Panasonic **INSTRUCTION MANUAL**

Triple Beam Adjustable Range & Fixed-focus Reflective

MQ-W□-EM

ME-MQWEM No.0022-51V

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.

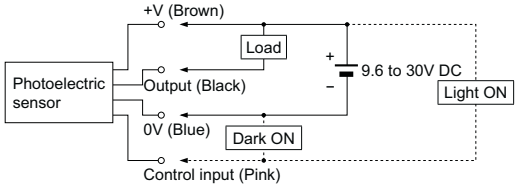
1 SPECIFICATIONS

	Area reflection type 30mm		Area reflection type 200mm		Area reflection type 700mm	
	NPN output	PNP output	NPN output	PNP output	NPN output	PNP output
Model No.	**MQ-W3A-DC12-24VEM** **MQ-W3AR-DC12-24VEM**	**MQ-W3C-DC12-24VEM** **MQ-W3CR-DC12-24VEM**	**MQ-W20A-DC12-24VEM** **MQ-W20AR-DC12-24VEM**	**MQ-W20C-DC12-24VEM** **MQ-W20CR-DC12-24VEM**	**MQ-W70A-DC12-24VEM**	**MQ-W70C-DC12-24VEM**
Output operation	Light-ON or Dark-ON, selectable with control input					
Operation indicator	Red LED (lights up when receiving light)					

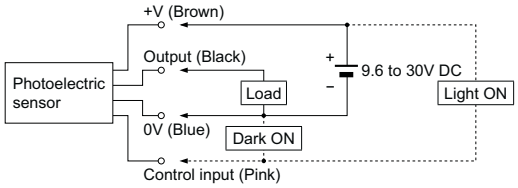
2 I/O CIRCUIT DIAGRAMS

- Make connection to "+" side with control input wire for Light ON.
- Make connection to "–" side with control input wire for Dark ON.

NPN output



PNP output



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 (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 reflectively 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

⚠ WARNING

On this device the internal circuit and enclosure is connected directly. Use a power source entirely insulated from the primary circuit to prevent operator from an electric shock hazard.
When insulation is required between the enclosure and mounting bracket, use a dedicated insulation fitting separately available as optional.

- 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.
- Because a surge voltage exceeding 500V [±(1.2 × 50) µs 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.
- If the wiring to the photoelectric sensor is run parallel to high voltage or power lines, due to inductive noise, misoperation or damage can occur. Wiring should be run in separate channels.
- Use cable of 0.3mm^2 or greater for extensions, and the length should be less than 100m.
- Do not use the sensor output signal for 50ms immediately after the power is supplied to the sensor.
- 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.

5 INTENDED PRODUCTS FOR CE MARKING

- The models listed under "**1 SPECIFICATIONS**" come with CE Marking.
  As for all other models, please contact our office.

CE

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