



Photoelectric Sensor

V3, V4 SERIES

AC/DC Type

- V4T/V3T-4000
- V4R/V3R-1000
- V4D/V3D-130

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

Connection	AC/DC type					
	Through Beam		Retro Reflection		Diffused Reflection	
Item	Terminal Chamber	Cable	Terminal Chamber	Cable	Terminal Chamber	Cable
Supply Voltage	V4T-4000	V3T-4000	V4R-1000	V3R-1000	V4D-130	V3D-130
Current Consumption	9.5VA (Transmitter 5VA, Receiver 4.5VA)		DC24~240V $\pm 10\%$ AC24~240V $\pm 10\%$		5VA	
Light Source	40m		Red LED (680nm)		1.3m	
Detecting Distance	40m		10m / Reflector V-61		20% max.	
Hysteresis	—		—		—	
Sensitivity Adjustment	—		One turn volume		—	
Response Time	—		20ms		—	
Indicator	—		Output Indicator (Orange LED)		—	
Operating Mode	—		Light ON		—	
Control Output	—		Relay Output 1Form C AC240V / DC30V, 3A max.		—	
Relay Lifetime	—		Mechanical : 5×10^7 Electrical : 10^6		—	
Environmental	Sun Light		10,000lx		—	
Illuminance	Incandescent Light		3,000lx		—	
Ambient Temperature	—		-25 ~ 55°C		—	
Ambient Humidity	—		35 ~ 85 %/RH		—	
Strong Temperature/Humidity	—		-40 ~ 70°C / 35 ~ 95%/RH		—	
Insulation Resistance	—		Min.20M Ω / DC500V		—	
Withstand Voltage	—		AC2700V 50/60Hz 1minute		—	
Vibration Resistance	—		10 ~ 55Hz amplitude 1.5mm X, Y, Z each 2h		—	
Shock Resistance	—		500 m/s ² X, Y, Z each 3 times		—	
Protection Category	—		IEC 144 IP 66		—	

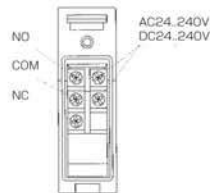
OTHER PRECAUTIONS

- 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 files 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.

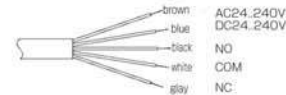
Must not use this item as safety equipment for the purpose of human body protection.

HOW TO USE

AC/DC model Terminal Chamber type

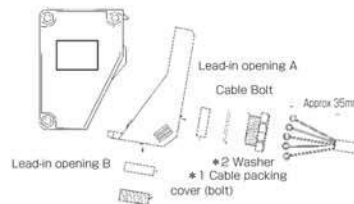


AC/DC model Cable type

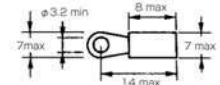


Connection

- 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 cover (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 cover (bolt) according to cable diameter.
 - Large : $\phi 8 \sim \phi 10$ Small : $\phi 6 \sim \phi 8$
 - ※2 Washer is to be used exclusively to the cable bolt.



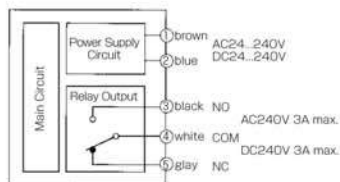
○ Dimensions of applicable solderless terminals



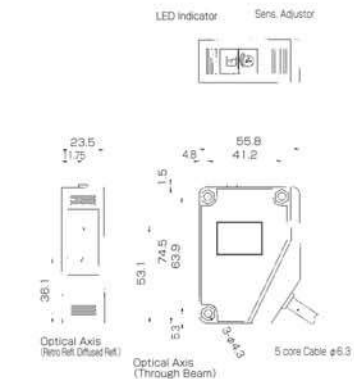
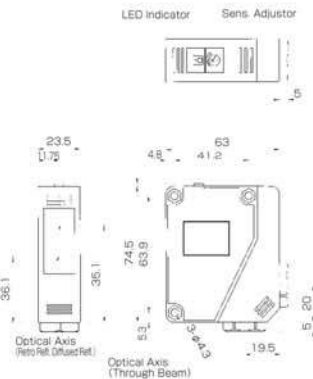
- Use solderless terminals with insulating tube.
- Use 6 to 10 mm diameter cables circular in section to maintain watertightness.
- Wrong wiring may be a cause of burned or damaged sensor. Pay due attention to wiring.
- Be careful not to install the cable near power lines, for otherwise the sensor may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

INPUT AND OUTPUT CIRCUIT DIAGRAMS

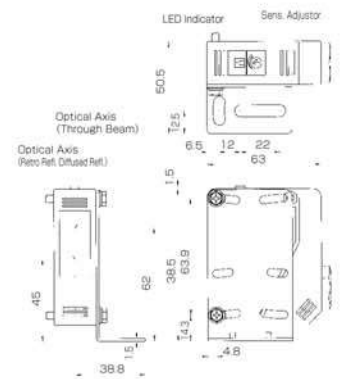
AC/DC type



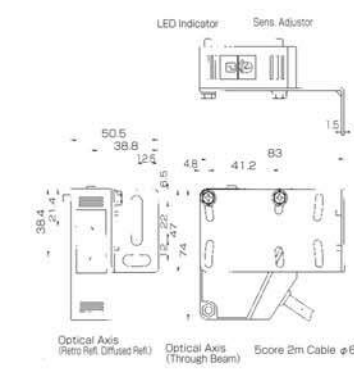
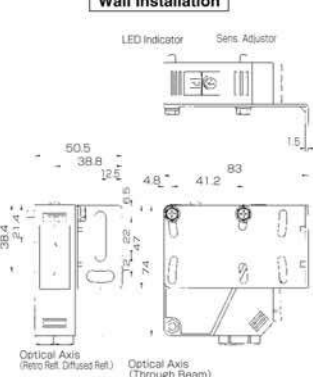
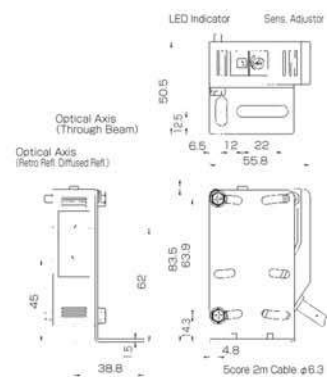
DIMENSIONS



Floor Installation



Wall Installation



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- For more information, questions and comments regarding products, please contact us below.

Manufactured and sold by :

OPTEX FA CO., LTD.



www.Optex-Ramco.com
800.280.6933



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DC Type

- V4T/V3T-4000□□
- V4R/V3R-1000□□
- V4D/V3D-130□□

INSTRUCTION MANUAL

- Confirm if the item meets your needs.
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SPECIFICATIONS

SPECIFICATIONS		DC type								
		Through Beam			Retro Reflection			Diffused Reflection		
Connection	Type	Terminal Chamber	2m Cable	M12 Connector	Terminal Chamber	2m Cable	M12 Connector	Terminal Chamber	2m Cable	M12 Connector
Item	Type	V4T-4000N,P	V3T-4000N,P	V3T-4000CN,CP	V4R-1000N,P	V3R-1000N,P	V3R-1000CN,CP	V4D-130N,P	V3D-130N,P	V3D-130CN,CP
Supply Voltage		DC10~30V ±10%								
Current Consumption		5mA max. (Transmitter 5VA,Receiver 4.5VA)				30mA max.				
Light Source		Red LED (680nm)								
Detecting Distance		40m			10m / Reflector V-61			1.3m		
Hysteresis		—						20% max.		
Sensitivity Adjustment		One turn volume								
Response Time		0.5ms								
Indicator		Output Indicator (Orange LED)								
Operating Mode		Light ON/Dark ON selectable by Switch								
Control Output		NPN/PNP Open collector DC30V, 100mA max.								
Environmental Illuminance	Sun Light roadstreet Light				10,000lx 3,000lx					
Ambient Temperature		-25~55°C								
Ambient Humidity		35~85%RH								
Storage Temperature/Humidity		-40~70°C/35~95%RH								
Insulation Resistance		Min.20MΩ/DC500V								
Vibration Resistance		10~55Hz amplitude 1.5mm X,Y,Z each 2h								
Shock Resistance		500m/s² X,Y,Z each 3 times								
Protection Category		IEC144 IP66								

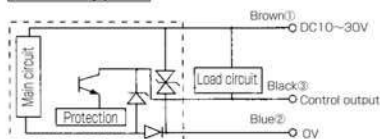
OTHER PRECAUTIONS

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 - Where corrosive gas is produced.
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- When a switching regulator is to be used with a power supply, be sure to ground the Frame Ground Terminal.
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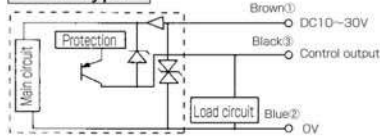
Must not use this item as safety equipment for the purpose of human body protection.

INPUT AND OUTPUT CIRCUIT DIAGRAMS

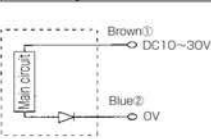
NPN type



PNP type

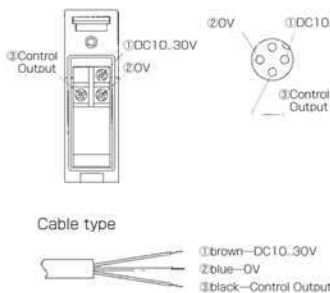


Through beam emitter



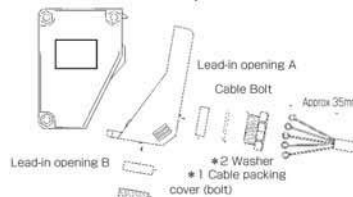
HOW TO USE

Terminal Chamber type M12 Connector type

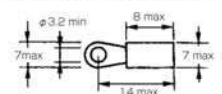


Connection

- 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 cover (bolt) 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 cover (bolt) according to cable diameter.
 - Large : φ8~φ10 Small : φ6~φ8
 - ※2 Washer is to be used exclusively to the cable bolt.

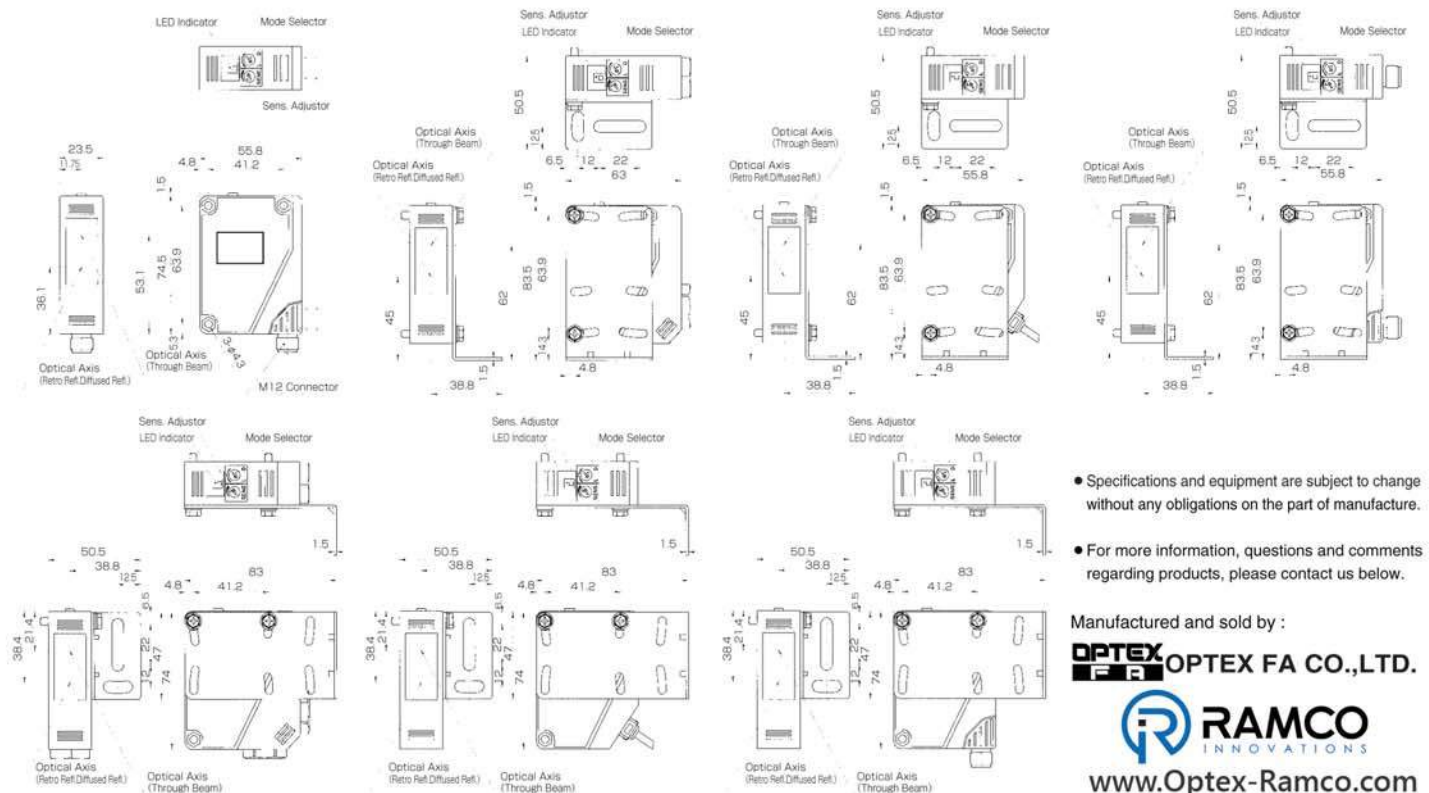
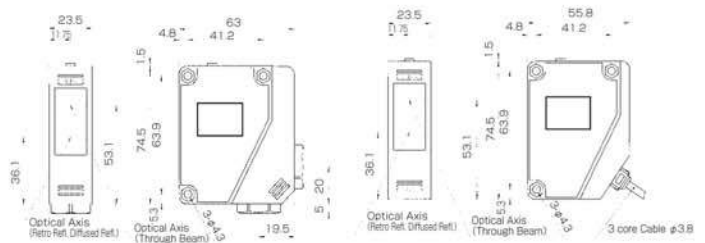


○ Dimensions of applicable solderless terminals



- 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.

DIMENSIONS (Unit mm)



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