**VerifEye™ Series 4100**

Compact Power and Energy Meter Modbus and BACnet

For Use Only With U018 Series Rogowski CTS

Quick Install Guide

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**Installation**

**WARNING:** TO AVOID FIRE, SHOCK, OR DEATH, disconnect power prior to installation.

Reinstall any covers that are displaced during the installation before powering the unit.

Mount the meter in an appropriate electrical enclosure near equipment to be monitored.

Do not install on the load side of a Variable Frequency Drive (VFD). For S4100 Series (bidirectional) models, observe correct CT orientation.

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**SUPPORTED SYSTEM TYPES**

The meter has a number of different possible system wiring configurations (see Wiring Diagrams, page 9-12). To configure the meter, set the System Type via the User Interface, Modbus register 130. The System Type tells the meter which of its current and voltage inputs are valid, which are to be ignored, and if neutral is connected. Setting the correct System Type prevents unwanted energy accumulation on unused inputs, selects the formula to calculate the Theoretical Maximum System Power, and determines which phase loss algorithm is to be used. The phase loss algorithm is configured as a percent of the Line-to-Line System Voltage (except when in System Type 10), and also calculates the expected Line to Neutral voltages for system types that have neutral (12 & 40).

Values that are not valid in a particular System Type will display as “---” on the User Interface or on GDS in the Modbus registers.

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**SPECIFICATIONS**

- **Measurement Accuracy:**
  - Real Power and Energy: IEC 62053-22 Class 0.5S, ANSI C12.20 0.5%
  - Input Voltage Characteristics:
    - Measured AC Voltage Minimum 90 V L-N (156 V L-L ) for stated accuracy; 120 V L-N for stated accuracy.
    - Input Voltage Characteristics:
      - Real Power and Energy: IEC 62053-22 Class 0.5S, ANSI C12.20 0.5%
  - Input Current Characteristics:
    - Input Current Limitation: 0.1A 50/60 Hz.
    - Input Current Limitation: 0.1A 50/60 Hz.
  - Input Current Characteristics:
    - Power Factor Measurement: 0.1 to 1.0, 50/60 Hz.
    - Power Factor Measurement: 0.1 to 1.0, 50/60 Hz.
  - Input Current Characteristics:
    - Harmonic Distortion Measurement: +/- 1.0%.
    - Harmonic Distortion Measurement: +/- 1.0%.
  - Input Current Characteristics:
    - Voltage and Current Source Measurements: +/- 1.0%.
    - Voltage and Current Source Measurements: +/- 1.0%.
  - Input Current Characteristics:
    - Relay Output: 5A 110/220 VAC, 3A 240 VAC. 1A 120 VAC.
    - Relay Output: 5A 110/220 VAC, 3A 240 VAC. 1A 120 VAC.
  - Input Current Characteristics:
    - Modbus and BACnet Interface or as QNAN in the Modbus registers.
    - Modbus and BACnet Interface or as QNAN in the Modbus registers.
  - Input Current Characteristics:
    - Values that are not valid in a particular System Type will display as “---” on the User Interface or on GDS in the Modbus registers.
    - Values that are not valid in a particular System Type will display as “---” on the User Interface or on GDS in the Modbus registers.
  - Input Current Characteristics:
    - Supported System Types:
      - Single-Phase Wiring
      - Three-Phase Wiring
      - Three-Phase Wiring
  - Input Current Characteristics:
    - Supported System Types:
      - Single-Phase Wiring
      - Three-Phase Wiring
      - Three-Phase Wiring
  - Input Current Characteristics:
    - Supported System Types:
      - Single-Phase Wiring
      - Three-Phase Wiring
      - Three-Phase Wiring
  - Input Current Characteristics:
    - Supported System Types:
      - Single-Phase Wiring
      - Three-Phase Wiring
      - Three-Phase Wiring
  - Input Current Characteristics:
    - Supported System Types:
      - Single-Phase Wiring
      - Three-Phase Wiring
      - Three-Phase Wiring
  - Input Current Characteristics:
    - Supported System Types:
      - Single-Phase Wiring
      - Three-Phase Wiring
      - Three-Phase Wiring

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**PRODUCT IDENTIFICATION**

Series 4100-C 
Bidirectional metering, BACnet full data set, pulse input, alarm output. For use only with U018 Series Rogowski CTS. For use only with U018 Series Rogowski CTS.

Series 4100-R 
Bidirectional metering, Modbus full data set, pulse and alarm outputs. For use only with U018 Series Rogowski CTS.
WARNING

CT terminals are referenced to the meter’s neutral and may be at elevated voltages. TO AVOID DEATH OR SERIOUS PERSONAL INJURY:

- Do not contact meter terminals while the unit is connected.
- Do not connect or short other circuits to the CT terminals.

CTs are polarity sensitive. On bidirectional applications, observe correct CT orientation.

- Select over-current protection with a time delay.
- Provide over-current protection and disconnecting means to protect the wiring. For DC installations, provide external circuit protection. Suggested: 0.5 A, time delay fuse rated 10x rated DC operation or above the supply voltage.

If there are any questions, please contact technical support or service.

Now that you have connected the CTs, proceed to the next section to connect the power and to calibrate the unit.

Direct Connect Control Power Transformer (CPT) Connection

SOLID STATE PULSE OUTPUTS (S4100-R)

The S4100-R has one pulse input. This input is isolated from the measured circuits. On models with BACnet communication (S4100-C), they are referenced to the communication signal ground and the output signal shield terminal. Use with contacts that do not require time to remove oxidation.

E. To Enter the service type to be monitored:

1. Navigate to the [595] (Set System) Setup screen (see section).
2. Press [→] to go to the [595] screen. Use [←] or [→] to select the service type to be monitored.
3. Press [↑] or [↓] to accept the value and go back to the [595] screen.

CHINA RoHS COMPLIANCE INFORMATION (EFUP Table)

FCC PART 15 INFORMATION

NOTE: Changes or modifications not explicitly approved by the manufacturer may void user’s authority to operate the equipment. The end user may void the warranty if the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. The equipment complies with part 15 of the FCC Rules. Operation of this product without the express authorization of the manufacturer may void this statement.

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Additional Resources:
For a copy of the full installation guide for this product, visit www.leviton.com.

For technical support, contact Leviton at 800-800-8004, or via email at techsupport@leviton.com.