

Thank you very much for purchasing Panasonic products. Read this Instruction Manual carefully and thoroughly for the correct and optimum use of this product. Kindly keep this manual in a convenient place for quick reference.

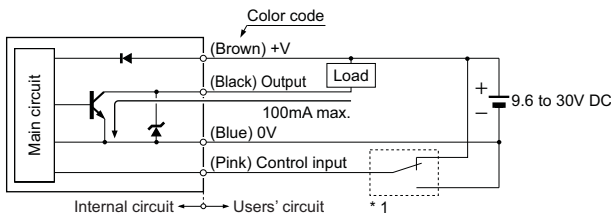
WARNING

- Never use this product as a sensing device for personnel protection.
- In case of using sensing devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

1 SPECIFICATIONS

	Triple beam adjustable range & fixed-focus reflective		
	40mm type	200mm type	700mm type
Model No.	MQ-W3A-DC12-24V MQ-W3AR-DC12-24V MQ-WN3A-DC12-24V	MQ-W20A-DC12-24V MQ-W20AR-DC12-24V MQ-WN20A-DC12-24V	MQ-W70A-DC12-24V MQ-WN70A-DC12-24V
Part number	AN50510 AN50510R AN50511	AN50530 AN50530R AN50531	AN50550 AN50551
Output operation	Light-ON or Dark-ON, selectable with control input		
Operation indicator	Red LED (lights up when receiving light)		

2 I/O CIRCUIT DIAGRAMS



* 1: Selection of output operation by control input

Wiring	Output operation
Connected to +V	Light-ON
Connected to 0V	Dark-ON

3 DISTANCE ADJUSTMENT

1. Point the detection surface of the photoelectric sensor in the detecting direction and temporarily fasten the unit.
2. With no detectable object in position, slowly turn the distance adjustment control from the maximum position (FAR) counterclockwise to locate the point where the operation indicator LED (OPE.) goes out. Even if the location of that point is at the FAR position, that will be the set point.
3. Place a detectable object in the detection position, slowly turn the control from the minimum position (NEAR) clockwise to locate the point where is extinguished. Even if the location of that point is at the NEAR position, that will be the set point.
4. Set the control at a position midway between the points found in 2 and 3 above.
5. Firmly fasten the photoelectric sensor. When fastening, securely fasten the unit so that the position will not shift due to vibration or shock.

Notes: 1) If the position set between 2 and 3 above is less than 2 graduations, change the position of the detection surface and repeat the procedure of 1 to 4, or try to determine the source of external factors such as variation in ambient temperature, variation in detectable object position, etc., that is creating the problem.
2) The difference in detection distance due to the surface reflection rate of the detectable object is virtually non-existent, but if the actual object is one where the reflectivity is extremely low (object which have a frosted finish produced by black rubber), or where the reflectivity is extremely high (mirror, glass, or truly reflecting objects), confirmation should be done with the actual object.

4 CAUTIONS

- This product has been developed / produced for industrial use only.
- Use within the range of ambient temperature of -25 to +55°C.
- Use within the range of 9.6 to 30V DC (ripple P-P included) for operating voltage.
- Use with an ambient light level at the light receiving surface of less than 10,000lx for incandescent lamp and less than 30,000lx for sunlight.
- Because a surge voltage exceeding 500V [$\pm(1.2 \times 50) \mu s$. of single polarity full wave voltage] may cause damage to the internal circuit, a surge absorbing element should be used.
- Avoid using in a location where there is excessive steam, dust, or corrosive gas.
- The sensor is of immersion proof type, but this does not mean that it can be used in water or where there is direct impingement of rain for detecting objects.
- Because the internal circuit can be damaged due to incorrect connections, before power is applied, the wiring should be thoroughly checked.
- Care should be taken to allow for the voltage drop (max. 1.2V) from the operating voltage of the internal circuit as applied to the load relay.
- If a load greater than 100mA is connected, the output section will be damaged, so sufficient care should be taken.
- Do not run the wires together with high-voltage lines or power lines or put them in the same raceway. This can cause malfunction due to induction.
- Extension up to total 100m is possible with 0.3mm², or more, cable.
- Do not use during the initial transient time (50ms) after the power supply is switched on.
- The front surface of the lens is polycarbonate. This material is resistant to water, dilute acids, and alkalis, aliphatic hydrocarbons, oils, etc., but it is not resistant to ketones, esters, halogenated hydrocarbons, or aromatic hydrocarbons.
- The emitting elements of **MQ-W3AR-DC12-24V** and **MQ-W20AR-DC12-24V** are red LEDs. All other models are infrared LEDs.