

DESCRIPTION

The A2000 Multifunction Power Meter is a powerful, four-quadrant programmable energy meter that features a bright LED display, two freely-configurable analog outputs and serial communication ports.

The A2000 can be programmed either through software or the push-buttons on the front panel. The A2000 can be programmed for any three-phase electrical system with transformer-rated inputs of 5A and up to 550V. Programmable transformer ratios allow the A2000 to show primary values on the display and read through the serial ports. The analog outputs can be assigned to any instantaneous quantity.

Quantities measured by the A2000 include current, voltage, active reactive and apparent power, power factor, line frequency and energy. Other available options include two additional analog outputs (total of four), two pulse outputs with one sync input, data logger for load profile or event recording, and LON and Profibus protocol ports.



Pulse Outputs

- Up to 2 programmable pulse outputs.
- Can be assigned to either import or export quantities, active or reactive.
- Can be assigned to either total system or per-phase energy.
- Pulse rates can be assigned from 1 to 5000 pulses per kWh or MWh.
- Can be programmed as threshold alarms.
- High-going and low-going with hysteresis.

Analog Outputs

- 2 or 4 programmable analog outputs.
- ± 20 mA standard
- Dip-switch selectable ± 10 Vdc
- Programmable for any real-time measured quantity.

Display

- 7-segment red LED.
- 13.2mm character height.
- Display primary or secondary quantities.
- Sealed front panel can be used to configure meter.
- Display current, voltage, real, reactive and apparent power, real and reactive energy, power factor and frequency. System and per-phase quantities for most.

Metrology

- Can be configured for any electrical system.
 - 3-Phase, 4-Wire
 - 3-Phase, 3-Wire
 - 3-Phase, 1 Current Transformer
- Programmable transformer ratios for current and voltage.
- True four-quadrant measurements.
- THD measurements for current and voltage up to 15th harmonic.
- Measure natural current.
- Instrument power options for either AC or DC power.



Communications

- Comes standard with RS232 and RS485 communications for programming and data retrieval.
- Addressable from 0 to 254.
- Baud rates up to 19200.
- Profibus DP or LonWorks interface available.

Load Profile

- Memory storage for up to 63,000 values.
- Select up to 12 measurement values to be stored.
- Select memory storage intervals from 300ms to 30 minutes.
- Use triggering events and pre-trigger levels to capture disturbances.

METRAwin10 Data Retrieval Software

- Read and display real-time values using graphic display interfaces.
- Read and store load profile data from A2000.
- Configure all parameters of A2000 operation.
- Export readings for use with Windows software packages.

SPECIFICATIONS

DISPLAY 7-segment red LED
 Character Height..... 0.5in/13.2mm
 Display Range..... Max. 9999
 Energy..... Max. 99999999

INPUT
 Voltage..... 500Vphase-phase, 289Vphase-neutral
 Overload..... 1.2 X continuous
 Current..... 0-6A
 Overload..... 1.4 X continuous,
 30A for 10 seconds,
 100A for 3 seconds
 Frequency..... 40-70Hz

ACCURACY
 Current..... 0.25% F.S.
 Voltage..... 0.25% F.S.
 Power..... 0.5% F.S.
 Power Factor..... 0.02 P.F.
 Frequency..... 0.02Hz
 Energy..... 0.5% F.S.

SYNCHRONIZATION PULSE
 The synchronization input recognizes floating contact
 ON..... <10Ω
 OFF..... >10MΩ

RELAY OUTPUTS One relay-changeover contact per limit value
 Switching Capacity..... ac/dc, 250V, 2A, 500VA/50W
 Service Life..... >500,000 switching cycles
 Hysteresis adjustable for each relay..... ±100 digits

ANALOG OUTPUTS
 Standard..... 0/4-20mA or ±20mA
 Selectable..... ±10Vdc
 Output Load, Current (max.)..... 500Ω
 Output Load, Voltage..... <20mA
 Load Impedance Effect
 Current Output..... <0.8 μA/Ω (0-500Ω)
 Voltage Output..... No effect to >10kΩ

PULSE OUTPUTS
 Open Emitter..... ON..... 10mA-27mA
 OFF..... <2mA
 External Voltage..... 8-30V
 Pulse Duration..... 100ms
 Interpulse period..... 10ms

PROTOCOLS FOR RS232 AND RS485
 Selectable GMC Device Bus (DIN Draft 19244), EN 60870
 or Modbus (RTU)

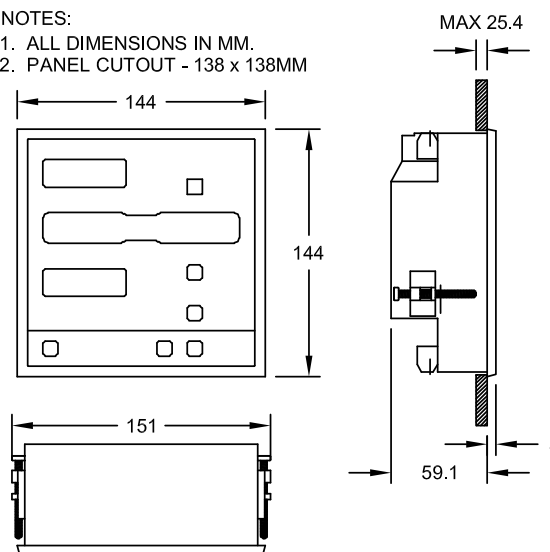
INSTRUMENT POWER
 Standard..... 230V, 115Vac, ±10%, 45-65Hz
 Optional..... 20V-69Vac, 45-450Hz, 20V-72Vdc or
 73V-264Vac, 45-450Hz, 73V-276Vdc
 Power Consumption..... Max. 15VA

PHYSICAL
 Mechanical Dimensions..... 5.7" X 5.7" X 2.6"
 Panel Cutout..... 5.4" X 5.4"
 Installation Depth Max. 2.3"
 Net Weight..... 2.2 lb

PROTECTION
 Front Panel..... IP 52
 Housing..... IP 30
 Terminals..... IP 20
 Protection Class II

DIMENSIONS

NOTES:
 1. ALL DIMENSIONS IN MM.
 2. PANEL CUTOUT - 138 x 138MM



All Dimensions in mm

Dwg# 0902-00900-B Rev --

AVAILABLE CONFIGURATIONS

- A2000-0*1..... 2 Analog Outputs, No Pulse Outputs, No Data Logger, RS-232 & RS-485
- A2000-0*2..... 2 Analog Outputs, 2 Pulse Outputs, No Data Logger, LON & RS-232
- A2000-0*3..... 2 Analog Outputs, 2 Pulse Outputs, Data Logger, LON & RS-232
- A2000-0*4..... 4 Analog Outputs, 2 Pulse Outputs, No Data Logger, RS-232 & RS485
- A2000-0*5..... 4 Analog Outputs, 2 Pulse Outputs, Data Logger, RS-232 & RS485
- A2000-0*6..... No Analog Outputs, No Pulse Outputs, No Data Logger, Profibus-DP & RS-232
- A2000-0*7..... No Analog Outputs, 2 Pulse Outputs, No Data Logger, Profibus-DP & RS-232
- A2000-0*8..... No Analog Outputs, 2 Pulse Outputs, Data Logger, Profibus-DP & RS-232

* Instrument Power Specifications:

0 = 115/230V, 45-65Hz

1 = 20-69V, 45-450Hz, 20-72Vdc

2 = 73-264V, 45-450Hz, 73-276Vdc