LEVITON

VerifEye™ Series 4100 Bidirectional ModBus RTU and BACnet MS/TP Meter Kits

DESCRIPTION

The VerifEye™ Series 4100 Bidirectional ModBus RTU and BACnet MS/TP Meter Kits feature bidirectional monitoring specifically designed for renewable energy applications. The Series 4100 Meter Kits measure power imported from the utility grid and power exported from renewable energy sources like solar panels. This allows facility administrators to track all energy data ensuring accuracy in billing and crediting.

The Series 4100 Bidirectional Meter Kits are revenue-grade (ANSI C12.20 Class 0.2%) kWh electrical meters. The device combines exceptional performance and easy installation for a cost-effective energy monitoring solution. The Series 4100 Bidirectional Meter Kits are available in standalone DIN rail mount or NEMA 4X enclosure. The 3-phase, advanced communication meter kits come with either split core or flexible rope-style Rogowski Current Transformers (CTs) for compact or irregularly shaped conductors. Combinations of serial communication, pulse output and phase alarms are provided to suit a wide variety of applications.

FEATURES

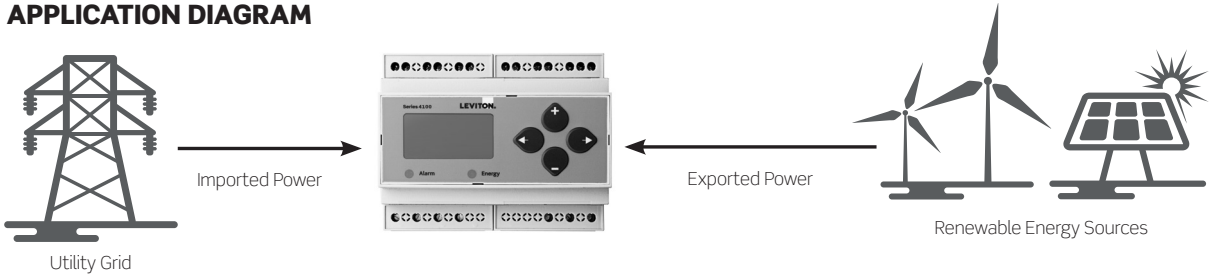
- Bidirectional monitoring
- Industrial temperature range: -22 to 158°F (-30 to 70°C)
- 50/60 Hz
- Versatile input voltage: 90-600VAC including 347VAC (L-N) and 600VAC (L-L)
- Rogowski CT Options (20-5,000A)
- DIN rail mount or NEMA 4X enclosure
- Five year warranty

APPLICATIONS

Use the VerifEye Series 4100 Bidirectional Meter Kits in commercial, institutional, industrial and government applications for:

- Energy monitoring for AMR/BAS/BMS/EMS systems
- Industrial monitoring
- Renewable energy applications such as solar panels and wind
- Tenant cost allocation
- Energy conservation and cost reduction
- Green building initiatives and government mandates
- Measurement and verification
- Load profiling and benchmarking

APPLICATION DIAGRAM



VerifEye™ Series 4100 Bidirectional ModBus and BACnet MS/TP Meter Kits

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PRODUCT DATA

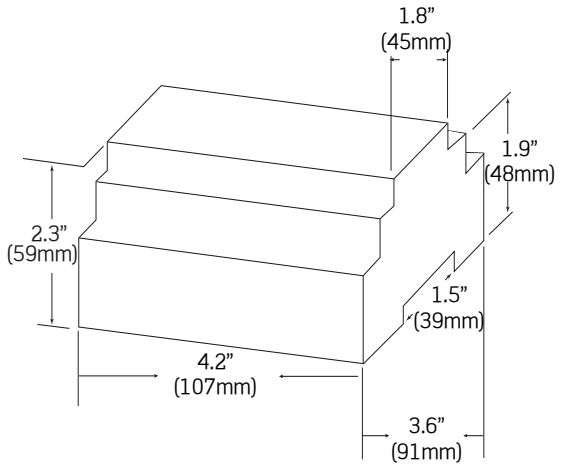
FEATURES

- DIN rail mount for easy installation
- Optional outdoor NEMA 4X enclosure
- Options for 100, 200, 400 and 800A split core CTs and 12", 18" and 24" Rogowski CTs (20-5,000A)
- ANSI 12.20 0.2% accuracy, IEC 62053-22 Class 0.2S
- Real energy output and phase loss alarm output
- Versatile input voltage with fewer models to stock: 90-600VAC including 347VAC (L-N) and 600VAC (L-L)
- User-enabled password protection to protect meter from tampering
- Bright, backlit LCD for installation in dark areas and viewing real time data
- Import and export totals of present power demand: real (kW), reactive (kVAR) and apparent (kVA)
- System integration via ModBus RTU or BACnet MS/TP (over RS-485 serial)
- CSI approval for California Solar Initiative
- cULus rated
- CE compliant
- BTL certified

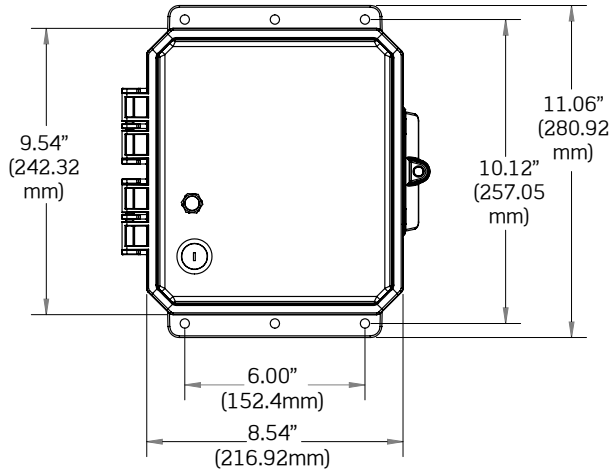
MEASURED PARAMETERS

- kW
- kVA and kVAR
- Power factor: 3 phase average and per phase
- Import and export present power demand: Real (kW), reactive (kVAR) and apparent (kVA)
- Bidirectional energy measurements
- Current (3-phase average and per phase)
- Voltage L-L and L-N
- Frequency
- ANSI C12.20 0.2% accuracy, IEC 62053-22 Class 0.2S
- Accumulated net energy: Real (kWh), reactive (kVARh) and apparent (kVAh)
- Accumulated real energy by phase (kWh)
- Demand interval configuration: fixed or rolling block, external sync to communication

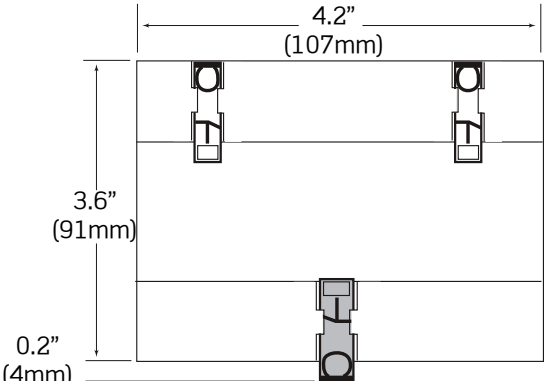
DIMENSIONS - DIN RAIL

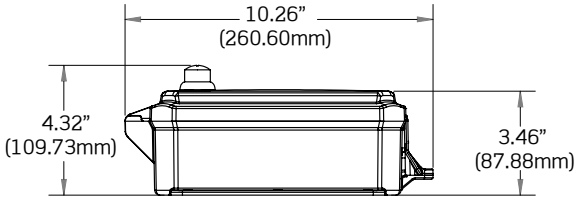


DIMENSIONS - OUTDOOR ENCLOSURE



MOUNTING DIAGRAM

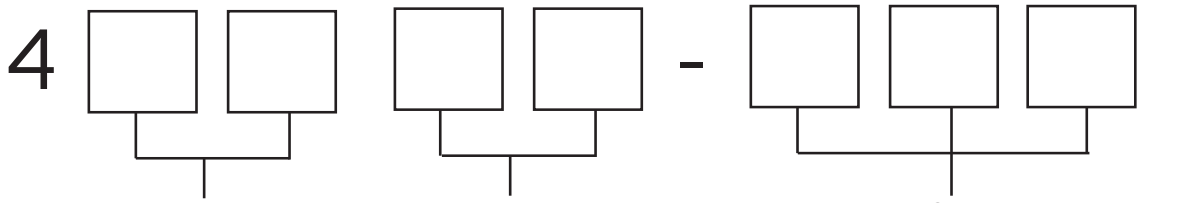




SPECIFICATIONS

INPUTS	
Control Power, AC	50/60 Hz, 5VA max, 90V min UL Maximums: 600V L-L (347V L-N) CE Maximum: 300V L-N
Control Power, DC	3W max, UL and CE: 125 to 300VDC (external DC current limiting required)
Input Voltage	UL: 90V L-N to 600V L-L CE: 90V L-N to 300V L-N
Input Current Scaling	Up to 32,000A
Input Range	0 to 0.333V or 0 to 1V (selectable) CTs must be rated for use with Class 1 voltage inputs **Split Core CTs:** 100, 200, 400, 800A **Rogowski CTs:** (20-5000A) 12", 18" and 24" lengths available
OUTPUTS	
Real Energy Pulse	N.O. static, 30V AC/DC 100mA max
Alarm Contacts	
Serial Port	RS-485 2-wire ModBus RTU (1200 baud to 38.4 kbaud), BACnet MS/TP
MECHANICAL	
Mounting	DIN rail or NEMA 4X outdoor enclosures
ENVIRONMENTAL	
Altitude	9843ft (3000m) maximum
Operating Temperature	-22 to 158°F (-30 to 70°C)
Storage Temperature	-40 to 185°F (-40 to 85°C)
Operating Humidity	<95% RH non-condensing
Pollution	Degree 2
CODES & STANDARDS	
Safety	UL508 (Open Type Device), cUL, EN61010-1
Accuracy & Billing	ANSI/C12.20 0.2 Class
Listings	CE compliant, CSI approval for California Solar Initiative, cULus rated

ORDERING KEY



Enclosure
Indoor DIN Rail Mount = DU
Outdoor NEMA - 10

Protocol
Indoor ModBus = MR
Indoor BACnet MS/TP = BM
Outdoor ModBus = UM
Outdoor BACNnet MS/TP = UB

CTs

Split Core - ModBus
100A = 01M
200A = 02M
400A = 04M
800A = 08M

Rogowski Coil
12" = 12R
18" = 18R
24" = 24R

Split Core - BacNet MS/TP
100A = 01B
200A = 02B
400A = 04B
800A = 08B

LEVITON®

ORDERING INFORMATION

VOLTAGE	AMPS	CTS INCLUDED	CAT. NO.
DIN RAIL MOUNT MODBUS METER KITS			
Universal 3PH 3W/4W ModBus	100	Split Core CTs	4DUMR-01M
	200	Split Core CTs	4DUMR-02M
	400	Split Core CTs	4DUMR-04M
	800	Split Core CTs	4DUMR-08M
	20-5,000	12” Rogowski Coil CTs	4DUMR-12R
	20-5,000	18” Rogowski Coil CTs	4DUMR-18R
	20-5,000	24” Rogowski Coil CTs	4DUMR-24R
DIN RAIL MOUNT BACNET MS/TP METER KITS			
Universal 3PH 3W/4W BACNet/MS/TP	100	Split Core CTs	4DUBM-01B
	200	Split Core CTs	4DUBM-02B
	400	Split Core CTs	4DUBM-04B
	800	Split Core CTs	4DUBM-08B
	20-5,000	12” Rogowski Coil CTs	4DUBM-12R
	20-5,000	18” Rogowski Coil CTs	4DUBM-18R
	20-5,000	24” Rogowski Coil CTs	4DUBM-24R
OUTDOOR NEMA ENCLOSURE MODBUS METER KITS			
Universal 3PH 3W/4W ModBus	100	Split Core CTs	41OUM-01M
	200	Split Core CTs	41OUM-02M
	400	Split Core CTs	41OUM-04M
	800	Split Core CTs	41OUM-08M
	20-5,000	12” Rogowski Coil CTs	41OUM-12R
	20-5,000	18” Rogowski Coil CTs	41OUM-18R
	20-5,000	24” Rogowski Coil CTs	41OUM-24R
OUTDOOR NEMA ENCLOSURE BACNET MS/TP METER KITS			
Universal 3PH 3W/4W BACNet/MS/TP	100	Split Core CTs	41OUB-01B
	200	Split Core CTs	41OUB-02B
	400	Split Core CTs	41OUB-04B
	800	Split Core CTs	41OUB-08B
	20-5,000	12” Rogowski Coil CTs	41OUB-12R
	20-5,000	18” Rogowski Coil CTs	41OUB-18R
	20-5,000	24” Rogowski Coil CTs	41OUB-24R