

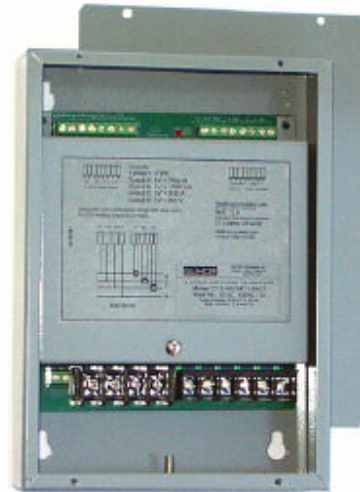
ET3

ADVANCED THREE PHASE POWER TRANSDUCER

The ET3 advanced three phase power transducer adds comprehensive and accurate power monitoring to any Control and Energy Management Systems. In addition to four analog outputs and one pulse output the transducer offers RS-485 (Modbus) digital communication for monitoring over 20 electrical parameters. An optional Remote Display Module further enhances the ET3 applications.

FEATURES

- ◆ Provides instantaneous W, VA, Demand plus one additional selected parameter as four independent 0-5 VDC or 4-20 mA outputs.
- ◆ Offers high accuracy (Class 0.5), true RMS measurements at low cost.
- ◆ Optically isolated output signals. Current inputs isolated by internal CTs.
- ◆ Output signals compatible with any standard control system.
- ◆ Digital communication via RS-485 (MODBUS RTU).
- ◆ A comprehensive Remote Display Module (optional).



PRODUCT DESCRIPTION

The ET3 is a precision true RMS three phase power meter and transducer designed specifically for Energy Management applications and Digital Control Systems.

The transducer offers four independent analog outputs, either 0-5 VDC or 4-20 mA. In addition, energy consumption (Watt-hours) is available as EMS compatible slow pulses through an open collector opto-coupler.

There are three instantaneous parameters always available as independent analog signals:

- (A) - real power (Watts)
- (B) - apparent power Volt-Amps,
- (C) - real power demand (WD)
- (D) - fourth analog output may be factory programmed to represent averaged current, system power factor, averaged voltage or frequency.

The ET3 is equipped with a RS-485 digital communication port that sends over 20 electrical parameters to an RTU unit. The ET3 supports Modbus RTU protocol.

The unit may be used for accurate (0.5%) electrical measurements in most three phase power system, configured in 'wye' or 'delta', with three or two CTs.

The ET3 transducer accepts voltages up to 600 VAC directly, without the need for Potential Transformers (PTs). It supports standard 5A Current Transformers as well as Elkor's line of split core 'safe' CTs. Power line inputs to the transmitter are optically isolated from the outputs and the display.

As an option, a remote LCD display module, the ET3-RDM, may be added to the unit. The display connects to a dedicated output terminal and is powered by the transducer. The display may be mounted in a close vicinity to the ET3 main enclosure or remotely, up to 100 ft (30 m) from the ET3.

The display shows selected electrical parameters grouped in a number of screens. The screens may be selected by an easy to use interface.

Elkor offers an inexpensive interfacing solution for power line connections. Our *I-block*® consists of a 'dead-front', ganged fuse holder (for 600 V systems) and CT termination blocks equipped with shorting shunts. All components are DIN rail mounted and ready to wire.

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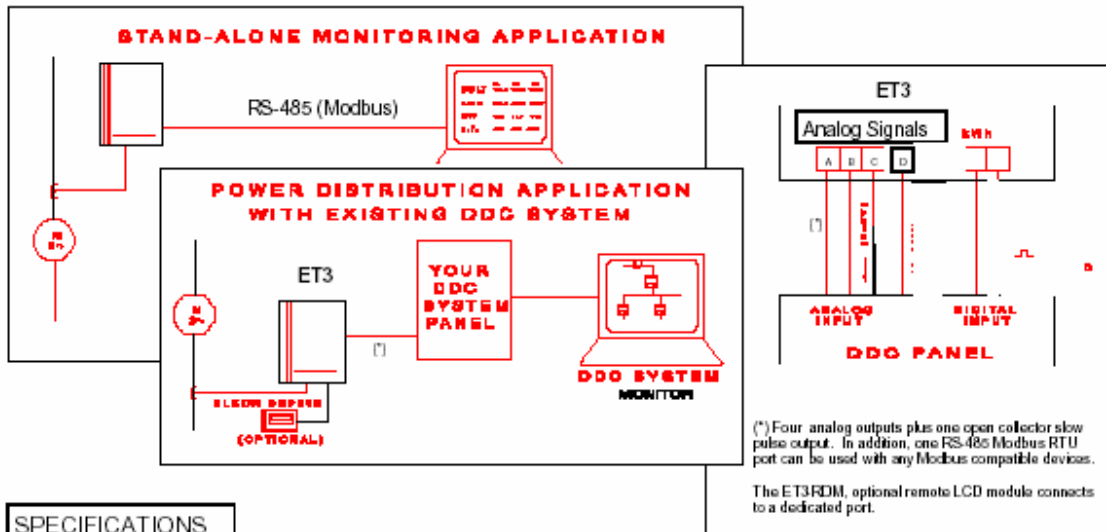
APPLICATION

The ET3 Advanced Power Transducer adds new applications to any Energy Management Systems.

- The transducer provides building managers and electrical system maintenance personnel with all the data required for proper electrical system management (i.e. feeder load and balance, demand profile, PF correction)
- The ET3 can be used as a versatile transducer for complete power metering and monitoring in large and small distribution systems. It can be used to monitor specific electric loads such as chillers, pumps, fans etc. and/or the entire substation.
- The ET3 allows the EMS system to identify the electrical load profile and to control the peak demand. This will reduce electricity bills and maximize the benefits of the utility's Time-Of-Use rate schedules.
- The ET3 helps monitor and re-distribute utility cost for multi-user organizations. It will add an EMS based electrical sub-metering system for commercial and institutional buildings (campuses, multi-tenant offices, malls etc.).

TYPICAL SYSTEM CONFIGURATION

The ET3 can be used as a transmitter for electrical load management applications or as a fully featured, stand alone multi-parameter kW-kWh meter.



SPECIFICATIONS

LINE PARAMETERS:

Voltage: 600 V or 600/347 V (50 or 60 Hz)
480 V or 480/277 V
208 V or 208/120 V
Current: 5A from standard CTs or Elkor 'safe' split core MSCT.

All line inputs are optically isolated from the outputs and the display.

Absolute Max. Ratings: Voltage 700 VRMS
Current: Twice the nominal value

POWER REQUIREMENTS:

V=120 VAC or 240 VAC (6 VA max.)

OUTPUT SIGNALS:

W_o - solid state relay output (up to 350V, 120mA), change of state on every pre-defined Wh value or 100 ms pulses (factory selected)
W, VA, W-Demand - available as three 0-5VDC or 4-20 mA independent signals
PE, Voltage f. Iavg - is factory programmed for the fourth analog output
RS-485 Port - Modbus RTU protocol; up to 63 units may be connected to one "chain".

DISPLAY (ET3-RDM, optional):

128 x 64 graphical LCD with back light.

ACCURACY:

Better than 0.5% of reading for all measured and calculated parameters.

ENVIRONMENT:

Indoor; 0-60 C, 10-90%RH non-condensing.

WARRANTY

Full two years manufacturer's warranty.