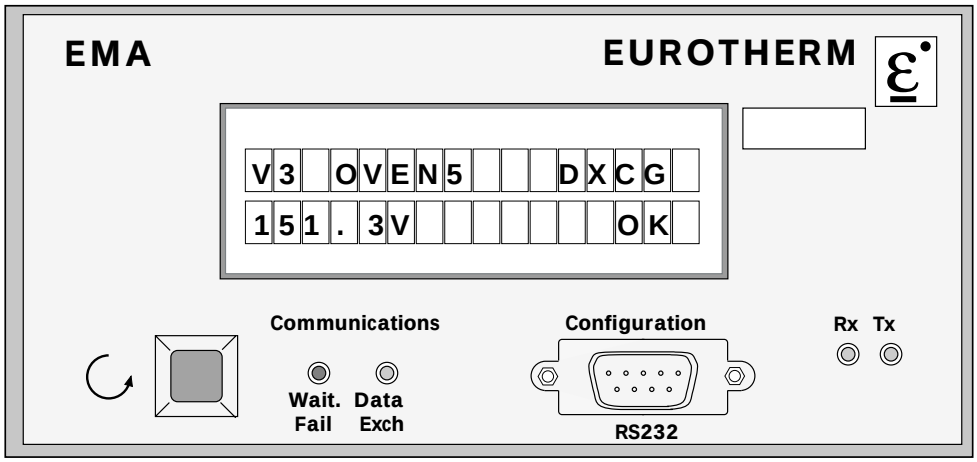
EMA
EUROTHERM MAINS ANALYSER

PRECISE MEASUREMENT OF RMS VOLTAGE AND CURRENT

Measures RMS voltages and currents with a precision never before obtainable. These can be produced by thyristors in any firing mode (phase angle, fast cycle etc.)

- Measurement accuracy : ± (0·5% of measured value ± 0·1% of scale range)
- Retransmission of measured values by digital communications (Profibus-DP and Modbus®) to a supervisor or PLC
- User friendly configuration by PC using software provided with the EMA
- Up to 10 simulataneous measurements (5 currents and 5 voltages)
- LCD display with 2 lines of 16 characters giving:
  - unit identification, its address and protocol
  - identification and value of measured channel (current or voltage) and alarms
  - state of digital communications
- Front of panel mounting
- All connectors are plug-in; it is not necessary to open the unit



EUROTHERM

CONTROLS
PROCESS AUTOMATION
RECORDERS

invensys
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SPECIFICATIONS

Measurements

Signal type	Sinusoidal, Phase Angle or Burst Firing (without DC component) Frequency : 47 Hz to 63 Hz
RMS current	• Input calibration 1A : 0·01 A to 1·1 A (max. current 1·6 A) • Input calibration 5A : 0·05 A to 5·5 A (max current 8·0 A). Display configuration 1 to 20 000 A (for use with external current transformers)
RMS voltage	5 V to 550 V; max. voltage 800 V. Automatic ranging
Accuracy	± 0·5% of measured value ± 0·1% of scale range for firing modes: Burst firing, Advanced Single Cycle and Phase Angle (conduction angle ≥ 25°)
Integration times (filter)	Configurable between 1 s and 1300 s
Number of channels	Up to 10 channels (5 current and 5 voltage maximum)

Isolation

Measuring channels	Between channels and between channels and earth : Double isolation to 500 Vac (EN 50178 and IEC 664-1) except for channels on the same connector (single isolation)

Digital Communications

Protocol	Profibus-DP or Modbus®
Transmission rate for Profibus	9·6; 19·2; 93·75; 187·5; 500; 1500 kbauds (automatic adjustment)
Transmission rate for Modbus	9·6; 19·2 kbauds (configurable)
Diagnostics	Display LCD (2 lines of 16 characters). 4 LEDs on the front face for state of digital communications.

Local Display

Monitoring unit	Unit identification, address and protocol.
Measuring channel	Identification of variable (8 characters); Measured value and units (4 significant digits); Communications state; Alarm status

Configuration

Mode	By digital comms using DB9 configuration connector on front face (Without interruption of master comms)
Software	Multi-lingual program on 3·5" disk for PC (Windows 95/98 or NT)
Parameters configured	Protocol and address; Identification of each channel; Scaling of current range (1 to 20 000 A); Voltage scaling factor (±25%); Integration time; Alarm settings

Power Supply 115 Vac or 230 Vac (depending on product code); consumption: 18 V.A

Environment

Operating temperature	0°C to 45°C at max. altitude 2000 m (-10°C to 70°C storage temperature)
Protection	IP20 in accordance with IEC 529. IP65 for front panel (option).
Dimensions	Height : 72 mm; Width : 156 mm; Depth : 227 mm; Weight : 1·5 kg

CODING

EMA / Supply voltage / Protocol / Transmission rate / No. of I-V channels / Current input rating / Language / Option / 00

1. Supply voltage	Code
115 volts	**115V**
230 volts	**230V**

2. Communications Protocol	Code
Profibus-DP	**PFP**
Modbus®	**MOP**

3. Transmission rate	Code
Modbus® Protocol :	
Read only at 9·6 kbauds	**R96**
Read only at 19·2 kbauds	**R192**
Profibus Protocol:	
Read only up to 1·5 Mbauds	**RAUT**

4. Number of channels	Code
2 Current channels and 2 Voltage channels	**2I2V**
4 Current channels and 4 Voltage channels	**4I4V**
5 Current channels and 5 Voltage channels	**5I5V**

5. Current input	Code
1 amp	**1A**
5 amps	**5A**

6. Manual language	Code
English	**ENG**
French	**FRA**

7. Option	Code
IP65 front panel protective cover	**IP65**

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Part No. HA176012ENG issue 1.0 Printed in England 12.00