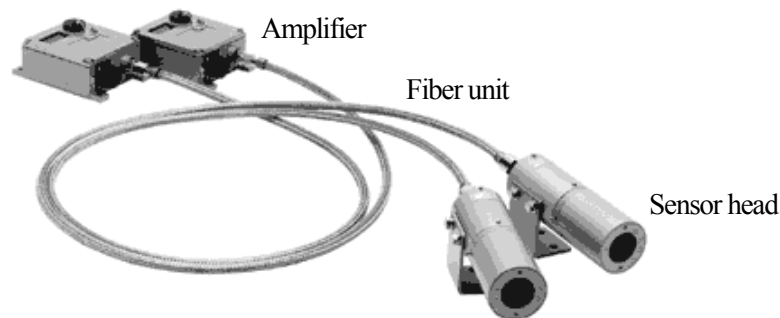


# NEW PRODUCTS

HOKUYO

OPTICAL FIBER TYPE CMD

PHV-10 series



**This is a new optical fiber type CMD using LED as light source. This equipment is composed of transmitter(Sensor head, heat-resistance fiber and amplifier) and receiver and detects steel material which passes through between them.**

\*This doesn't specify power source. It is capable of being used within the scope of 100 to 240VAC.

\*Water-cooling or air-purge isn't required for sensor head because non-air dust purge hood is applied.

\*8-point LED display unable to monitor the margin and emitting state.

\*Warning output is provided.

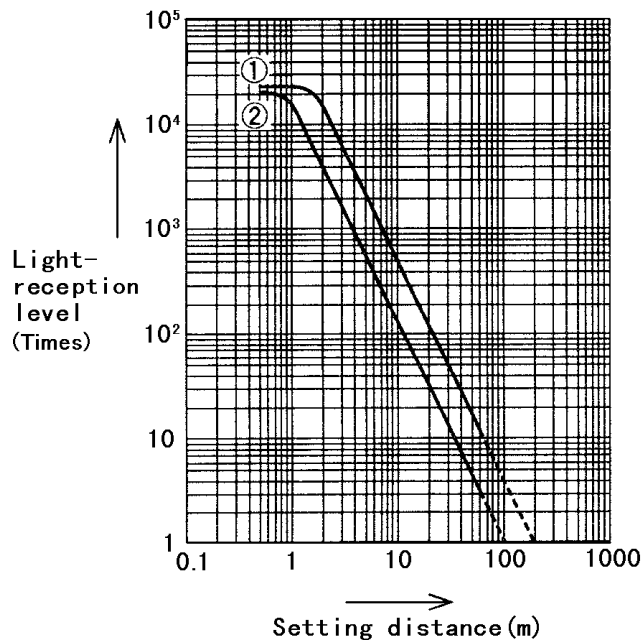
## Specifications

Model No.	Amplifier : PHV-10P(Projector), PHV-10A(Receiver) Sensor head : FHM-201, FHM-211-1 Fiber unit *1 : FHV-321(2m), FHV-351(5m), FHV-411(10m)
Detectable object	Steel material with 30mm in dia. or more(FHM-201) Steel material with 50mm in dia. or more(FHM-211-1)
Detectable distance	20m((Detection margin : 80 times or more at 20m *2)
Power source	100 to 240VAC(+10%, - 15%, 50/60Hz)
Power consumption	Projector : 4VA or less, Receiver : 5.5VA or less
Control output	
Warning output	1C relay contact(250VAC 3A, 30VDC 5A, COS $\phi$ =1),
Light-emission amount	Photo-coupler(120V or less, 100mA)
Lowering output	
Analog voltage output	DC voltage output in proportion to light-reception amount(Saturated value 10V or more but do not use it except for adjustment)
Response time	Contact output : 10msec or less, Contactless output : 3msec or less
Operation mode	Changeover of DARK-ON/LIGHT-ON
Connection	Connector type(Cable 2m)
Fiber unit characteristics	Allowable bending radius : 100mm, Max. pressure : 784MPa, Tension strength : 490N
Ambient illuminance	Incandescent lamp : 10,000lux
Ambient temperature	Amplifier : -10 to +55 degrees C, Sensor head/Fiber unit : -10 to +200 degrees C
Ambient humidity	45 to 85%RH(Not frozen)
Insulation resistance	20M $\Omega$ or more(Between power/output contact and case by 1,000V megger)
Withstand voltage	1,500VAC/min. (Between power/output contact and case)
Vibration resistance	10 to 55Hz Double amplitude 1.5mm Each 2 hour in X, Y and Z directions
Impact resistance	490m/s <sup>2</sup> Each 3 time in X, Y and Z directions
Protective structure	Amplifier : IP64(IEC standard) Sensor head : IP66(IEC standard) Fiber unit : Corrugated tube with blade(SUS)
Case	Amplifier : Aluminum die-casting, Sensor head : Aluminum
Weight	Amplifier : Approx. 950g Sensor head : FHM-201 approx. 1.2kg, FHM-211-1 approx. 1.5kg Fiber unit : FHV-321 approx. 1.0kg, FHV-351 approx. 1.8kg, FHV-411 approx. 2.8kg

\*1 3m, 15m and 20m type are also available.

\*2 In case of using FHV-321 and FHM-211-1

## Characteristics data



Fiber length : 5m(Both projector and receiver)

Sensor head

- ① FHM-211-1
- ② FHM-201

## External dimension

\*Amplifier unit(Common for projector and receiver)

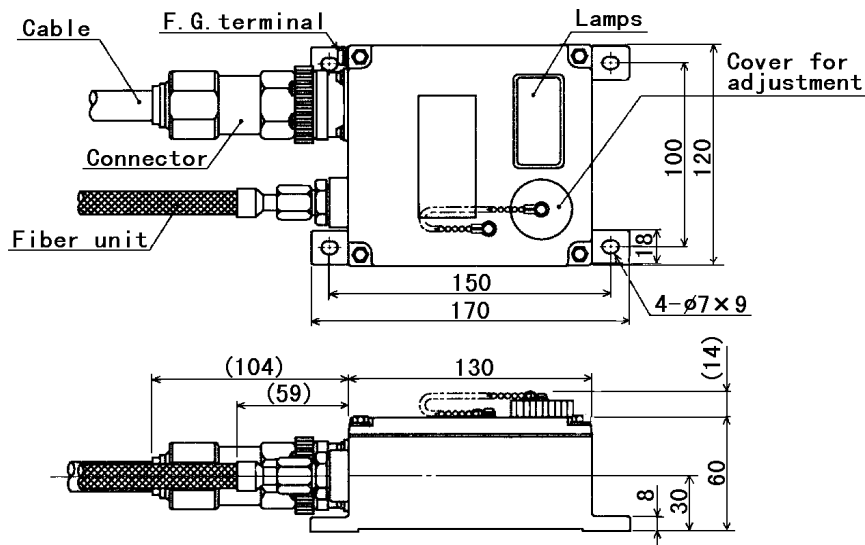


PHOTO SENSOR, LASER SENSOR, MICROWAVE SENSOR, COUNTER, AUTOMATIC DOOR



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