

The photo sensor is composed of an optical head and amplifier connected with a fiber optic cable.

This allows installation of the detecting head that contains no electronic components at a high-temperature location and of the amplifier containing electronic components at a remote location.

## Features

- Wide power supply range  
Wide range of power voltage 100-240 VAC.
- Light emission monitor and 3-point level indicator  
The transmitter is provided with light emission monitor circuit, which outputs alarm signal when light emission stops due to failure, etc. The receiver has 3 LEDs for checking the received light intensity level, offering easy checking of stability and light axis alignment

## Type/Price

Type	Model	Overview	
Amplifier	<b>FT-L101</b>	Transmitter	
	<b>FT-R101</b>	Receiver	
Fiber	<b>GT205AD</b>	Fiber length	0.5m
	<b>GT21AD</b>		1m
	<b>GT22AD</b>		2m
	<b>GT23AD</b>		3m
	<b>GT25AD</b>		5m
	<b>GT27AD</b>		7m
	<b>GT210AD</b>		10m
Optical head	<b>OHC</b>	Heat resistance 200°C, IP 67	
Lens unit	<b>FA51</b>	Square	
	<b>FA52</b>	Round	
Adapter	<b>FT101-AD2</b>	Adapter for OHA	

## Adapter

- An adapter is required to use an OHA optical head.  
Adapter for OHA  
Model FT101-AD2

### Simplified combination

Detecting distance: 1.5-2.7 m (depending on fiber)

Order example

Product name		Model	Quantity
Sensor main unit	Transmitter	<b>FT-L101</b>	1
	Receiver	<b>FT-R101</b>	1
Lens unit		(Respective model)	2
Fiber		(Respective model)	2

### Standard combination

Detecting distance: 12-22 m (depending on fiber)

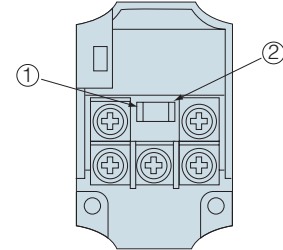
Order example

Product name		Model	Quantity
Sensor main unit	Transmitter	<b>FT-L101</b>	1
	Receiver	<b>FT-R101</b>	1
Optical head		<b>OHC</b>	2
Fiber		(Respective model)	2

## Rating/Performance/Specification/Environmental Specification

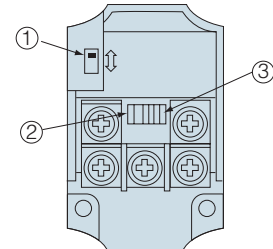
Output specification																																	
Transmitter model	<b>FT-L101</b>																																
Light source	Infrared LED																																
Light emission monitor output	Relay contact output 1C																																
Operation	Power ON OFF																																
	Monitor Normal Abnormal																																
	Output ON OFF																																
Rating	250V AC (Resistance load)																																
Receiver model	<b>FT-R101</b>																																
Output type	Relay contact output 1C																																
Rating	250V AC (Resistance load)																																
Operation mode	Light-ON / Dark-ON (Switching)																																
Response time	20ms max.																																
General specification																																	
Detecting distance	<table border="1"> <thead> <tr> <th>Fiber</th> <th>Only Fiber</th> <th>on FA51/52</th> <th>on OHC</th> </tr> </thead> <tbody> <tr> <td>GT205AD</td> <td>55cm</td> <td>2.7m</td> <td>22m</td> </tr> <tr> <td>GT21AD</td> <td>55cm</td> <td>2.7m</td> <td>22m</td> </tr> <tr> <td>GT22AD</td> <td>50cm</td> <td>2.5m</td> <td>20m</td> </tr> <tr> <td>GT23AD</td> <td>45cm</td> <td>2.2m</td> <td>18m</td> </tr> <tr> <td>GT25AD</td> <td>40cm</td> <td>2.0m</td> <td>16m</td> </tr> <tr> <td>GT27AD</td> <td>35cm</td> <td>1.8m</td> <td>14m</td> </tr> <tr> <td>GT210AD</td> <td>30cm</td> <td>1.5m</td> <td>12m</td> </tr> </tbody> </table>	Fiber	Only Fiber	on FA51/52	on OHC	GT205AD	55cm	2.7m	22m	GT21AD	55cm	2.7m	22m	GT22AD	50cm	2.5m	20m	GT23AD	45cm	2.2m	18m	GT25AD	40cm	2.0m	16m	GT27AD	35cm	1.8m	14m	GT210AD	30cm	1.5m	12m
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Fiber-optic unit allowable bending radius	50mm																																
Power Supply	100-240 VAC ±10%, 50/60 Hz																																
Power consumption	Transmitter: 2 W max.; receiver: 2 W max.																																
Indicator	Transmitter. Power indicator: Green LED, Monitor indicator: Red LED																																
	Receiver. Power indicator r: Green LED, Monitor indicator: Red LED																																
Connection	Terminal block (screw: M3.5, width: 8.1mm)																																
Ambient temperature	Optical head, Fiber: -25 to +200°C Amplifier: -25 +55°C (Non-freezing)																																
Storage temperature	-40 to +70°C (Non-condensing)																																
Ambient humidity	35 to 85%RH (Non-condensing)																																
Ambient light	10,000 lx (incandescent lamp)																																
Protective structure	IP66																																
Vibration	10-55 Hz / 1.5 mm amplitude / 2 hours each in 3 direction																																
Shock	500 m/s <sup>2</sup> / 3 times each in 3 directions																																
Dielectric withstanding	Input/Output - Case, Input - Output AC2000V for 1 minute																																
Insulation resistance	20MΩ max. (at 500VDC)																																
Case material	Zinc die-cast																																
Mass	Transmitter: 720g, Receiver.:720g																																

## Operation and Switch Setting Transmitter



- ①P.L: power indicator
- ②OP.L: light emission monitoring operation indicator  
Illuminated when transmitter is functioning normally.

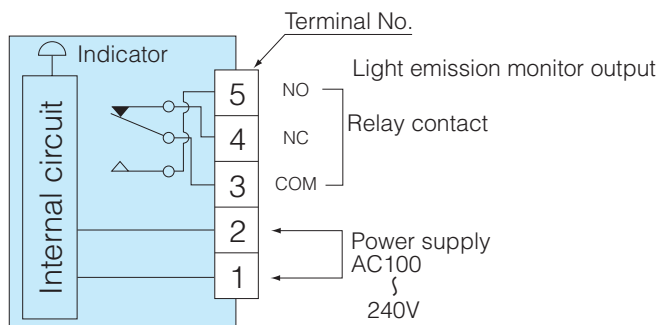
## Receiver



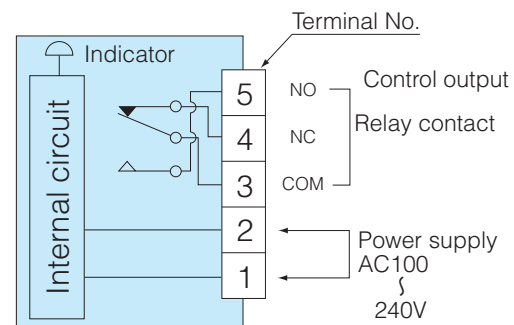
- ①Light-ON/Dark-ON selector switch  
Set according to the situation  
L.ON: signal output when light from transmitter is received.  
D.ON: signal output when light is blocked.
- ②Operation indicator  
Illuminated when output is activated.
- ③Level indicator  
A set of 3 LEDs indicates stability.  
LEVEL 1: illuminated when light intensity of about twice as much as operation level is detected.  
LEVEL 2: illuminated when light intensity of about four times as much as operation level is detected.  
LEVEL 3: illuminated when light intensity of about eight times as much as operation level is detected.

## Input/Output Circuit and Connection

### Transmitter



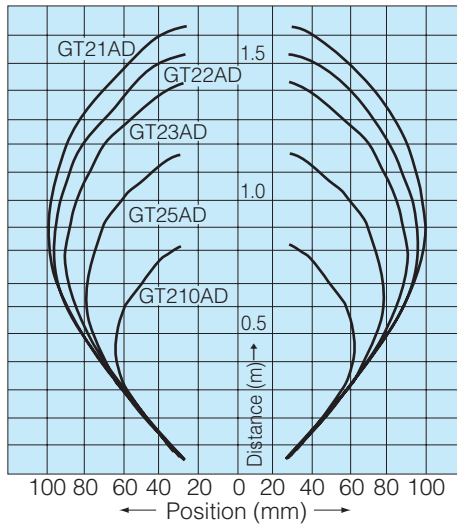
### Receiver



# FT101

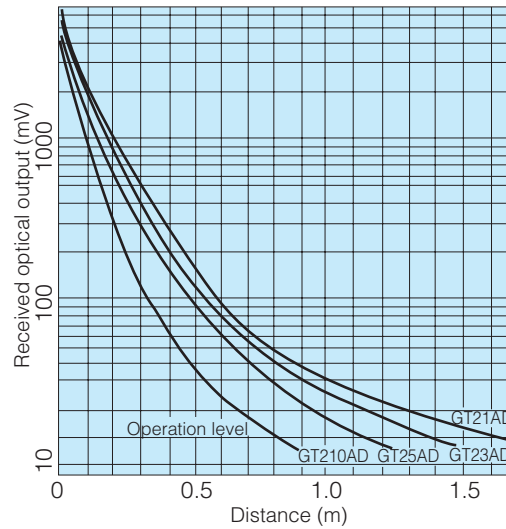
## Directional Characteristics (Typical example)

- Fiber only

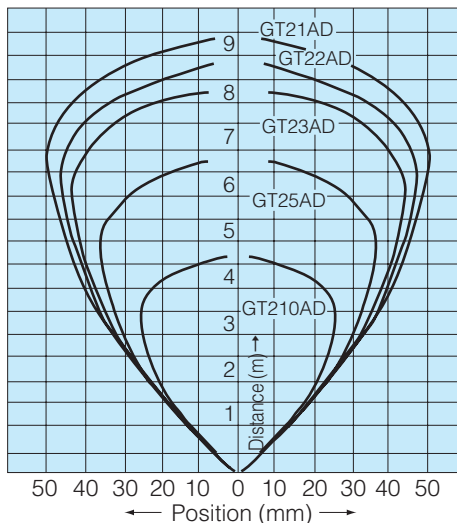


## Distance-Output Characteristics (Typical example)

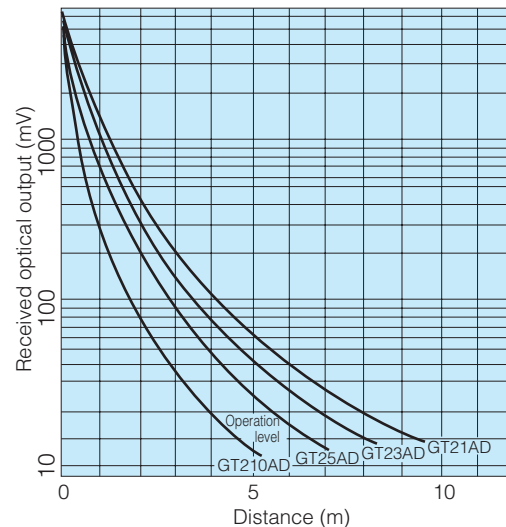
- Fiber only



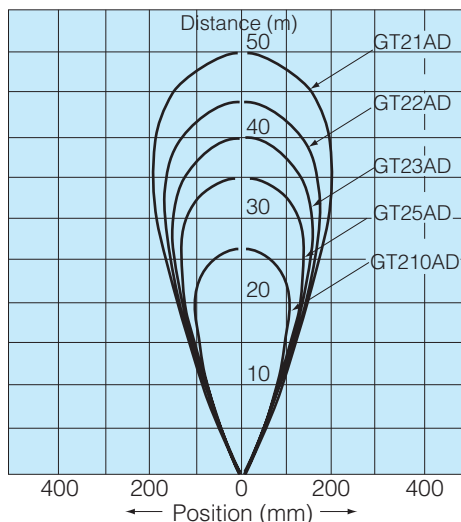
- With lens unit FA51/52 attached



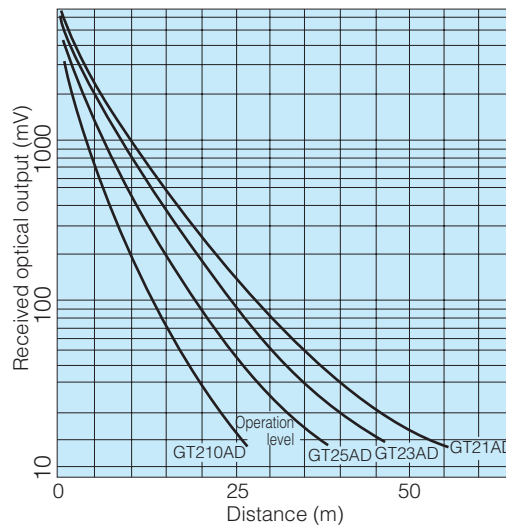
- With lens unit FA51/52 attached



- With optical head OHC attached



- With optical head OHC attached

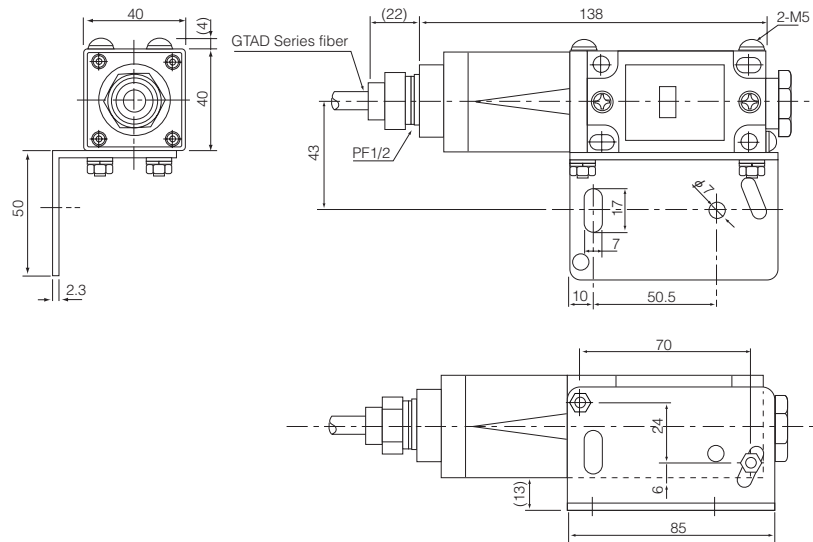


# FT101

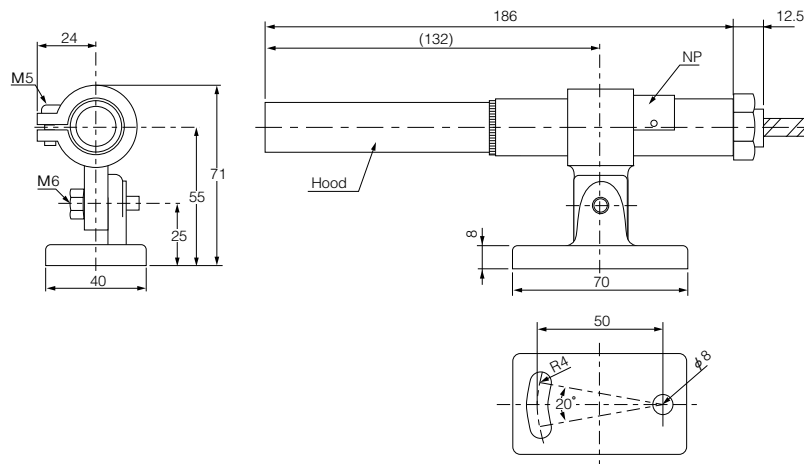
## Dimensions (in mm; for transmitter and receiver)

### Sensor main unit

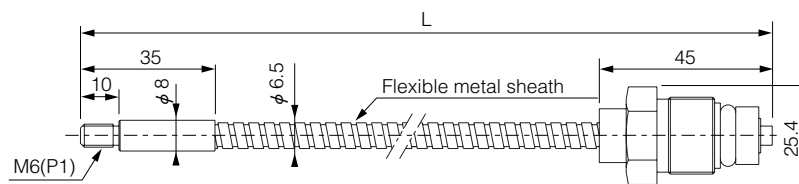
CAD



### Optical head



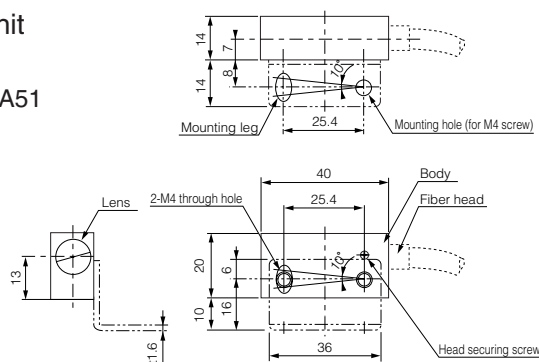
### Fiber



For fiber length (L), see Type/Price.

### Lens unit

#### Model FA51



#### Model FA52

