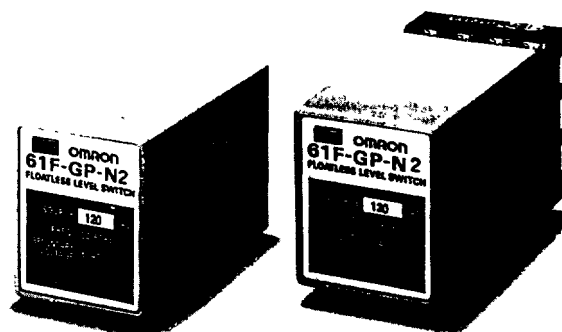


Conductive Level Controller

61F-GP-N2

Automatic Water Supply and Drainage Control

- Ideal for level control of any conductive liquid.
- Compact plug-in controller for single- or two-point control of conductive liquid level.
- 24/110/120/220/230/240 VAC operation possible.
- Easy installation on DIN rail.
- Low voltage (AC) electrodes.
- Full surge protection.



Ordering Information

Compact plug-in conductive level controller 61F-GP-N2

When placing your order, be sure to specify the desired operating voltage.

Example: 61F-GP-N2 120 VAC

Rated supply voltage

Accessories (Order Separately)

Selection Guide for Electrode Holders and Separators

Electrode Holders

Applications		For city water and other general-use electrodes. Easy-to-replace separate versions facilitate maintenance of electrodes.	When mounting space is limited. Special 3-pole holder of small size and light weight. Ideal for soft drink vendors, etc., where only limited space is available.	For low specific liquids. Used for sewage, sea water, etc., having a low specific resistance. In sewage use, electrode holders must be installed 10 to 20 cm apart from one another. For acids, alkalis and sea water, electrode holders may be as much as 1 meter apart to operate properly.	When resistance to high pressure is required. Ideal for use in tanks where temperature or pressure inside the tank is high, e.g 250°C
Mounting style		Flange	Screw	Flange	Screw
Insulator material		Phenol resin	Phenol resin	Ceramics	Teflon
Max. temperature			70°C (without water drips or vapour on the surface of the electrode holder)	150°C (without water drips or vapour on the surface of the electrode holder)	250°C (without water drips or vapour on the surface of the electrode holder)
No. of electrodes	1	—	—	BF-1	BS-1
	3	PS-3S	PS-31	—	—

Electrode Separators

No. of electrodes	Model
1	F03-14-1P
3	F03-14-3P

Socket

8 PIN	PF083A-3
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Connections

Automatic Water Supply and Drainage Control

1. Water supply

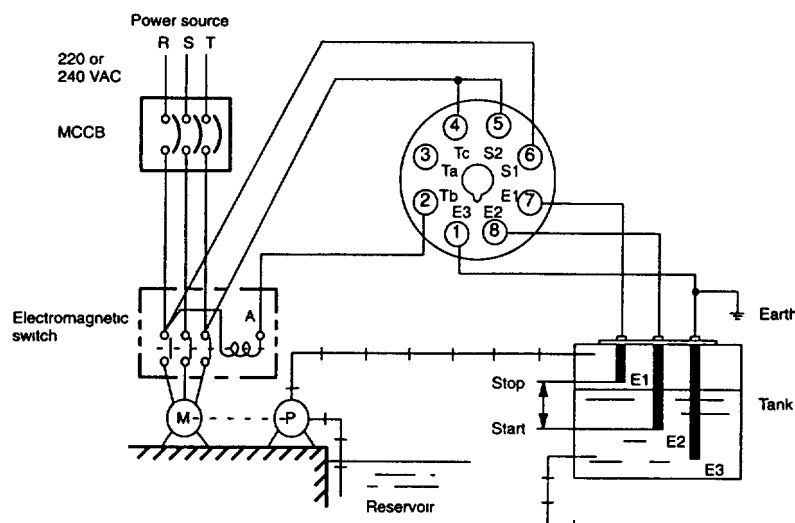
- Connect electromagnetic switch coil terminal A to Tb.
- The pump stops when the water level reaches E1 and starts when the water level drops below E2.

2. Drainage

- Connect the electromagnetic switch coil terminal A to Ta.
- The pump starts when the water level reaches E1 and stops when the water level drops below E2.

Note: 1. The diagram shows the connections for water supply. When draining, change the connection Tb to Ta.

2. The earth terminal must be grounded.



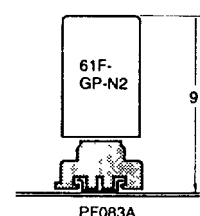
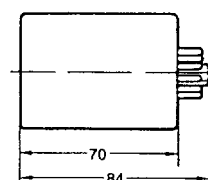
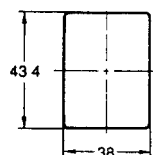
Operation

The conductive type level controller consists of a plug-in controller connected to a set of stainless steel probes. These are cut to length and inserted vertically into the liquid. A low voltage is applied between these probes and the earth probe (or tank, if it is electrically conductive). The water provides a current between the earth probe and the high-level probe. The output relay in the controller is energized when the water level reaches the high-level probe and de-energized when the water level falls below it.

For two-point control a low-level probe is used as well. In this case the relay does not de-energize until the water level falls below the low-level probe. Using the low-level probe allows a wide differential between switching a pump on and off, and can avoid excessive pump operation during tank emptying or filling. If this differential is not required, the low-level probe need not be connected.

Dimensions

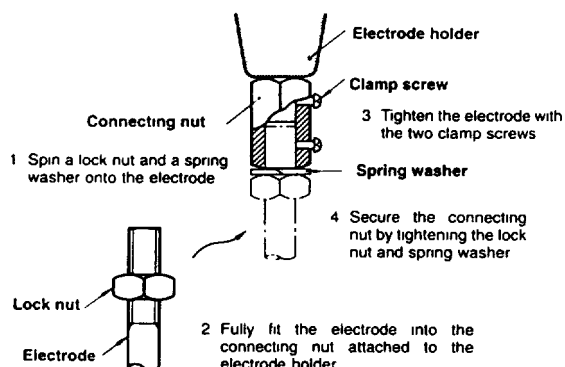
Note: All units are in millimeters unless otherwise indicated



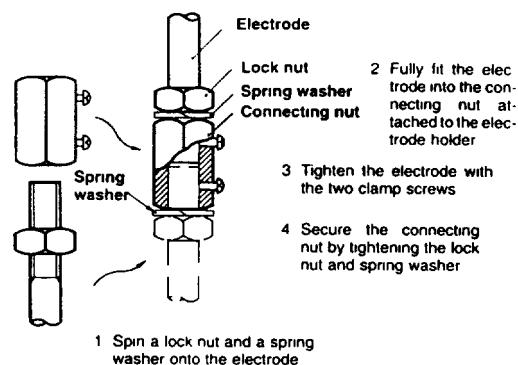
Precautions

■ How to Mount Electrodes

Connecting Electrodes to Electrode Holders



Connecting One Electrode to Another



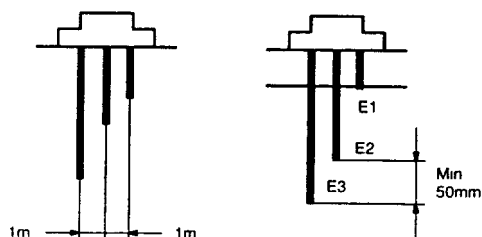
■ Application

When using electrodes in sea water or sewage, provide a sufficient interval (normally 1 m) between the electrodes. If the sufficient interval cannot be provided, employ a low-sensitivity type Floatless Level Controller

When taping one of the electrodes to prevent it from contacting the other electrodes in water, do not tape the electrode entirely but leave at least 100 mm of its end uncovered.

When the required length of the electrode is more than 1 m, use a separator at each joint of two electrodes so as to prevent the electrodes from contacting one another. (NOTE: Avoid use of the separators in dust-containing liquids.)

Usually, electrodes are used in a set of three: long, medium, and short. Connect the short electrode to E1, the medium electrode to E2, and the long electrode to E3. Make E3 at least 50 mm longer than E2.



Electrodes are in actual contact with the liquid. Standard electrodes are made of stainless steel and usable in purified water, sea water,

sewage, acid (except acetic acid, sulfuric acid, etc.) and alkaline liquids, although they may corrode depending upon the temperature and working conditions.

Note that the Conductive Level Controller 61F-GP-N2 is capable of controlling liquids with specific resistances of up to 30 kΩ-cm when the controller employs a type PS-3S electrode holder with the electrode(s) submerged to a depth of 30 mm max.

Kind of water	Specific resistance	Applicable type
City water	5 to 10 kΩ-cm	General-purpose type
Well water	2 to 5 kΩ-cm	General-purpose type
Industrial water	5 to 15 kΩ-cm	General-purpose type
Rainwater	15 to 25 kΩ-cm	General-purpose type
Sea water	0.03 kΩ-cm	Low-sensitivity type
Sewage	0.5 to 2 kΩ-cm	Low-sensitivity type
Distilled water	100 kΩ-cm or less	High-sensitivity type
	Over 100 kΩ-cm	Consult OMRON