



Photoelectric Sensor

## V3, V4 SERIES

DC Type

•V4T/V3T-7000

•V4R/V3R-1200

•V4D/V3D-200

### 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

		AC/DC type								
		Through Beam			Retro Reflection			Diffused Reflection		
Connection		Terminal Chamber	Cable	M12 Connector	Terminal Chamber	Cable	M12 Connector	Terminal Chamber	Cable	M12 Connector
Item	Type	V4T-7000N,P	V3T-7000N,P	V3T-7000CN,CP	V4R-1200N,P	V3R-1200N,P	V3R-1200CN,CP	V4D-200N,P	V3D-200N,P	V3D-200CN,CP
Supply Voltage		DC10~30V Including ripple (P-P) 10%								
Current Consumption		35mA max.								
Light Source		Red LED (635nm)								
Detecting Distance		70m			12m / Reflector V-61			2m		
Hysteresis		-						20% max		
Sensitivity Adjustment		One turn volume								
Response Time		0.5ms max.								
Indicator		Output indicator (orange LED) / Stable indicator (green LED)								
Operating Mode		Light ON/Dark ON selectable by Volume								
Control Output		NPN/PNP open collector DC30V, 100mA max. (Residual voltage 1.8V max.)								
Environmental Illuminance	Sun Light	10,000lx								
	Incandescent Light	3,000lx								
Ambient Temperature		-25~55℃								
Ambient Humidity		35~85%/RH								
Storage Temp./Humidity		-40~70℃/35~95% RH								
Insulation Resistance		Min.20MΩ / DC500V								
Vibration Resistance		10~55Hz amplitude1.5mm X, Y, Z each 2h								
Shock Resistance		500m/s²X, Y, Z each 3times								
Protection Category		IEC 144 IP67								

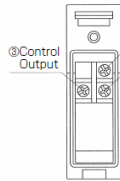
## OTHER PRECAUTIONS

- 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.

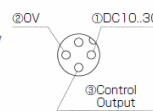
**Must not use this item as safety equipment for the purpose of human body protection.**

## HOW TO USE

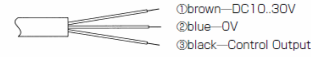
Terminal Chamber type



M12 Connector type

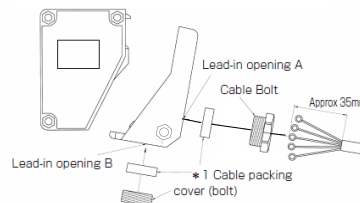


Cable type

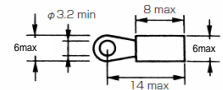


## Connection

- 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) 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 4 ~ 6 Small 6 ~ 8



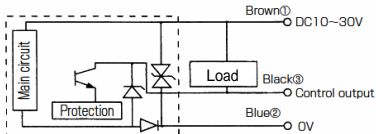
○ Dimensions of applicable solderless terminals



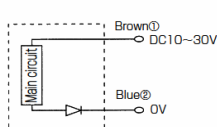
- Use solderless terminals with insulating tube.
- Use 4 to 8 mm diameter cables circular in section to maintain watertightness.
- Wrong wiring may be a cause of burned or damaged sensor. Pay due attention to wiring.
- Be careful not to install the cable near power lines, for otherwise the sensor may malfunction.
- Using the mounting accessories supplied, the sensor can be installed on either floor or wall.

## INPUT AND OUTPUT CIRCUIT DIAGRAMS

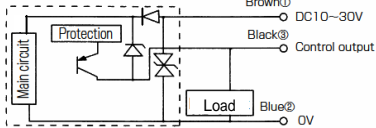
### NPN type



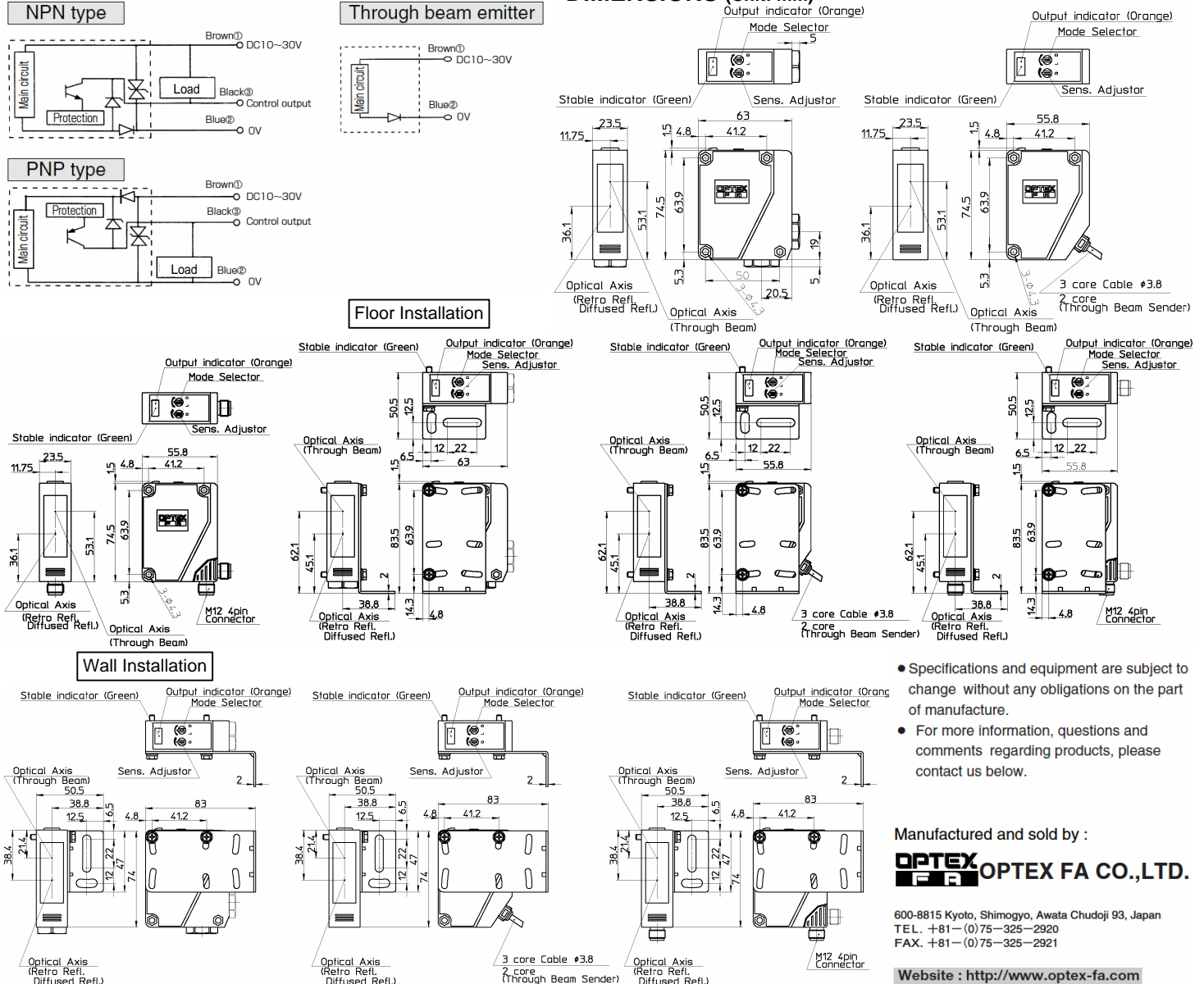
### Through beam emitter



### PNP type



## DIMENSIONS (Unit: mm)



- 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>