



H81xx Series



H81xx

SUB-TENANT METER WITH CALIBRATED CTs FOR SUPERIOR SYSTEM ACCURACY

DESCRIPTION

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. 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 to 100 A with 100 A CTs). Matching serial numbers assure that the meter and CT were calibrated together (matching does not apply if using 100 A CTs).

The H81xx is easy to install. The split-core CTs virtually eliminate the need to remove electrical conductors, reducing installation time. The meter is also capable of detecting and correcting phase reversal, eliminating the need for concern about CT load orientation. The convenient color coding of the CTs and voltage leads make correct connection simple.

FEATURES

- Revenue Grade measurements
- High resolution backlit LCD display provides clear readings at a distance...reduces the risk of misinterpretation of the data. Backlighting can be disabled if desired
- H8163 provides a pulse output from 1/10 to 1 pulse per kWh for easy connection to existing control or data acquisition systems
- Provides a phase-loss alarm...protects equipment (H8163)
- With the optional communications board (H81xx-CB), the H81xx 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

SPECIFICATIONS

Agency Approvals	UL61010-1, Cat. III, pollution degree 2
INPUTS	
VOLTAGE INPUT	
H8150	90 to 132 Vac line-to-neutral
H8163	90 to 300 Vac line-to-neutral
ACCURACY	
System Accuracy	±1% of reading from 2% to 100% of the rated current of the CTs, accomplished by matching the CTs with electronics and calibrating them as a system
Sample Rate	1280 Hz
OUTPUTS	
LCD Display All Models	1.2" x 3.8" (31 mm x 97 mm) viewing area, 160 segments, backlit with LCD
H8163 ONLY	
Pulse Output	Normally open, Opto-FET, 100 mA@24 Vac/dc
Pulse Rate	0.10 ¹ , 0.25 ² , 0.50, or 1.00 kWh per pulse
Pulse Width	200 msec closed
Phase Loss Alarm	N.O. (opens on alarm), Opto-FET, 100 mA @ 24 Vac/dc; fixed threshold 25% below
Environmental	
Protection Class	NEMA 1
Altitude of Operation	2000 m
Operating Temp Range	0 to 50 °C (32 to 122 °F)
Storage Temp Range	-40 to 70 °C (-40 to 158 °F)
Humidity Range	0 to 95% non-condensing; indoor use only
WARRANTY	
Limited Warranty	5 years

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

1. Not supported at >1600 A.

2. Not supported at >2400 A.

Note: Meter and CTs serial numbers must match, except for 100A CTs. Neutral voltage connection is required.

APPLICATIONS

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

ACCESSORIES

Fuse and Fuseholders (AH02, AH03, AH04)

Comms board (H81xx-CB)

Modbus TCP Gateway (U013-0012)

BACnet IP Router (U013-0013)



U013-0013

U013-0015



AH04



H81xx-CB

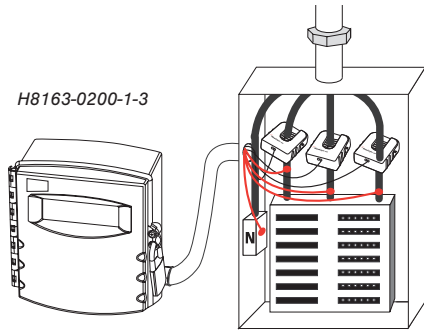


U013-0012

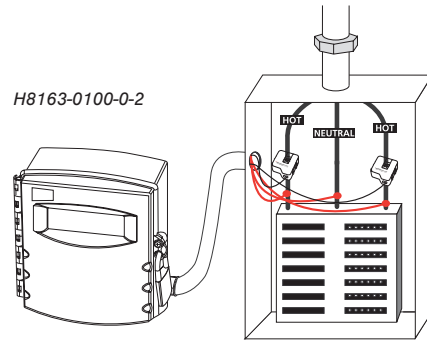


WIRING DIAGRAMS

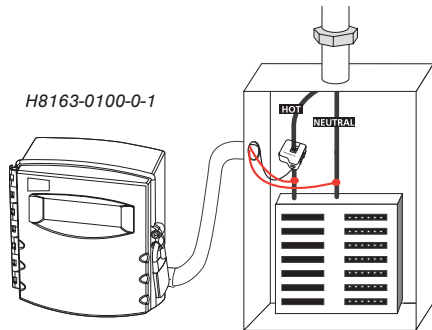
208/120 Vac, 4-wire, 3Ø, 200 A Service



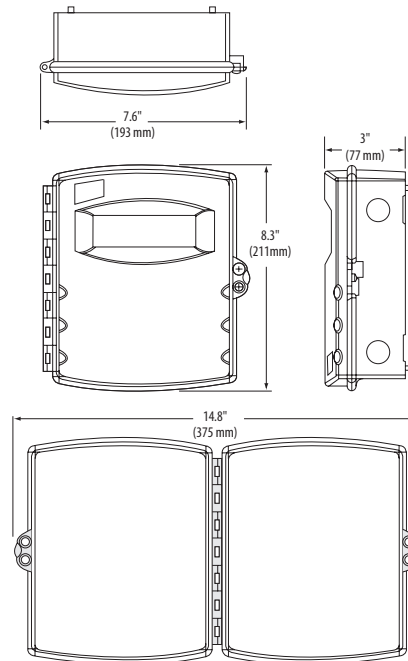
240 Vac, 3-wire, Single Phase, 100 A Service



120 Vac, 2-wire, Single Phase, 100 A Service



DIMENSIONAL DRAWINGS



DATA OUTPUTS

- kWh, Consumption
 - kW, Real power
 - kVAR, Reactive power
 - kVA, Apparent power
 - Power factor
 - Voltage, line to line
 - Voltage, line to neutral
 - Amps, Average current
 - kW, Real Power ØA
 - kW, Real Power ØB
 - kW, Real Power ØC
 - Power factor ØA
 - Power factor ØB
 - Power factor ØC
 - Voltage, ØA to ØB
 - Voltage, ØB to ØC
 - Voltage, ØA to ØC
 - Voltage, ØA to Neutral
 - Voltage, ØB to Neutral
 - Voltage, ØC to Neutral
 - Amps, Current ØA
 - Amps, Current ØB
 - Amps, Current ØC
 - Demand kW and kVAR *
 - Peak Demand *
 - Time Stamp *
- * with H8163-CB communications board installed

ORDERING INFORMATION



120 Vac to 240 Vac (nom.)

Amps	One CT	Two CTs	Three CTs	Voltage	Output
100 Micro	H8150-01000-1	H8150-0100-0-2	H8150-0100-0-3	120 Vac 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		

120 Vac to 480 Vac (nom.) with Pulse and Phase Loss Outputs

Amps	One CT	Two CTs	Three CTs	Voltage	Output
100 Micro	H8163-0100-0-1	H8163-0100-0-2	H8163-0100-0-3	120 to 480 Vac	Pulse & 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		