



PROVIDE EXCEPTIONAL  
SYSTEMS ACCURACY

5 Year  
Warranty



Meter and CT are factory matched...  
ensures best system accuracy

# Commercial Energy Consumption Meters

The H81xx Series Energy Meters are easy to install and provide exceptional system accuracy, making them ideal for all submetering applications.

Each meter is factory-matched with one to three split-core CTs. Matching serial numbers assure that the meter and CT were calibrated together. The meter/CT pairs are system-calibrated to provide excellent total system accuracies of 1% from 2% to 100% of the amperage rating of the CTs (e.g., 2-100 amps with 100 amp CTs).

## APPLICATIONS

- Commercial tenant submetering
- Performance contracting
- Allocating costs
- Real-time power monitoring via local display or through control/data acquisition systems

## The ultimate stand-alone energy metering system

- High resolution backlit LCD display provides clear readings at a distance...reduces the risk of misinterpretation of the data. Back-lighting can be disabled if desired

## Easy integration to control or data acquisition systems

- H8163 provides a pulse output from 1/10 to 1 pulse per kWh for easy connection to existing control systems
- H8163 provides a phase-loss alarm...protects equipment
- With the optional Communications Board (H8163-CB), Energy Meters (H8150 & H8163) can easily be added to a Modbus, BACnet or N2 control system network to report multiple variables including kW, kWh, kVAR, PF, Amps and Volts, providing crucial power information at a reduced installation cost

## Simple, fast installation

- Split-core CTs eliminate the need to remove electrical conductors...reduces installation time
- Energy meters automatically detect and correct phase reversal, eliminating the need to be concerned with CT load orientation
- CTs and voltage leads are color coded making it easy to determine correct connection

## SPECIFICATIONS

### Voltage Tolerance:

H8150	90 - 132VAC line-to-neutral
H8163	90 - 300VAC line-to-neutral

### Electrical Services:

H8150	120/240 VAC with neutral, 208Y/120 VAC line to neutral
H8163	Any service where the phase A-N voltage is $\leq 300$ VAC & the phase-to-phase voltage is $< 480$ VAC nom, with neutral

Power Consumption	50VA
Insulation Class	600VAC <sup>†</sup>
Internal Isolation	2500VAC
LCD Display	1.2" (31mm) x 3.8" (97mm) viewing area, 160 segments, back-lit with green LEDs
Sample Rate	1280Hz
Operating Temp. Range	0° to 50°C (32° to 122°F) (<95%RH, non-condensing)
Storage Temp. Range	-40° to 70°C (-40° to 158°F)
Systems Accuracy	$\pm 1\%$ of reading from 2% to 100% of the rated current of the CTs, accomplished by matching the CTs with a meter and calibrating them as a system
Frequency	50/60Hz
Pulse Output (H8163 only)	N.O., Opto-FET, 100mA @ 24VAC/DC
Pulse Rate (H8163 only)	0.10*, 0.25**, 0.50, or 1.00 kWh per pulse
Pulse Width (H8163 only)	200msec closed
Phase Loss Alarm Output (H8163 only)	N.C., Opto-FET, 100mA @ 24VAC/DC Fixed threshold 25% below any other phase. Always open as long as alarm persists
Protection Class	NEMA 1

\*not supported at  $>1600$ A

\*\*not supported at  $>2400$ A

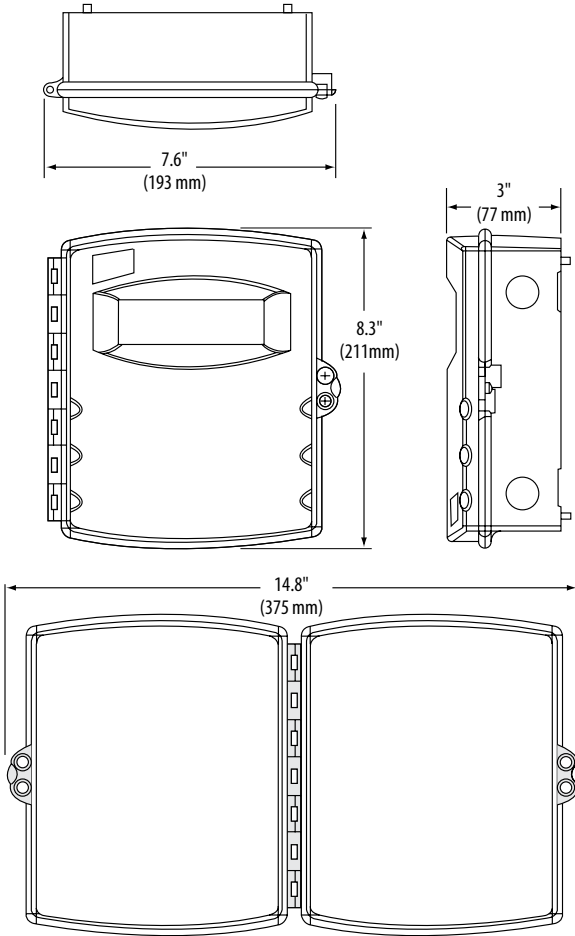
<sup>†</sup>Do not apply 600V Class current transformers to circuits having a phase-to-phase voltage greater than 600V, unless adequate additional insulation is applied between the primary conductor and the current transformers. Veris assumes no responsibility for damage of equipment or personal injury caused by products operated on circuits above their published ratings.

Note: Meter and CT's serial numbers must match





DIMENSIONAL DRAWINGS



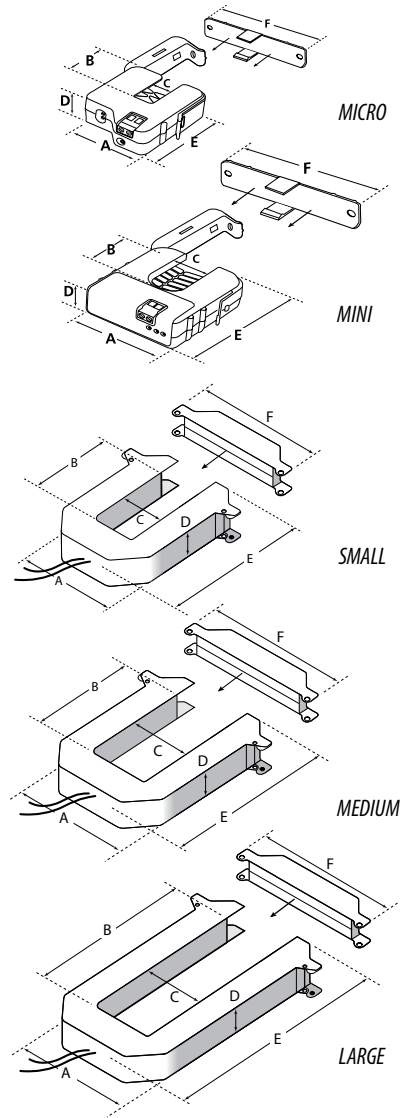
**MICRO\***  
**100 Amp**  
 A = 2.2" (55 mm)  
 B = 1.3" (33 mm)  
 C = 0.5" (13 mm)  
 D = 0.9" (24 mm)  
 E = 2.3" (60 mm)  
 F = 3.5" (90 mm)

**MINI\***  
**200 Amp**  
 A = 2.6" (66 mm)  
 B = 1.1" (28 mm)  
 C = 0.8" (19 mm)  
 D = 1" (27 mm)  
 E = 2.9" (74 mm)  
 F = 3.5" (90 mm)

**SMALL**  
**300 Amp**  
 A = 3.8" (95 mm)  
 B = 1.5" (38 mm)  
 C = 1.3" (32 mm)  
 D = 1.1" (29 mm)  
 E = 4.2" (107 mm)  
 F = 4.8" (121 mm)

**MEDIUM**  
**400/800 Amp**  
 A = 4.9" (124 mm)  
 B = 2.9" (73 mm)  
 C = 2.5" (62 mm)  
 D = 1.1" (29 mm)  
 E = 5.6" (141 mm)  
 F = 5.9" (150 mm)

**LARGE**  
**800/1600/2400 Amp**  
 A = 4.9" (124 mm)  
 B = 5.5" (140 mm)  
 C = 2.5" (62 mm)  
 D = 1.1" (29 mm)  
 E = 8.1" (207 mm)  
 F = 5.9" (150 mm)



ORDERING INFORMATION



120VAC-240VAC (nom.)

AMPS	ONE CT	TWO CTs	THREE CTs	VOLTAGE	OUTPUT
100 Micro	H8150-0100-0-1	H8150-0100-0-2	H8150-0100-0-3	120VAC L-N	Display Only
200 Mini	H8150-0200-1-1	H8150-0200-1-2	H8150-0200-1-3		
300 Small	H8150-0300-2-1	H8150-0300-2-2	H8150-0300-2-3		
400 Med		H8150-0400-3-2	H8150-0400-3-3		
800 Med		H8150-0800-3-2	H8150-0800-3-3		
800 Lg			H8150-0800-4-3		
1600 Lg			H8150-01600-4-3		
2400 Lg			H8150-2400-4-3		

120VAC-480VAC (nom.)

AMPS	ONE CT	TWO CTs	THREE CTs	VOLTAGE	OUTPUT
100 Micro	H8163-0100-0-1	H8163-0100-0-2	H8163-0100-0-3	120-480VAC	Pulse and Phase Loss
200 Mini	H8163-0200-1-1	H8163-0200-1-2	H8163-0200-1-3		
300 Small	H8163-0300-2-1	H8163-0300-2-2	H8163-0300-2-3		
400 Med		H8163-0400-3-2	H8163-0400-3-3		
800 Med		H8163-0800-3-2	H8163-0800-3-3		
800 Lg			H8163-0800-4-3		
1600 Lg			H8163-01600-4-3		
2400 Lg			H8163-2400-4-3		

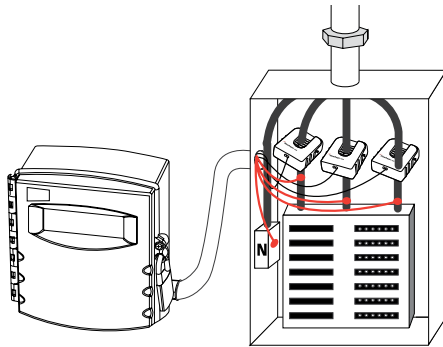
ACCESSORIES

Fuse and Fuseholders...see page 220.



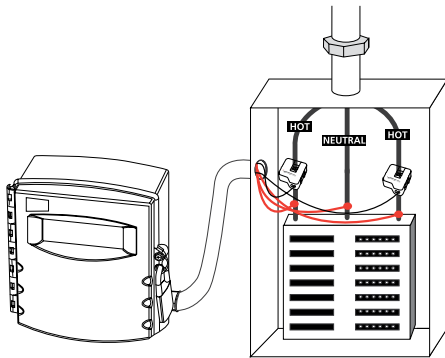
**APPLICATION/WIRING EXAMPLES**

*208/120VAC, 4-wire, 3Ø, 200 Amp Service*



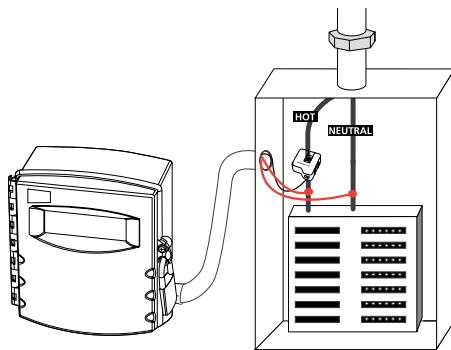
H8163-0200-1-3

*240VAC, 3-wire, Single Phase, 100 Amp Service*



H8163-0100-0-2

*120VAC, 2-wire, Single Phase, 100 Amp Service*



H8163-0100-0-1

**DATA OUTPUT SPECIFICATIONS**

- |                          |                        |
|--------------------------|------------------------|
| kWh, Consumption         | Power factor ØB        |
| kW, Real power           | Power factor ØC        |
| kVAR, Reactive power     | Voltage, ØA to ØB      |
| kVA, Apparent power      | Voltage, ØB to ØC      |
| Power factor             | Voltage, ØA to ØC      |
| Voltage, line to line    | Voltage, ØA to Neutral |
| Voltage, line to neutral | Voltage, ØB to Neutral |
| Amps, Average current    | Voltage, ØC to Neutral |
| kW, Real Power ØA        | Amps, Current ØA       |
| kW, Real Power ØB        | Amps, Current ØB       |
| kW, Real Power ØC        | Amps, Current ØC       |
| Power factor ØA          |                        |