

# Enercept® Networked Power Transducers (Modbus® RTU)

Integral Monitoring Solution  
Eliminates the Need for  
Separate Enclosures



BACNET  
CONNECTIVITY  
VIA NEW  
E8950  
GATEWAY

U.S. Patent No. 6,373,238

## DESCRIPTION

The **Enercept H8035 and H8036 Series** are innovative three-phase networked (Modbus RTU) power transducers that combine measurement electronics and high accuracy industrial grade CTs in a single package. The need for external electrical enclosures is eliminated, greatly reducing installation time and cost.

There are two application-specific platforms to choose from. The Basic Enercept energy transducers (H8035) are ideal for applications where only kW and kWh are required. The Enercept Enhanced power transducers (H8036) output 26 variables including kW, kWh, volts, amps, and power factor, making them ideal for monitoring and diagnostics.

Color-coordination between voltage leads and CTs makes phase matching easy. Additionally, the Enercept automatically detects and compensates for phase reversal, eliminating the concern of CT load orientation. Up to 63 Enercepts can be daisy-chained on a single RS-485 network.

## APPLICATIONS

- Energy management and performance contracting
- Monitoring for commercial tenants
- Activity-based costing in commercial and industrial facilities
- Real-time power monitoring
- Load shedding

## SPECIFICATIONS



|                                    |                                                                                                                                                     |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inputs:</b>                     |                                                                                                                                                     |
| <b>Voltage Input</b>               | 208 to 480VAC, 50/60 Hz RMS <sup>1 2 3</sup>                                                                                                        |
| <b>Current Input</b>               | Up to 2400A continuous per phase <sup>2 3</sup>                                                                                                     |
| <b>Accuracy:</b>                   |                                                                                                                                                     |
| <b>System Accuracy</b>             | ±1% of reading from 10% to 100% of the rated current of the CTs, accomplished by matching the CTs with electronics and calibrating them as a system |
| <b>Outputs:</b>                    |                                                                                                                                                     |
| <b>Type</b>                        | Modbus RTU <sup>4 5</sup>                                                                                                                           |
| <b>Baud Rate</b>                   | 9600, 8N1 format                                                                                                                                    |
| <b>Connection</b>                  | RS-485, 2-wire + shield                                                                                                                             |
| <b>Environmental:</b>              |                                                                                                                                                     |
| <b>Operating Temperature Range</b> | 0° to 60°C (32° F to 140°F), 50°C (122°F) for 2400A                                                                                                 |
| <b>Humidity Range</b>              | 0 - 95% noncondensing                                                                                                                               |
| <b>Agency Approvals</b>            | UL508                                                                                                                                               |

Approved for California CSI Solar applications (check the CSI website for model numbers).

<sup>1</sup> Do not install on the line or load side of a VFD unit, or on any other equipment generating harmonics. For line side applications, use the ESx Series meters.

<sup>2</sup> Contact factory to interface for voltages above 480VAC or current above 2400 Amps.

<sup>3</sup> Do not apply 600 V Class current transformers to circuits having a phase-to-phase voltage greater than 600 V, unless adequate additional insulation is applied between the primary conductor and the current transformers.

Veris assumes no responsibility for damage of equipment or personal injury caused by products operated on circuits above their published ratings.

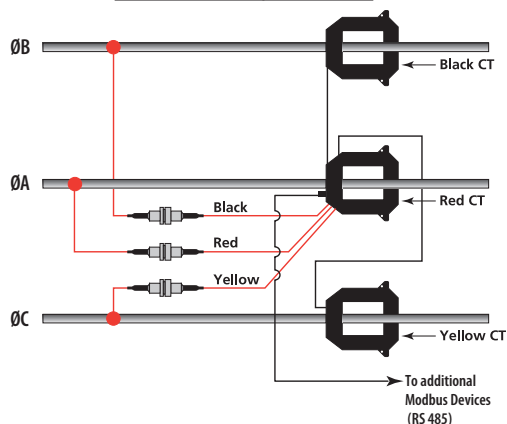
<sup>4</sup> Detailed protocol specifications are available at: <http://www.veris.com/modbus>

<sup>5</sup> Other protocols available. Please consult factory.

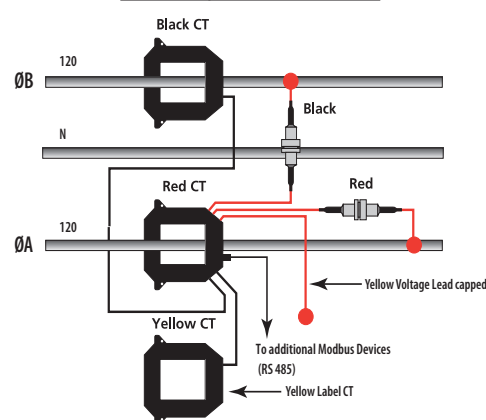
VERIS INDUSTRIES

## APPLICATION/WIRING EXAMPLES

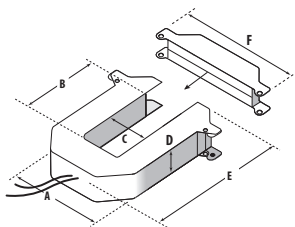
### 208 or 480VAC 3Ø, Installation



### 240VAC 1Ø, 3-Wire Installation

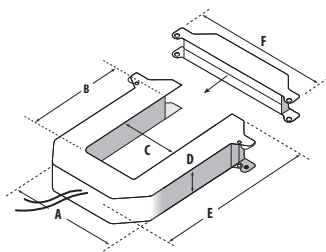


## DIMENSIONAL DRAWINGS



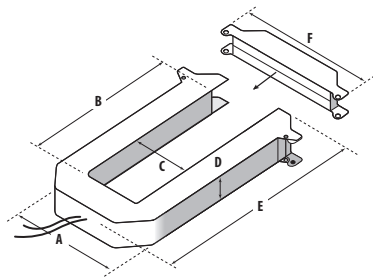
### SMALL 100/300 Amp

|     |               |
|-----|---------------|
| A = | 3.8" (96 mm)  |
| B = | 1.2" (30 mm)  |
| C = | 1.3" (31 mm)  |
| D = | 1.2" (30 mm)  |
| E = | 4.0" (100 mm) |
| F = | 4.8" (121 mm) |



### MEDIUM 400/800 Amp

|     |               |
|-----|---------------|
| A = | 4.9" (125 mm) |
| B = | 2.9" (73 mm)  |
| C = | 2.5" (62 mm)  |
| D = | 1.2" (30 mm)  |
| E = | 5.2" (132 mm) |
| F = | 6.0" (151 mm) |



### LARGE 800/1600/2400 Amp

|     |               |
|-----|---------------|
| A = | 4.9" (125 mm) |
| B = | 5.5" (139 mm) |
| C = | 2.5" (62 mm)  |
| D = | 1.2" (30 mm)  |
| E = | 7.9" (201 mm) |
| F = | 6.0" (151 mm) |

## DATA OUTPUTS

### H8035

kWh  
kW

### H8036

kWh, Consumption  
kW, Real Power  
kVAR, Reactive Power  
kVA, Apparent Power  
Power Factor  
Average Real Power  
Minimum Real Power  
Maximum Real Power  
Voltage, L-L  
Voltage, L-N\*  
Amps, Average Current

\* Based on derived neutral voltage.

## ORDERING INFORMATION



### Modbus Basic Power Transducers\*

| MODEL        | MAX. AMPS | CT SIZE |
|--------------|-----------|---------|
| H8035-0100-2 | 100       | SMALL   |
| H8035-0300-2 | 300       | SMALL   |
| H8035-0400-3 | 400       | MEDIUM  |
| H8035-0800-3 | 800       | MEDIUM  |
| H8035-0800-4 | 800       | LARGE   |
| H8035-1600-4 | 1600      | LARGE   |
| H8035-2400-4 | 2400      | LARGE   |

\*H8035 models work with H8920-5 LON nodes

### Modbus Enhanced Data Stream Power Transducers\*

| MODEL        | MAX. AMPS | CT SIZE |
|--------------|-----------|---------|
| H8036-0100-2 | 100       | SMALL   |
| H8036-0300-2 | 300       | SMALL   |
| H8036-0400-3 | 400       | MEDIUM  |
| H8036-0800-3 | 800       | MEDIUM  |
| H8036-0800-4 | 800       | LARGE   |
| H8036-1600-4 | 1600      | LARGE   |
| H8036-2400-4 | 2400      | LARGE   |

\*H8036 models work with H8920-1 LON nodes

## ACCESSORIES

LON nodes (H8920)

CT Mounting brackets (AH06)

Modbus-to-BACnet Converter (E8950)

Modbus TCP Converter (U013-0013)



H8920 Series



U013-0012



AH06



E8950