

BRAND ELECTRONICS

DIGITAL POWER METERS MONITORING AC POWER

INTRODUCTION:

Brand Electronics is pleased to have been chosen by you or your supplier to provide instruments to measure and display the AC output parameters of your system.

Product Development Innovations, LLC, which owns and operates Brand Electronics, is a Maine, USA based company. Brand Electronics manufactures standard and custom built meters for many power measurement applications. We also design, manufacture, and market custom process control systems for industrial, recreational, and medical applications. We appreciate this opportunity to provide instruments to satisfy your power measurement needs.

Each instrument is tested and calibrated with certified test equipment. Each of the wall plates that house your remote display is individually hand crafted from Maine Red Oak and built in our log cabin workshop at our Dresden, Maine, USA office location.

Brand Electronics takes pride in its instruments and confidence in their performance.

Your electric products distributor or contractor will ensure that your Brand Electronics power measuring instruments are correctly installed and working properly on installation. Should you have any problems with these instruments in the future, please contact us directly for expedited repair or replacement.

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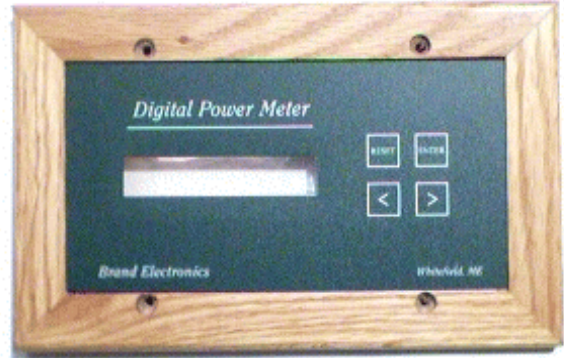
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OPERATING INSTRUCTIONS:

Your inverter output remote display has 4 pressure sensitive switches: [Reset],[Enter], [>]. and [<].

Initial Display:

The initial display on power up or when the Reset button is pushed shows two values: the Watts being produced now and the lifetime generated output in KW-HRS (Kilowatt hours).



Changing Displays:

Pressing the [>] and [<] keys will move the display through several modes. Note: Pressing [Reset] at any time will return the unit to the Initial Display. Should the meter appear to lock up, press [Reset] to clear.

User Settings:

1. Pressing the [>] switch will display the dollar value of electricity produced and the cents per KWHR used in the calculation. The value of generation produced is permanently stored in memory. The unit cost value, cents/kwhr, is user programmable from this screen. Press [Enter] to enter into the change mode. Press the [<] or [>] keys to change the value. Press [Enter] to set the value.

Note: The normal display mode shows costs in whole cents. Pressing the [Enter] switch to enter the change mode will display the value to 1/10th of a cent. This more precise value is the number used in calculating dollar values. Press [Enter] twice to view the change mode and the cents/KWHR in 1/10th cents and return to the display mode without changing the setting.

2. Pressing the [>] switch a second time will cause the unit to display Peak Watts. Pressing the [Enter] switch will remove the stored value from memory. The Peak Watts displayed is the value of Peak Watts that the system produced since the last time the value was cleared from memory by pressing the [Enter] switch.

3. Pressing the [>] switch a third time will cause the unit to display the dollar value of electrical generation and the KWHRs produced since the last time the memory was cleared. Clear memory was pressing the [Enter] switch while in this display mode. Some users may choose to register on the first day of each month to show the dollar value and the KWHRs produced each month.

4. Pressing the [>] switch again will return the display to the Initial Display.

WARRANTY and CONTACT INFORMATION:

General Warranty:

Brand Electronics products sold for commercial, industrial, or consumer uses, are warranted to be free from defects in materials and workmanship for one year from the date of purchase. THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. At its option, Brand Electronics will repair or replace, or refund the purchase price of any product, which fails to conform to this warranty under normal uses and service. IN NO EVENT SHALL BRAND ELECTRONICS BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE.

Extended Service:

Any panel mount, remote display meter, either remote display or metering instrument, which fails in service may be returned for repair or replacement. Brand Electronics will make reasonable effort to retrieve stored data from the device and program a replacement unit with the customer's data.

Contact Information:

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Call Brand Electronics for all your power measurement needs.

INSTALLATION INSTRUCTIONS

General Description:

The metering instrument consists of two general components: a surface mount base unit for connecting to AC voltage and AC current and a remote, flush mounted display unit. The base and display are connected using standard CAT-5 LAN cable. AC current is monitored using a standard snap on current transducer (CT). AC voltage is sensed via two fused input lines to a step down transformer (located inside the base unit).

Installation:

Locate the base unit as close to the supply as possible. Plan for routing of the CT and the two fused voltage sense wires. The connections are provided with a polarized 4 connector plug to the base unit. The remote display may be mounted up to 100 ft from the base unit.

Attach the CT around either the Line or Neutral (for 120 vac systems), or L1 and L2 (for 240 vac systems). Generally install the CT with the label toward the source.

Connect the two fused voltage sense wire across the output of the system.(120vac L1 and Neutral; 220vac L1,L2). These wires are shipped with no end preparation. Attach ring connectors, plugs or strip back bare end as installation requirements dictate. A phase reverse jumper at the display can be used to correct any phase reversal caused by installation configuration.

The base unit has an LED, which will illuminate when ac voltage is present.

The display is designed to mount in a standard triple gang electrical box, or equivalent. Route up to 100 ft of CAT 5 cable from the base unit to the display.

Connect the base unit to the display by plugging in the CAT 5 cable into the RJ-45 jacks on the base and display units.

Energize the system. If voltage is present at the display unit, the LED on the display unit will illuminate.

If the system does not read proper power indication when the system is producing power, change the position of the jumper on the back of the display unit. The jumper must be on two of the three pins.

The meter begins operation as soon as it is energized.

SPECIFICATIONS

Digital Power Meter: Interior Wall Mounted, Remote Display

General Description:

Interior Digital Power Meter. Monitors 100-250 vac, 50-60 hz, 0-40 amps, PF -1 to +1. Display 0 - 4000+ watts, 0 - 65,000 kw-hrs, user input cost for cost calculation (savings), peak power capture, permanent and resettable kw-hr display. General Accuracy at rated input shall be 2% at unity power factor.

Output Parameters:

Power 0-4000 Watts +
Energy 0-65,000 kw-hrs (.001 kw-hr resolution, auto scale)
Peak Power
Cost 0-\$65,000 (.01 \$ resolution)

Electrical Characteristics:

Meter(s) shall be available to cover the following single phase inverter output ranges:

Output Power: Rated Power of 1000 to 4000 W.

Meter reads in only one direction....does not "net" meter.

The base unit components shall be rated for at least 1.56 time the rated current, where rated current is rated power divided by minimum voltage. Components rated for continuous operation may be rated at 1.25 times the rated current.

Voltage signals between the base unit and display unit shall be 26 Vac or less, with at least 100' between base unit and display units.

The units shall use UL Recognized Components for high voltage applications (>26 vac).

Physical & Dimensional:

Base Unit:

Output connection to the Remote Display shall be a RJ-45 jack connected to standard CAT-5 LAN cable.

The base unit shall be 4.5 inches x 3 inches x 2 1/2 inches; surface mount.

Remote Unit:

The remote unit shall mount into a standard triple gang switch box.

The remote unit shall not extend more than 1" from the wall surface.

The remote unit shall be self trimmed with a hand made Maine Red Oak frame.

Input from the remote unit shall be a RJ-45 which shall not be visible after installation.

The Remote Display shall connect to the Base unit using standard CAT-5 LAN cable. This cable may be up to 100 ft long. Contact Brand Electronics for application data for lengths over 100 ft.

Environmental:

The base unit shall be designed for -20C to 45C and up to 95% humidity; NON CONDENSING.

The remote display unit is designed for indoor standard indoor temperature and humidity ranges. The unit may be used outdoors if installed in an appropriate NEMA rated enclosure. LCD readability will be affected below 30F.