

# Panasonic® QL LIMIT SWITCH MOUNTING INSTRUCTIONS

Before using this limit switch, be sure to read the instructions thoroughly so that your use of the switch will be correct.

## Safety Precautions

### WARNING

If critical situations that could lead to user's death or serious injury is assumed by mishandling of the product.

- Always take precautions to ensure the overall safety of your system, so that the whole system remains safe in the event of failure of this product or other external factor.
- Do not use this product in areas with inflammable gas. It could lead to an explosion.

### CAUTION

If critical situations that could lead to user's injury or only property damage is assumed by mishandling of the product.

- To prevent abnormal exothermic heat or smoke generation, use this product at the values less than the maximum of the characteristics and performance that are assured in these specifications.
- Do not dismantle or remodel the product. It could lead to abnormal exothermic heat or smoke generation.
- Do not touch the terminal while turning on electricity. It could lead to an electric shock.
- Use the external devices to function the emergency stop and interlock circuit.
- Connect the wires or connectors securely. The loose connection might cause abnormal exothermic heat or smoke generation.

## Mounting of Arm types for adjusting O.T. position

Mount the switch so that the projection of indicator may point towards the convex portion of the body (the shaded portion in the (Fig.1)) when the switch operates. In this way, the proper operating condition will be maintained with insufficiency and excess of O.T.(overtravel) eliminated.

## Mounting of Plunger types

This QL limit switch is manufactured to a very high level of precision so that the variation in operating position from the datum plane is extremely small. When mounting the switch, adjust the switch position to its exact operation point and tighten the M4 bolts. (Fig.2)

## Connections

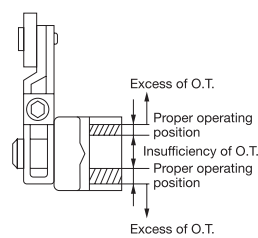
A special connection socket is provided for the QL limit switch which makes possible assembling the socket to the switch in 4 different directions.

The procedure for making the connections is given below.

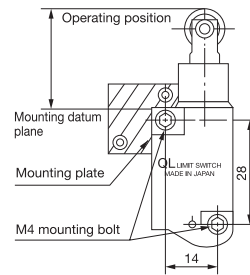
- (1) Loosen the socket fastening screw sufficiently to permit pulling the socket case away from the terminal body, grasping the socket case on the knurled surfaces.
- (2) Holding the terminal body, pull the socket fastening screw outward until it engages the set of threads in the hole in the terminal body. Unscrew the fastening screw completely so that the terminal body can be removed from the case.
- (3) Remove the hexagonal nut from the socket case by turning it counterclockwise, and remove the rubber bushing and metal washer.
- (4) Decide which direction the cord will extend from the switch and strip the covering from the wires. (Refer to the right.)  
Suitable cord: The conductor cross section should be 0.75mm<sup>2</sup> to 1.0mm<sup>2</sup>, and the sheath O.D. should be 6.6mm to 7.2mm.

- (5) Slip the cord through the hexagonal nut, rubber bushing, and washer in that order, then insert it into the cord opening of the terminal case (in the direction shown at A) and bring it out through the terminal end of the case (B direction) (Fig.3)
- (6) In the terminal body, there are 3 recessed pockets into which the lead wires can enter and in which the terminals are located. The lead wire is inserted into the V-shaped opening at the bottom of the terminal ear, and with a pair of pliers, the terminal is squeezed down on the wire. (Fig.4 and 5)
- (7) With the terminals held in the terminal body, gradually pull the cord back through the terminal case so that the terminal body is drawn into the case. In pulling the cord through the case, be sure the fastening screw does not become blocked by the cord, or that the cord does not block the hole for the fastening screw.
- (8) Insert the screw in the hole in the case and screw through the threads in the case so that the thread end of the screw projects out of the terminal body.

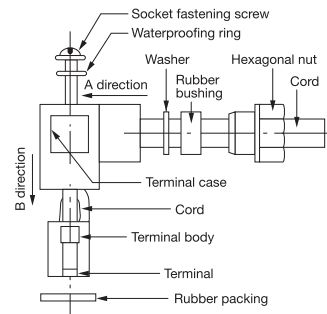
Adjusting O.T. position (Fig. 1)



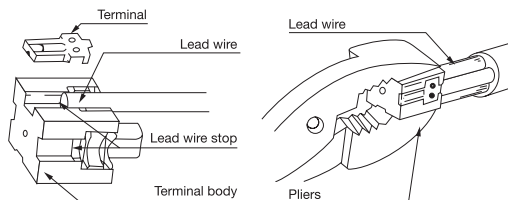
Mounting drawing (Fig. 2)



Disassembled view (Fig. 3)

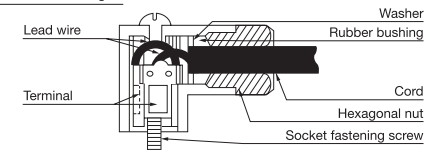


Terminal body connection view (Fig. 4, 5)



- (9) Insert the washer and rubber bushing into the hole by sliding them over the cord, then thread the hexagonal nut onto the case and tighten it to lock the cord in place. (Fig. 6)
- (10) Be sure the rubber packing is still on the switch terminal section. Insert the switch terminals into the socket blades, push the socket fully up to the switch, then fasten the socket by threading the fastening screw fully into the switch and tighten it.

Socket connection view (Fig. 6)



## Cord extension direction and sheath stripping

Decide on the direction in which the cord will extend out of the socket, as indicated in I to IV below. This should be done in combination with the stripping of the sheath.

	(I)	(II)	(III)	(IV)
Completed unit				
Socket direction				
Sheath stripping				

※Strip the sheath to dimension A as a standard

## Connection by means of pre-assembled cord and socket.

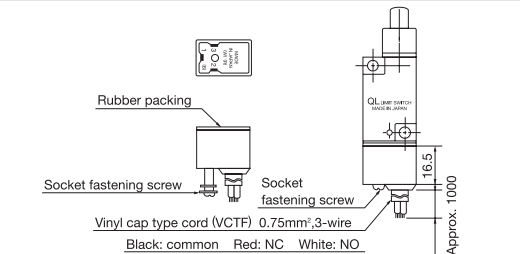
(See figure at right)

The switch main unit is available separate from the socket for use with a pre-assembled cord and socket (AZ 3807). In such an arrangement, the connection is made simply by plugging the socket into the switch and tightening the fastening screw. (However, the cord direction cannot be changed.) The pre-assembled cord and socket is sold separately.

## Cautions in use

- (1) Since this limit switch is not waterproof, it should not be used immersed in oil or water, nor should it be used where normally water or oil can fall on it.
- (2) The cord should not be subject to pulling.
- (3) This switch should not be used where organic solvents, strong acids or alkalies, or steam can impinge or fall directly on the switch, nor in a location where inflammable or corrosive gas atmospheres exist.
- (4) Do not use the switch in a silicon atmosphere.

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- ◆ Importer : Panasonic Electric Works Europe AG Robert-Koch-Strasse 100, 85521 Ottobrunn, Germany



- (5) Do not use outdoor (Where it will be exposed to direct sunlight or rain.)
- (6) Do not use where there is ozone atmosphere.
- (7) Do not use where there is excessive dust to bad influence for actuators move.
- (8) In order to achieve maximum reliability under the application condition, check the application conditions to the maximum extent possible before installing the switch.

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