



# Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for OMRON 61F-GP-N8. You'll find the answers to all your questions on the OMRON 61F-GP-N8 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

- User manual OMRON 61F-GP-N8
- User guide OMRON 61F-GP-N8
- Operating instructions OMRON 61F-GP-N8
- Instructions for use OMRON 61F-GP-N8
- Instruction manual OMRON 61F-GP-N8

OMRON

**Conductive Level Controller**  
**61F-GP-N8**

**Compact Plug-in Level Controllers for Single or Two-point Level Control of Conductive Materials (Liquids and Solids)**

- Wide range of models: long-distance, high and low-sensitivity, and two-wired types available.
- 24/100/110/120/200/220/230/240 VAC operation possible.
- Easy installation on DIN track.
- Low-voltage (AC) electrodes.
- Red LED operation indicator provided.
- Conforms to EMC and LVD Directives.
- UL/CSA approved.

**Model Number Structure**

**■ Model Number Legend**

**61F-GP-N8** 1 2 3

1. Plug-in Type
2. Compact 8-pin Type


**3. Applications**

None: General purpose type  
L: Long distance type  
H: High sensitivity type (reverse acting)  
HF: High sensitivity type (standard acting)  
D: Low sensitivity type  
R: Two-wired type

**Ordering Information**

**■ List of Models**

Application	Model number
General purpose type	61F-GP-N8
Long distance type	2 km 61F-GP-N8L 2KM
	4 km 61F-GP-N8L 4KM
High sensitivity type	61F-GP-N8H
Low sensitivity type	61F-GP-N8D
Two-wired type	61F-GP-N8R



Level Controller

Conductive Level Controller 61F-GP-N8 E-5

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**Manual abstract:**

· 24/100/110/120/200/220/230/240 VAC operation possible. · Easy installation on DIN track. · Low-voltage (AC) electrodes. · Red LED operation indicator provided. · Conforms to EMC and LVD Directives. · UL/CSA approved. Model Number Structure Model Number Legend 61F-GP-N8@ 1 2 3 3. Applications None: General-purpose type L: Long-distance type H: High-sensitivity type (reverse acting) HY: High-sensitivity type (standard acting) D: Low-sensitivity type R: Two-wired type 1. Plug-in Type 2. @@@@Flange Phenol resin 70°C When mounting space is limited.

Special 3-pole holder of small size and light weight. @@Screw Phenol resin For low specific liquids. Used for sewage, sea water, etc., having a low specific resistance. @@For acids, alkalis and sea water, electrode holders may be as much as 1 meter apart to operate properly.

Flange Ceramics 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 Screw Teflon Mounting style Insulator material Max. temperature 150°C (without water drips or vapor on the 250°C (without water surface of the electrode holder) drips or vapor on the surface of the electrode holder) --PS-31 BF-1 --BS-1 --- No.

of electrodes 1 3 --PS-3S Electrode Separators No. of electrodes 1 3 Model F03-14 1P F03-14 3P Selection Guide for Electrodes, Connecting, and Lock Nuts

Applicable liquids Material Model Purified city water, industrial water, sewage Purified city water, industrial water, sewage, dilute alkaline solution Equivalent to SUS 304 (AISI-304) SUS316 (AISI-316) F03-01 SUS201 Models for individual electrode assembly components Electrode (1m long) Indication mark 1 line Connecting nut Model F03-02 SUS201 Inscription --Lock nut Model F03-03 SUS201 Inscription --- F03-01 SUS316 2 lines F03-02 SUS316 6 F03-03 SUS316 316 E-6 Conductive Level Controller 61F-GP-N8 Specifications Ratings and Characteristics Model/Items General-purpose Controller 61F-GP-N8 Long-distance Controllers 61F-GP-N8L 2KM (for 2 km) 61F-GP-N8L 4KM (for 4 km) High-sensitivity Controllers 61F-GP-N8H 61F-GP-N8HY (see note 1) For control of liquids with high specific resistance such as distilled water Low-sensitivity Controller 61F-GP-N8D Two-wired Controller 61F-GP-N8R Controlling materials and operating conditions For control of ordinary purified water or sew- purified water in casage water es where the distance between sewage pumps and water tanks or between receiver tanks and supply tanks is long or where remote control is required. 85% to 110% of rated voltage 8 VAC Approx. 1 mA AC max. Approx. 3.5 VA max. Approx. 0 to 4 k Approx. 0 to 1.

3 k (for 2 km) Approx. 0 to 0.5 k (for 4 km) For control of liquids with low specific resistance such as salt water, sewage water, acid chemicals, alkali chemicals For control of ordinary purified water or sewage water used in combination with twowired-type electrode holder (incorporating a resistor of 6.8 k) Operating voltage range Interelectrode voltage Interelectrode current Power consumption Interelectrode operate resistance 24 VAC Approx. 0.4 mA AC max. Approx. 15 k to 70 k (see note 3) 8 VAC Approx. 1 mA AC max. Approx.

0 to 1.3 k Approx. 0 to 2 k Interelectrode release resistance Approx. 15 k to Approx. 4 k to (for Approx.

300 k to Approx. 4 k to 2 km) Approx. 2.5 k to (for 4 km) Approx. 15 k to Response time Cable length (see note 2) Control output Ambient temperature

Ambient humidity Insulation resistance (see note 3) Dielectric strength (see note 4) Life expectancy Operate: 80 ms max.

Release: 160 ms max. 1 km max. 2 km max. 4 km max. 50 m max. 1 km max. 800 m max. 1 A, 250 VAC (Inductive load:  $\cos = 0.4$ ) 3 A, 250 VAC (Resistive load) Operating: -10°C to 55°C Operating: 45% to 85% RH 100 M max. (at 500 VDC) 2000 VAC, 50/60 Hz for 1 min.

Electrical: 100,000 operations min. Mechanical: 5,000,000 operations min. Note: 1. The relay in the 61F-GP-N8H de-energizes when there is water present across the electrodes, whereas the relay in the 61F-GP-N8HY energizes when there is water present across the electrodes. 2. The length when using completely-insulated, 600-V, 3-conductor (0.75 mm2) cabtyre cables. Usable cable lengths will become shorter as the cable diameter or number of conductors becomes larger. 3. The insulation resistance and dielectric strength indicate values between power terminals and electrode terminals, between power terminals and contact terminals, and between electrode terminals and contact terminals.

4. Possible to use with 10 k or less, however, this may cause reset failure. Conductive Level Controller 61F-GP-N8 E-7 Level Controllers Supply voltage 24, 100, 110, 120, 200, 220, 230 or 240 VAC; 50/60 Hz; Connections Internal Circuit Diagrams 61F-GP-N8/-N8L/-N8D/-N8HY Power supply 24 V Control circuit 8 V (see note) 61F-GP-N8H Power supply 24 V Control circuit 24 V 61F-GP-N8R Power supply 24 V Control circuit 8V 2 Note: 24 V for the 61F-GP-N8HY. Automatic Water Supply and Drainage Control 1. @@@@The diagram shows the connections for water supply.

When draining, change the connection from terminal 2 to terminal 3. 2. @@These are cut to length and inserted vertically into the liquid. @@@@For two-point control a low-level probe is used as well. @@@@3.

@@@@2. @@@@@@@@@@@@@@20 dia. Cast iron Two M5 x 25 mounting screws 26-dia. hole 48 Two, 6-dia. holes 18 23 17 14 (49) 72 E-10 Conductive Level Controller 61F-GP-N8 BS-1 Width across flats: 20 Two M4 Terminal bolt P = 0.7 M18 SUS304 (M4) P=0.7 P = 1.5 24 dia. Nut (iron) 50 101 12 39 51 M18 P=1.5 (fine screw thread) Electrode Separators F03-14 1P (for Single Pole) 6.

5 dia. F03-14 3P (for Three Poles) Three, 7 dia. 20 41 dia. 28 dia. Connecting Sockets Track Mounted Socket PF083A-E Eight, M3.5 x 7 sems screws 7±0.2 Two, 4.2-dia. holes 52 max. 25 dia.

Terminal Arrangement/ Internal Connections (Top View) Mounting Holes Two, M4 or 4.5-dia. holes 21 max. 41 max. Back Connecting Socket PL08 Terminal arrangement/ Internal Connections (Bottom View) Mounting Holes Two, 3. 5-dia. or M3 Controller mounting holes Two, 2-dia. holes 50.5 max. 30 dia.

Two, 3.5-dia. or M3 socket mounting holes 31-dia. hole 35 max. Approx. 20.5 Conductive Level Controller 61F-GP-N8 E-11 Level Controllers Holding Brackets To mount the 61F-GP-N8 Conductive Level Controller on the PF083A Track Mounted Socket, use the PFC-N8 Mounting Brackets attached to the Socket as an accessory. PFC-N8 Approx. 80 Surge Suppressor Unit 61F-03B 61F-04B 61F-03B 61F-04B PF113A-E Application Examples · Level control in tanks, reservoirs, sewage plants, underground wells, mixing plants etc. · Level control for element protection in pipes, channels, and irrigation systems.

· Flow detection in pipes, channels, and irrigation systems.



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· Ice bank control in cold drink dispensers, ice makers, water chillers, bulk milk tanks, etc. . . . Dispensing of liquids by volume. Indication of liquid buildup due to filter blockages. Pollution/foul water detection for rivers, drains, etc. Alarm control warning of abnormal or dangerously high or low levels.  
Application When using electrodes in sea water or sewage, provide a sufficient interval (normally 1 m) between the electrodes. @@@@ Note: Avoid use of the separators in dust-containing liquids. @@ 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.  
E3 1m 1m E1 E2 Min 50 mm 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 .



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