

multicomp^{PRO} MP701120

Power Metering Socket

This manual includes necessary safe handling information and equipment maintenance methods. Please read this manual carefully before using this equipment.

Conforms to UL STD.61010-1, 61010-2-030

Certified to CSA STD.C22.2 NO.61010-1, 61010-2-030

CATII test and measuring circuits (socket and outlets) in low voltage mains installation.

Safety Instructions

- Check the instrument for any signs of damage so the casing and insulation and if in doubt do not use.
- In the event of any abnormal operation stop using the instrument immediately and remove from the mains supply.
- Do not use in any dusty environment or where explosive gases or vapour may exist.
- There are no user serviceable parts inside – do not disassemble.
- Keep away from children.
- The maximum load through this equipment must not exceed 5680W 16A and for not exceeding 1 hour continuous use at maximum load.

WARNING This product is fitted with a Schuko (CEE 7/7) mains plug which is used in most European countries that use Type E (CEE 7/5) and Type F (CEE 7/3) mains sockets

Product Overview

The main functions are metering and charge indication.

This product is designed with professional micro-chips and electric energy metering chips, and equipped with a high-precision current sensor to give real time monitoring of AC power supply draw. If over-current occurs an alarm is given to prompt users to immediately disconnect from the mains supply to avoid damage to the instrument.

Main Features

1. Electric safety transfer function

Electric safety transfer and other functions are available by connecting this product to a common socket and then plugging the electrical appliance in this product.

2. Measuring and metering function

Detect the electrical appliance's (load) voltage, current, power, power factor, frequency, electric quantity, electric charge, CO² emission load, total time, etc. in real time, and these data would be displayed via the display interface of this product, so you can master the working state and power consumption situations of electrical appliance conveniently and visually; in case of sudden power lost, the recorded electric quantity, electric charge, total time, CO² emission load and other information could be saved automatically.

3. Over-current warning function

When using this product, if the load current exceeds 17.6A (EU) for around 10seconds, the power light and "OL" and characters on the display screen would flash to prompt users to cut off the power due to over-current.

Note: In over-current situations, this power socket would remain in "OL" and flashing state (protection mode), and all other operations are invalid (however, the current measurement reading is still valid). To exit this state, disconnect any connected devices and press and hold any button or disconnect from the mains and reconnect then default function will be restored.

Display Interface



Figure 1

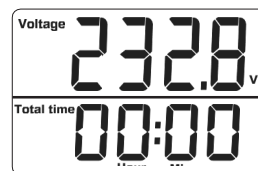


Figure 2

The display area is divided into two parts, the upper half is the main display area and can be viewed by switching "MODE" key.

The bottom half is secondary display area and can be viewed by switching "COST" key.

Display mode: Corresponding parameter + metering value + metering unit.

For example: Voltage 220V : Current 10 A : Cost 99.99€, Energy 1000kWh Hour Min Day, the last line in the display area, is used to record the total time after the power socket is energized. For example, 08Hour50Min, Day is only displayed when the total time exceeds 1 day. The xx Hour xx Min total time can be viewed by short pressing the "+" key. See Figure 11, 12 and 13.

Key Functions



Figure 3

- 1) "COST" key, is used to switch function states in the lower half and show cyclic contents one by one, that is, "Total time", "Cost", "Set", "Energy", "CO²" and corresponding values display circularly.
- 2) "MODE" key, is used to switch each function states in the upper half display area, display content cycling, i.e., "Voltage", "Current", "Power", "Power Factor", "Freq" and corresponding values display circularly.
- 3) "Set" key, is used to switch to corresponding MODE via "COST" key, long press "Set" key and enter setting state; there are only two MODEs can enter the setting state, i.e. "COST" and "CO²", among which, the "COST" is used to set the unit price of electric charge which can be set based on the actual conditions; under the setting interface, it indicates that the figure can be set if it flickers, press "+" to increase the number of digits, then conduct next step by short pressing "Set" after setting, and save data by long pressing "Set" after the complementation of all sets.
- 4) The "+" key has three main functions, the first is to increase the number of digits, increasing one digit by once short press, 0-9 cycle. The second is the reset function; reset the Energy, Cost or the emission load of CO² by long press under corresponding MODEs. The third is the wakeup function; wake up the power metering socket by short press from the standby state, and only this key can wake up the power metering socket.

Operation and Use

1) Measurement Interface

Plug the power metering socket into household socket, it will start automatically and 230b will be displayed on the startup interface, then it will enter the default measurement interface ("Voltage and Total time" mode). see Figure 2.

2) Check the functions and states of all modes

Check all modes of the display upper half by short pressing "MODE"; return to default MODE ("Voltage" MODE) by long pressing "MODE". Check all modes of the bottom half by short pressing "COST"; return to default mode ("Total time" mode) by long pressing "COST".

The check methods of all upper half modes are as follows; the default mode is the "Voltage" mode. See Figure 2.

Enter the "Current" mode by short pressing "MODE"
(assume the bottom half is "Total time" mode)



Figure 4

Enter the "Power" mode by short pressing "MODE"
(assume the bottom half is "Total time" mode)



Figure 5

Enter the "Power Factor" mode by short pressing "MODE"
(assume the bottom half is "Total time" mode)



Figure 6

Enter the "Freq" mode by short pressing "MODE"
(assume the bottom half is "Total time" mode)



Figure 7

The lower half display modes are as follows; the default mode is the "Total time" mode.

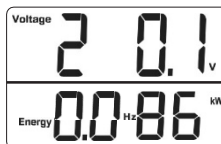
Enter the "Cost" mode by short pressing "COST".
(Assume the upper half is "Voltage" mode)

Figure 8



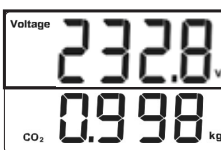
Enter the "Energy" mode by short pressing "COST".
(Assume the upper half is "Voltage" mode)

Figure 9



Enter the "CO2" mode by short pressing "COST".
(Assume the upper half is "Voltage" mode)

Figure 10



If the time accumulated is less than 1 day, only "Hour and Min" will be displayed, see Figure 12; Check the stopwatch time by short pressing "+", see Figure 13. If the time accumulated exceeds 1 day, it will be displayed in the form of "Day", see Figure 11 below; at that time, check "Hour and Min" by short press "+" see figure 12 and the total time is 2 Days 8hr 50min.



Figure 11



Figure 12



Figure 13

The screen will display similar to the following if over-current state occurs (see Figure 14).

("OL" and other characters flash, the power light will also flash)



Figure 14



Figure 15

CO² parameter setting

Switch to the "CO²" mode by short pressing "COST" key, and then enter the interface of CO² parameter setting interface by long pressing "Set" key. You can save up to 9 readings by short pressing "+" then save the data by long pressing "Set" the parameters of which range from 0-9.999kg. The default parameter value is: 0.998kg. See Figure 15 to Figure 16.

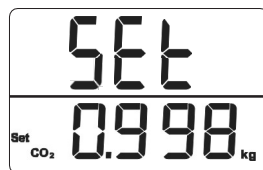


Figure 15

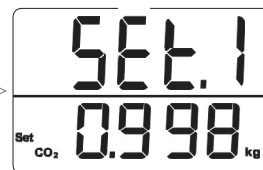


Figure 16

Cost Setting

Switch to "COST" mode by short pressing "COST", enter the interface of setting unit price of electric unit charge by long pressing "Set" key, and adjust by short pressing "+", then conduct next step by short pressing "Set", and save data by long pressing "Set" after the complementation of set, the parameters of which range from: 0-99.99€/kWh. The default parameter value is: 01.00 €/kWh. See Figure 17 to Figure 18.

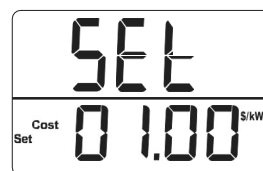


Figure 17

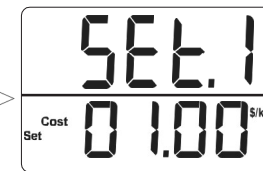


Figure 18

Battery Replacement

The power meter socket uses a 3VDC button cell battery to maintain the stored memory function and clock. The meter will enter standby state if there is no operation after disconnecting from the mains supply for about 10 seconds to preserve battery life.

Under the standby state, wake up the power metering socket by short pressing "+", and then enter related parameters setting to set the parameters of unit price of electric charge and CO² emission load and check the set parameters at the same time.

If when disconnected from the mains supply the display is faint or does not illuminate the battery needs replacement before using the device again. Ensure the device is disconnected from the mains then remove the retaining screw and lift off the battery cover. Install a new battery noting the correct polarity then replace the cover and tighten the screw. See Figure 19.

Note: Do not operate under mains power with the battery cover removed and or with no battery installed.

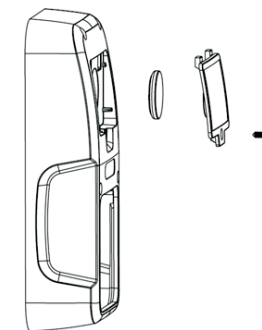


Figure 19

Specifications

Voltage: 100VAC-260VAC 50Hz

Amps: 0-16A

Watts: 0-3680W

Power Factor: 0-1.00

Cost: 0-€9999

Total time: 0Min-9999Day

Frequency Measurement: 45Hz-65Hz

Over-current warning: >17.6A

Operation Temperature/Relative Humidity: 0°C-45°C/<95%RH

Storage Temperature/Relative Humidity: -10°C-60°C/<95%RH

Operating height: max.2000m (above sea level)

This product is fitted with a Schuko (CEE 7/7) mains plug which is used in most European countries that use Type E (CEE 7/5) and Type F (CEE 7/3) mains sockets

Power supply	3V button cell (CR2032) x 1 pre fitted with insulator strip
LCD size	50 x 36mm
Weight	155g
Dimension:	130mm x 65mm x 37mm



INFORMATION ON WASTE DISPOSAL FOR CONSUMERS OF ELECTRICAL & ELECTRONIC EQUIPMENT.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronics Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Contact your local authority for details of recycling schemes in your area.

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