

# VerifEye™ Series 4000 0.2% Accurate Industrial ModBus Meter Kits



## DESCRIPTION

The VerifEye™ Series 4000 Industrial ModBus Meter Kits are revenue-grade (ANSI 12.20 Class 0.2%) kWh electrical meters. The device combines exceptional performance and easy installation for a cost-effective energy monitoring solution.

The VerifEye Series 4000 Industrial ModBus Meter Kits are available in standalone DIN Rail Mount or NEMA 4X Enclosure, 3-phase, advanced communication meter kits with split core or flexible rope-style Rogowski Current Transformers (CTs) for compact or irregular shaped conductors. Combinations of serial communication, pulse output and phase alarms are provided to suit a wide variety of applications.

## FEATURES

- Industrial temperature range: -22 to 158°F (-30 to 70°C)
- 50/60 Hz
- 90-600V versatility including 347V (L-N) and 600V (L-L)
- Resettable kWh feature meets requirements for Title 24 and Seattle Energy Code Rogowski CT Options (20-5000A)
- DIN rail mount
- Five year warranty

## APPLICATIONS

Use the VerifEye Series 4000 Industrial ModBus Meter Kits in commercial, institutional, industrial and government applications for:

- Energy monitoring for AMR/BAS/BMS/EMS systems
- Tenant cost allocation
- Energy conservation and cost reduction
- Green building initiatives and government mandates
- Measurement and verification
- Load profiling and benchmarking

## PRODUCT DATA

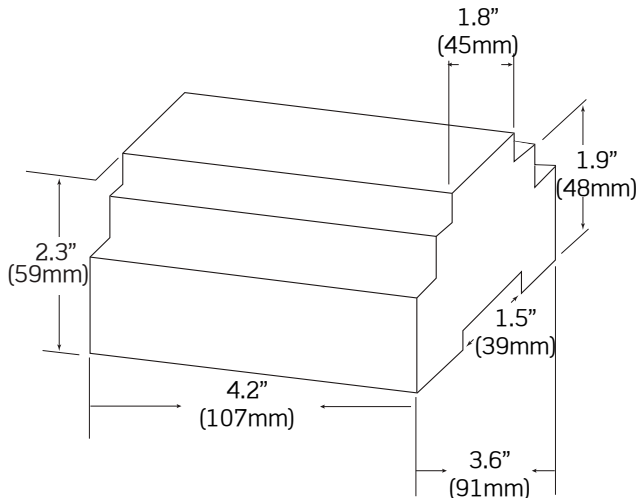
### FEATURES

- 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 (20-5000A)
- ANSI 12.20 0.2% accuracy, IEC 62053-22 Class 0.5S
- Real energy output and phase loss alarm output
- 90-600VA versatility with fewer models to stock
- One device serves multiple locations
- User-enabled password protection to protect meter from tampering
- Bright, backlit LCD for installation in dark areas and viewing real time data
- System integration via ModBus RTU - RS-485 2-wire with shield
- CSI approved for California Solar Initiative
- cULus rated
- CE compliant

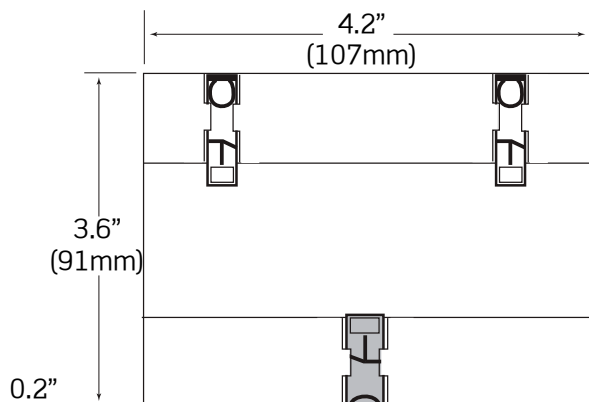
### MEASURED PARAMETERS

- kW
- kVA and kVAR
- Power factor: 3 phase average & per phase
- Present power demand: Real (kW), reactive (kVAR) and apparent (kVA)
- Current (3-phase average and per phase)
- Voltage L-L and L-N
- Frequency
- ANSI C12.20 0.2% accuracy, IEC 62053-22 Class 0.5S
- 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

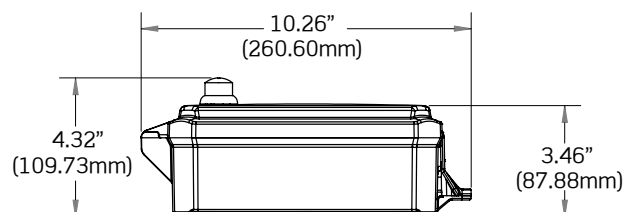
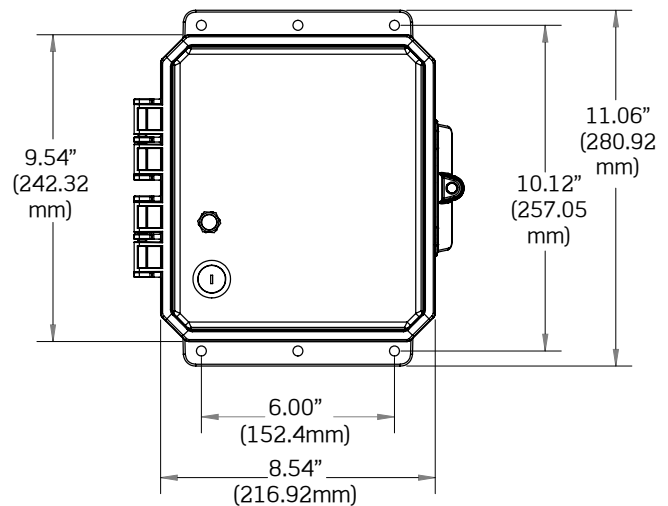
### DIMENSIONS - DIN RAIL



### MOUNTING DIAGRAM



### DIMENSIONS - OUTDOOR ENCLOSURE



## SPECIFICATIONS

| INPUTS                |                                                                                                                                                                                                                |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Control Power, AC     | 50/60 Hz, 5VA max, 90V min<br>UL Maximums: 600V L-L<br>(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<br>CE: 90V L-N to 300V L-N                                                                                                                                                             |
| Input Current Scaling | 5A 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<br><b>Split Core CTs:</b> 100, 200, 400, 800A<br><b>Rogowski CTs:</b> (20-5000A) 12", 18", and 24" lengths available |
| OUTPUTS               |                                                                                                                                                                                                                |
| Real Energy Pulse     | N.O. static                                                                                                                                                                                                    |
| Alarm Contacts        | N.C. static                                                                                                                                                                                                    |
| Serial Port           | RS-485 2-wire ModBus RTU (1200 baud to 38.4 kbaud)                                                                                                                                                             |
| 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% to 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

4  U  -

O - Outdoor  
K - DIN Rail

MR - ModBus

01M - 100A Split Core  
02M - 200A Split Core  
04M - 400A Split Core  
08M - 800A Split Core  
R12 - 12" Rogowski  
R18 - 18" Rogowski  
R24 - 24" Rogowski

ORDERING INFORMATION

| INDOOR DIN RAIL MOUNT  |                                    |                        |           |
|------------------------|------------------------------------|------------------------|-----------|
| VOLTAGE                | AMPS                               | CTS INCLUDED           | CAT. NO.  |
| Universal 3PH 3W/4W    | 100                                | Split Core CTs         | 4KUMR-01M |
| Universal 3PH 3W/4W    | 200                                | Split Core CTs         | 4KUMR-02M |
| Universal 3PH 3W/4W    | 400                                | Split Core CTs         | 4KUMR-04M |
| Universal 3PH 3W/4W    | 800                                | Split Core CTs         | 4KUMR-08M |
| Universal 3PH 3W/4W    | 20-5000                            | 12" Rogowski Coil CTs  | 4KUMR-R12 |
| Universal 3PH 3W/4W    | 20-5000                            | 18" Rogowski Coil CTs  | 4KUMR-R18 |
| Universal 3PH 3W/4W    | 20-5000                            | 24" Rogowski Coil CTs  | 4KUMR-R24 |
| STANDALONE METERS ONLY |                                    |                        |           |
| Universal 3PH 3W/4W    | 100, 200, 400, 800                 | Split Core CTs Only    | 4KUMR-00M |
| Universal 3PH 3W/4W    | 20-5000                            | Rogowski Coil CTs Only | 4KUMR-00R |
| OUTDOOR NEMA ENCLOSURE |                                    |                        |           |
| VOLTAGE                | AMPS                               | CTS INCLUDED           | CAT. NO.  |
| Universal 3PH 3W/4W    | 100                                | Split Core CTs         | 4OUMR-01M |
| Universal 3PH 3W/4W    | 200                                | Split Core CTs         | 4OUMR-02M |
| Universal 3PH 3W/4W    | 400                                | Split Core CTs         | 4OUMR-04M |
| Universal 3PH 3W/4W    | 800                                | Split Core CTs         | 4OUMR-08M |
| Universal 3PH 3W/4W    | 20-5000                            | 12" Rogowski Coil CTs  | 4OUMR-R12 |
| Universal 3PH 3W/4W    | 20-5000                            | 18" Rogowski Coil CTs  | 4OUMR-R18 |
| Universal 3PH 3W/4W    | 20-5000                            | 24" Rogowski Coil CTs  | 4OUMR-R24 |
| COMPONENTS             |                                    |                        |           |
| AMPS                   | DESCRIPTION                        | CAT. NO.               |           |
| 100                    | Split Core CTs                     | CTV01-K21              |           |
| 200                    | Split Core CTs                     | CTV02-K21              |           |
| 400                    | Split Core CTs                     | CTV04-K40              |           |
| 800                    | Split Core CTs                     | CTV08-K40              |           |
| -                      | Fuse Pack, 1/2A, 600VAC, slow blow | CTV00-FK3              |           |
| 20-5000                | 12" Rogowski Coil CTs              | CRV50-K62              |           |
| 20-5000                | 18" Rogowski Coil CTs              | CRV50-K93              |           |
| 20-5000                | 24" Rogowski Coil CTs              | CRV50-KC2              |           |

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