

## UNIVERSAL POWER TRANSDUCER

The WattsOn universal digital power transducer uses cutting-edge metering technology to provide unprecedented accuracy and metering information for any electrical installation. WattsOn monitors each phase individually and incorporates the functions of single-phase, split-phase, and three-phase meters, to provide over 15 electrical measurements, *per phase*.

### FEATURES:

- ◆ High Accuracy (0.5%), 24-bit, True-RMS
- ◆ 24VAC/VDC excitation power (PLC/DDC compatible)
- ◆ Digital communication via RS-485 (MODBUS RTU)
- ◆ Two pulse outputs
- ◆ Rolling Window Demand calculations
- ◆ Two 0-10V analog outputs may be configured to represent any two instantaneous parameters
- ◆ Small, DIN mount enclosure
- ◆ Optically Isolated output signals



### PRODDUCT DESCRIPTION:

The WattsOn<sup>®</sup> universal power transducer utilizes cutting edge technology to implement a multi-functional power and energy transducer into a small, cost-effective package. WattsOn incorporates three meters into one to provide a unique solution for monitoring up to three single-phase loads, or one three-phase load. By using two of the inputs, it may be used with split-phase loads also.

WattsOn<sup>™</sup> provides comprehensive per phase (as well as cumulative) information, including Volts, Amps, Real Power, Reactive Power, Apparent Power, Watt-hours, VAR-hours, VA-hours, Power Factor and Frequency.

Power (Real and Reactive) is a signed measurement and the meter accumulates both import and export energies as well as capacitive and reactive energy *per phase*.

The unit accepts up to 600V (line-to-line) directly without the need for potential transformers. It accepts standard mV output CTs (333mV or 1000mV full scale output), as well as Elkor's line of "safe" mA split and solid core CTs. Optionally, the unit may be equipped with an internal interfacing module to accept any standard 5A CT.

The WattsOn<sup>®</sup> transducer features a high accuracy chipset and provides register updates up to two times per second. The true-RMS inputs may be used even with distorted waveforms such as those generated by variable frequency drives and SCR loads.

Information is available via the RS-485 (Modbus RTU) output port. In addition, two solid-state relay pulse outputs are available for Wh energy pulses as well as Qh pulses or direction of power flow indication. Optionally, the second pulse output may be substituted for two 0-10VDC outputs that may represent any instantaneous parameter that the meter measures. The analog outputs and their scaling may be field selected and adjusted via the RS-485 output port.

**SPECIFICATIONS:**

INPUTS

- Voltage** 600 V or 600/347 V (50 or 60 Hz)  
480 V or 480/277 V  
208 V or 208/120 V
- Single Phase, Split Phase, Three Phase
- Current**
- 333mV or 1000mV full scale output CTs.
  - Elkor "Safe" mA output solid/split core CTs.
  - 5A from standard CTs.

DEVICE SPECIFICATIONS

- Power Supply** 12-24VAC or 15-24VDC, 100mA max.
- Accuracy** Better than 0.5% of reading (at 25°C, pf>=0.5) for all measured and calculated parameters.
- Environment** Indoor; 0 to 60C, 10 to 90% RH non-condensing.
- Isolation** All line inputs are isolated from the outputs  
Hi-Pot testing: 2500VAC for one minute
- Enclosure** 3.7" x 3.8" x 1.7" (94mm x 97 mm x 43 mm)  
W x L x H (note: height does not include DIN base).
- Weight** mA/mV : 150g (5.5 oz)  
5A : 200g (7 oz)
- Safety** UL 508 Recognized (Canada and US)

OUTPUTS

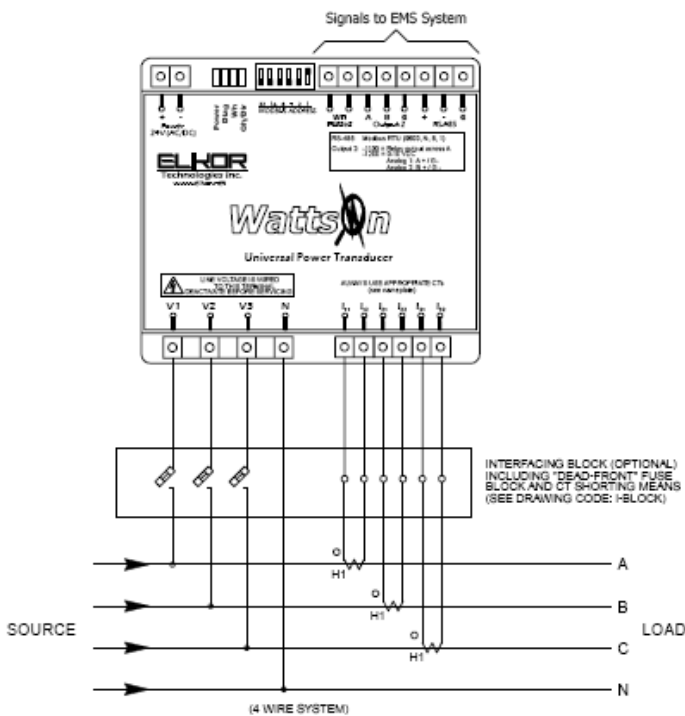
- Wh/Qh** Solid state relay (24V, 150mA MAX), change of 100ms pulse on every pre-defined Wh value
- Qh output may be configured to represent direction of real power via Modbus.
- Analog Outputs (optional)** Qh output may be substituted for two 0-10V analog outputs. Output parameters and span, and full scale may be field adjusted using Modbus communications.
- RS-485** Modbus RTU; up to 64 units may be connected to one 'chain'.

MEASURED PARAMETERS (available via Modbus)

- Voltage [V] (A, B, C, Avg, AB, AC, BC, Avg)
- Current [A] (A, B, C, Avg)
- Active Power [W] (A, B, C, Total) — Bi-directional
- Apparent Power [VA] (A, B, C, Total)
- Reactive Power [VAR] (A, B, C, Total) — Bi-directional
- Power Factor (A, B, C, System) — Bi-directional
- Frequency [Hz]
- Import/Export Energy [Wh] (A, B, C, Total)
- Inductive/Capacitive Energy [VARh] (A, B, C, Total)
- Apparent Energy [VAh] (A, B, C, Total)
- Total Demand Power [W]

All parameters are available in integer and floating point format.

**TYPICAL WIRING:**



**ORDERING INFORMATION:**

WattsOn- [1] - [2] - [3] - [4]

Where:

- [1] Specifies Output Type:  
1100 - RS-485 + 2 x Pulse;  
1200 - RS-485 + 1 x Pulse + 2 x Analog
- [2] Specifies CT Input Type:  
5A Inputs for 5A CTs  
MCTA Inputs for MCTA (Solid Core) CTs (up to 300A)  
MSCT1 Inputs for MSCT1 (Split Core) CTs (up to 200A)  
MSCT2 Inputs for MSCT2 (Split Core) CTs (up to 600A)  
MSCT3 Inputs for MSCT3 (Split Core) CTs (up to 1500A)  
333mV Inputs for 333mV output CTs  
1000mV Inputs for 1000mV output CTs
- \*\*\* Contact Elkor for other input options
- [3] Specifies CT full scale current (N/A for 5A, 333mV and 1000mV options)
- [4] Specifies Nominal Input Voltage (for precise calibration). This should be the L-N voltage

Example:

WattsOn-1200-MSCT3-800A-120V

Specifies transducer with 0-10V analog outputs, and current inputs calibrated for MSCT3 CTs, 800A maximum full scale, with a nominal input voltage of 120V (L-N)

Analog outputs are field configurable.