MEIJIDENKI

PHOELECTRIC SENSOR

PTZ Series

V1.0

User's Manual

Thank you for choosing MEIJIDENKI products. Please read the instructions carefully before using the products.

1. Used by people with certain electrical knowledge.
2. Before using this product, please read this manual carefully and use it correctly after fully understanding the product.
3. For your convenience, please take good care of this manual for easy reference.

SYMBOL

The following symbols are important information in this manual, please be sure to observe the following.

⚠	There is the risk of causing malfunction or fire, please do not exceed the rated voltage when using.
⚠	There is a risk of rupture, do not use AC power.
⚠	Danger of burns at high temperatures. .

SAFETY PRECAUTIONS

To ensure your safety, be sure to observe the following.

- Do not use in flammable, explosive gas environment.
- Do not use in water, oil, chemical droplets environment, and exposure to steam environment. Please do not disassemble, repair, rebuild this product.
- Do not use beyond the rated voltage and current range. Do not use beyond the rated environment.
- Please pay attention to the polarity of the working power, do not take the wrong line.
- Please connect the load correctly.
- Do not short-circuit the load.
- Please do not use the case damaged. When discarded, dispose of as industrial waste.
- Do not use in direct sunlight.
- Depending on the operating conditions (ambient temperature, supply voltage, others), the temperature of the sensor surface may increase. In operation and cleaning, please note that there is a danger of burns.

NOTICE FOR USE

- Do not use in the following places :
  Daylight direct place
  High humidity, easy to open places
  Place containing corrosive gases
  Vibration, shock directly to the product body of the place
- This product wire and power lines used in the same piping, will be disturbed, malfunction or even destroyed.
- The extension wire must use a wire with a cross-sectional area of 0.3 mm2 or more and a length of 100 m or less. When the Korean S-mark certification model is used as a certification product, please set it below 10m.
- For the force applied to the wire, please refer to: below 40N, 0.1N.m torque less, 20N or less, and 3Kg below the bending.
- When the power is turned on, the product can be detected within 200ms. So if the load and product connected to a different power supply, you must first turn on the product power.
- When the power is turned off, the output pulse may be generated, so please cut off the power supply of the load or load line.
- Please do not use thinner, gasoline, acetone, kerosene and other solvents to clean up.

PACKAGE CONTENTS

- Sensor 1 piece(Thru-beam:couple)
- User's manual 1 piece

SPECIFICATION

Type	PTZ Series			
Model No.	PTZ-D70N(P)	PTZ-X09N(P)	PTZ-TM20N(P)	PTZ-R400N(P)
Sensing type	Diffuse reflection	Limited reflecttion	Thru-beam	Retro-reflection
Sensing distance	100cm	1~14cm	2000cm	400cm
Switch type	Selectable L.on/D.on			
Output type	NPN/PNP Open-collector			
Response time	0.5ms			
Operating voltage	10~30V DC±10%			
Environmental Luminosity	Sunlight irradiation ≤ 10,000 Lux, incandescent irradiation ≤ 3,000 Lux			

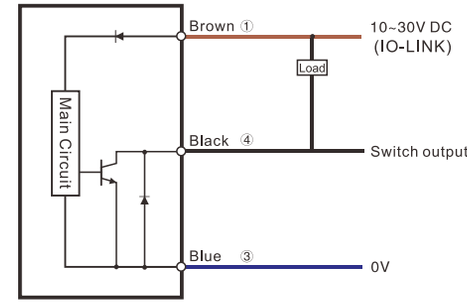
Type	PTZ-D70N(P)-C	PTZ-TM25N(P)-C	PTZ-R400N(P)-C
Sensing type	Diffuse reflection	Thru-beam	Retro-reflection
Sensing distance	0~1m	25m	0~4m
Switch type	Selectable L.on/D.on		
Output type	NPN/PNP Open-collector		
Response time	500μs max		
Function	IO-LINK		
Operating voltage	10~30V DC±10%		
Current consumption	20mA max	Emitter: 14mA max; Receiver: 20mA max	20mA max
Environmental Luminosity	Sunlight irradiation ≤ 50,000 Lux, incandescent irradiation ≤ 5,000 Lux		

Senstivity adjustment	Single turn rotational knob
Indicator	Output indicator: Orange; Status/work indicator: Green;
Ambient temperature	-25℃~+55℃ No freezing
Ambient humidity	35~85% RH No coagulating
Storage temperature	-40℃~+70℃ No freezing
Storage humidity	35~95% RH No coagulating
Degree of protection	IP67
Material	Housing: ABS contains optic fiber ; Lens: PMMA

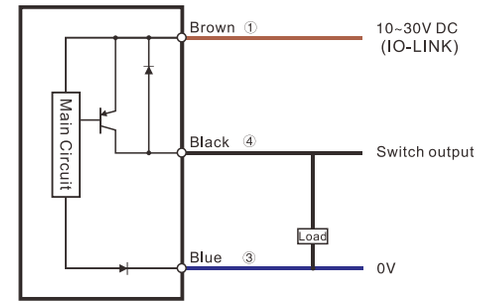
CIRCUIT DIAGRAM

PTZ Series

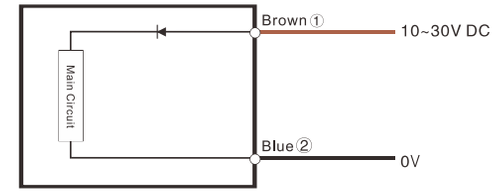
NPN



PNP

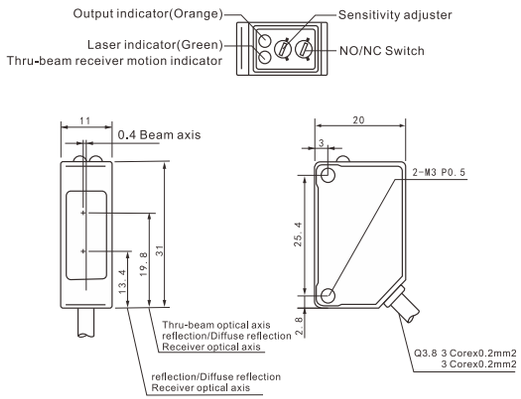


Emitter(PTZ-TM25N/P-C)

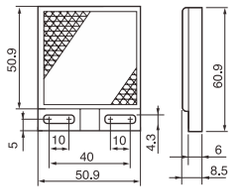


DIMENSION

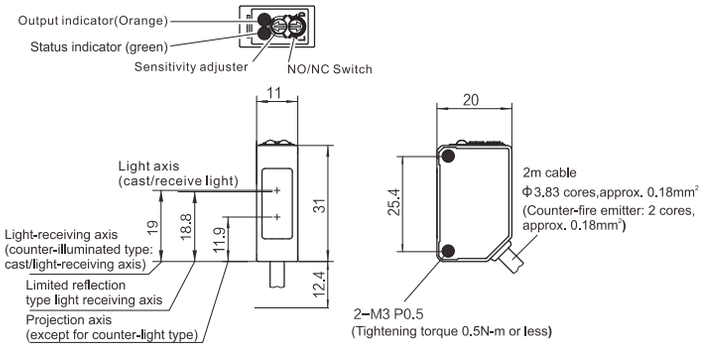
PTZ-D70/X09/TM20/R400



PTZ-R400 Reflectors TD-11



PTZ-D70/TM25/R400-C

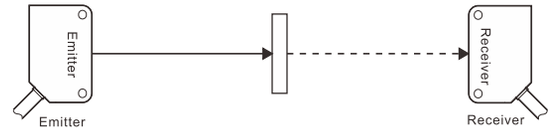


Adjust the potentiometer

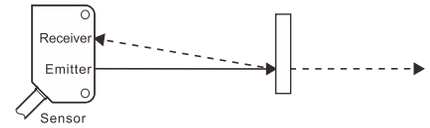
①	MAX A MIN	①Set the detectable object in the detection position and adjust the potentiometer from the minimum value to the maximum value until the output indicator light(orange) light up. That's position A.
②	MAX B MIN	②Remove the detectable object and adjust the potentiometer from the minimum value to the maximum value. The output indicator light (orange) goes off.That's position B.
③	B MAX C A MIN	③The intermediate point C between A and B is the optimal sensitivity position. Positions A and B can be reversed by type and detection.

INSTALLATION METHOD

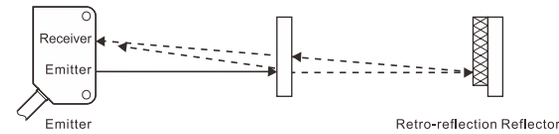
Thru-beam



Diffuse reflection



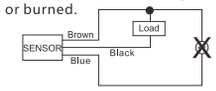
Retro-reflection



DISTRIBUTION CONSIDERATIONS

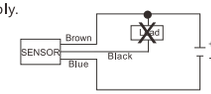
Voltage

Do not exceed the voltage range above the use of input over the voltage range or DC power input AC power supply will be broken or burned.



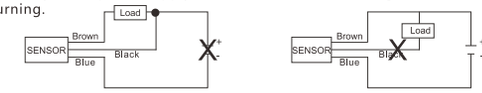
Load short circuit

Do not short-circuit the load will be broken or burned.
The load short-circuit hold function is the function that is used within the rated voltage under the correct polarity of the power supply.



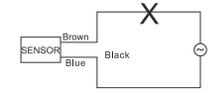
Miswiring

The polarity of the power supply, etc. Do not match the wrong line, fear of cracking or burning.



No load connection

No load power supply directly into the internal prime fear will be broken or burned.
So please add the load and then wiring.



REGULAR MAINTENANCE CHECK

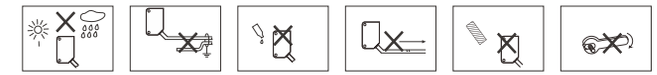
During the use of regular inspection, maintenance is necessary, to ensure the normal operation of the machine. Periodically check items as follows:

- When the object is detected, whether the switch is in the distance, whether there is a loose phenomenon, whether there is a tilt correction, whether the inspection has changed.
- Wiring or other connection lines, whether the contact is normal, or no break.
- Does the sensor face dust?
- Check operating temperature, and the surrounding environment is suitable.
- Installation space, whether there has difference, such as vibration, electrical leakage ... ...

Other :

When the power is applied, the sensor needs 100ms lead time, in order to achieve stable output of the sensor, so during this time, do not operate the sensor. Avoid being applied to the outside (except for shelter).

- Avoid direct contact with organic solvents.
- To prevent the detection surface by the impact of objects, because the sensing surface is very fragile.
- When the device or motion switching power supply can not be too pull, move.



PRECAUTIONS

- Make sure that the power is turned off when connection.
- Make sure that the supply voltage changes within the rated range.
- If the power supply is supplied by a commercial switch regulator, make sure that the power supply ground terminal (F.G) is grounded.
- Be sure to ground the device ground terminal (F.G).
- Do not use when power on within 0.5s.
- Do not run the line with a high voltage line or a power cord or in a wire tube, which may cause malfunction due to induction.
- Avoid dust and water vapor.
- Do not expose the sensor to direct contact with water, oil, grease or organic solvents, such as thinner.

WARRANTY

warranty period

- The product warranty period is one year, from the date of delivery of the product to the date of purchase.

Warranty range

(1) MEIJIDENKI will repair the product free of charge if there is a malfunction caused by MEIJIDENKI Company in the above warranty period.But the following is not covered by the warranty.

- Not in accordance with the operating instructions, the user manual or the purchaser and the MEIJIDENKI company specifically reached the technical requirements of the conditions specified in the environment under the incorrect operation, or improper use of appropriate failure.
- Failure is not due to product defects, but the purchaser equipment or the purchaser software design caused.
- Malfunctions caused by modifications or repairs by non- MEIJIDENKI company personnel.
- In accordance with the operating instructions or user manual correct repair or replacement of wearing parts and other provisions can be completely avoided failure.
- In the product from the MEIJIDENKI company after delivery, due to unpredictable changes in science and technology and other factors caused by the failure.
- Due to fire, earthquake and floods and other natural disasters, or abnormal voltage and other external factors caused by the fault MEIJIDENKI company is not responsible for the warranty.

(2) The warranty is limited to the conditions specified in Article (1), and MEIJIDENKI shall not be liable for any indirect loss (damage to equipment, loss of opportunity, loss of profits, etc.) or other loss caused by its equipment.

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