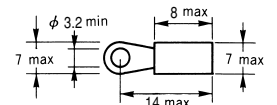
HOW TO USE

● Connection

- Install the cables to match the connection terminal No. as shown below.
- Use either lead-in opening A or B according to the installation method involved.
- Install a blinding bolt at the lead-in opening not to be used.
 - The figure below shows how the cables are installed when lead-in opening A is used.
- ※1 Cable packing is selected separately either for cable or blinding bolt according to cable diameter.
- Large : φ8~φ10 Small : φ6~φ8
- ※2 Washer is to be used exclusively to the cable bolt.



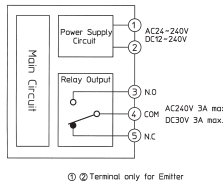
○ Dimensions of applicable solderless terminals



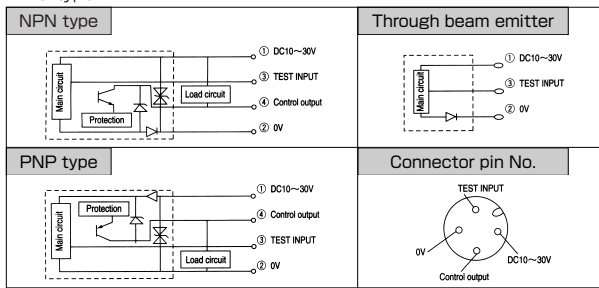
- Use solderless terminals with insulating tube.
- Use 6 to 10 mm diameter cables circular in section to maintain watertightness.
- Wrong wiring may be a cause of burned or damaged sensor. Pay due attention to wiring.
- Be careful not to install the cable near power lines, for otherwise the sensor may malfunction.
- Using the mounting accessories supplied, the sensor can be installed on either floor or wall.

INPUT AND OUTPUT CIRCUIT DIAGRAMS

○ AC/DC type



○ DC type



TIMER CHART

Timer period (0.1 ~ 10S)

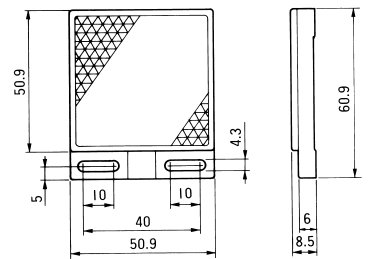
Timer Status	Operation	Output ON	Output OFF
Standard	ON Delay	[Graph]	ON
	OFF Delay	[Graph]	OFF
ON Delay	ON Delay	[Graph]	ON
	OFF Delay	[Graph]	OFF
OFF Delay	ON Delay	[Graph]	ON
	OFF Delay	[Graph]	OFF
ON Delay + OFF Delay	ON Delay	[Graph]	ON
	OFF Delay	[Graph]	OFF

TEST INPUT FUNCTION

When the No.③terminal is connected to 0V (NPN type) or 10~30VDC (PNP type), an interrupted status is electrically invented by stoppage of emission. This function can be used as the operational check of the sensor by electric interrupted state without detectable object.

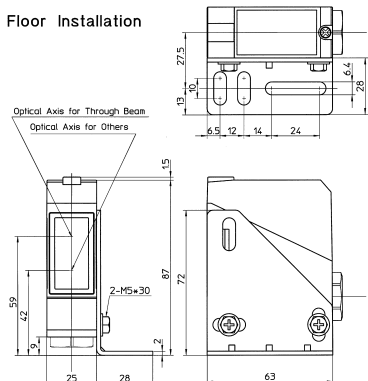
ACCESSORIES

- Standard reflection mirror Type V-61 (for Retro-reflection model)

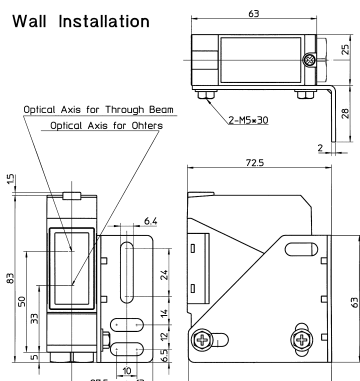


DIMENSIONS

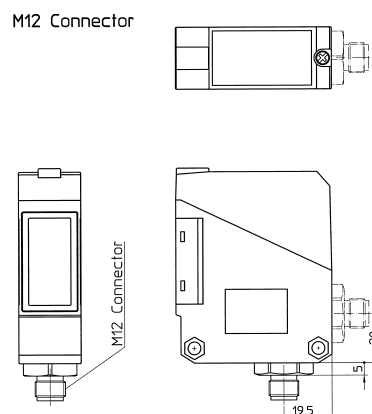
Floor Installation



Wall Installation



M12 Connector



- Specifications and equipment are subject to change without any obligations on the part of manufacture.
- For more information, questions and comments regarding products, please contact us below.

Manufactured and sold by :

OPTeX FA CO., LTD.

600-8815 Kyoto, Shimogyo, Awata Chudoji 93, Japan
TEL. +81-(0)75-325-2920
FAX. +81-(0)75-325-2921

Website : <http://www.optex-fa.com>