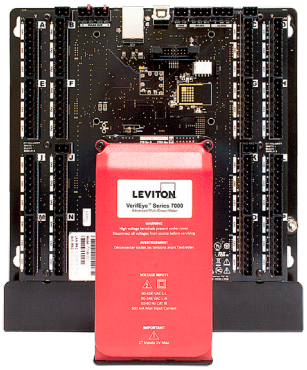
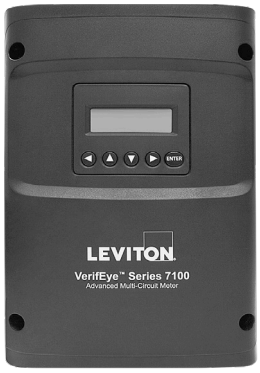
VerifEye™ Series 7000 and 7100 24 & 48 Circuit Advanced Branch Circuit Monitor

Series 7000 Embedded - With Display



Series 7000 Embedded - No Display



Series 7100

70D48-N4X UL508 Panel

Solid Core CT

Split Core CT

Hinged Split Core CT

Rogowski Coil CT

Description

The VerifEye™ Series 7000 and 7100 48 Circuit Advanced Branch Circuit Monitor is a cost-effective solution for electrical load management. The Series 7000 and 7100 platform is ideal for high density, branch circuit monitoring applications in both new construction and retrofit applications. The Series 7000 and 7100 monitors up to 24 or up to 48 circuits based on the meter. The Series 7000 and 7100 supports all industry standard communications over RS485 and Ethernet, including ModBus RTU, ModBus TCP, BACnet MS/TP and BACnet IP for maximum flexibility. The integrated USB port may be used for local configuration. The Series 7000 and 7100 monitors current, voltage, instantaneous power, demand and energy consumption of each circuit in a panelboard, including the main feed. Phase loss alarms allow the meter to trigger an alarm relay when the voltage drops below a user defined threshold

Applications

Use the VerifEye Series 7000 and 7100 Advanced Branch Circuit Monitor in commercial and industrial applications for:

- Data centers
- Tenant energy monitoring
- Energy allocation
- Energy management
- Load monitoring
- Building code compliance

Features

- 24 or 48 individual CT inputs
- Inputs configurable as follows*:
  - 24/48 individual Single Pole Meters or
  - 8/16 Two Pole Meters or
  - 8/16 Three Pole Meters
- 2 Independent sets of reference voltage input to allow for simultaneous monitoring of two different systems.
- Line powered from 90-600V, phase-to-phase
- Bidirectional monitoring
- Meets ANSI & IEC metering system accuracy requirements including branch CTs
- Supports solid core, split core, and Rogowski Coil CTs
- Meter board features:
  - Easy access terminals for CT wiring, removable connectors
  - Available with or without display embedded options
- Stores up to 60 days of 15 min interval kWh data, available as CSV download
- Reports volts, amps, power, demand and energy for each circuit
- User-configurable alarm thresholds register for under voltage and phase loss
- Selectable phase orientation and number of circuits
- Limited 5-year warranty

* Consult factory for any other configurations

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10385 SW Avery Street, Tualatin, OR 97062 **tel** 800-736-6682 **tech line** (6:00AM-4:00PM PT Mon-Fri) 800-959-6004

Capabilities

Measured Parameters
- Bidirectional energy measurements
- Volts
- Amps
- kW
- kVAR
- kVA
- aPF
- dPF
- kW demand
- kVA demand
- Import (Received)
- kWh, Export (Delivered)
- kWh
- Net kWh
- Import (Received) kVAh
- Export (Delivered) kVAh
- Net KVAh, Import (Received)
- kVARh, Export (Delivered)
- kVARh
- Net kVARh
- THD Theta
- Frequency

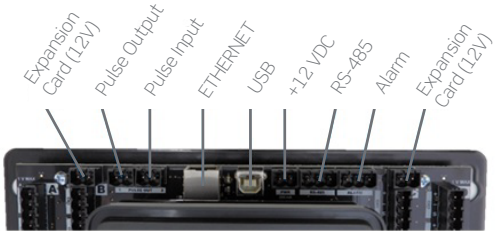
Accuracy
- 0.2% ANSI C12.20-2010 Class 0.2

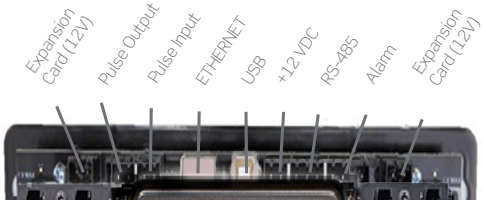
Wide Range Power
- 90-347 Volts AC Line-to-Neutral
- 600V Line-to-Line, CAT III
- Two voltage reference inputs

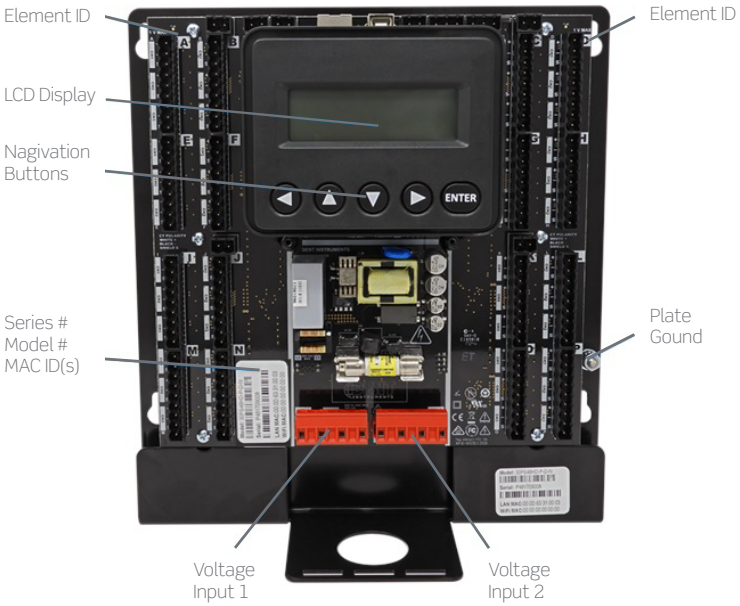
Highly Configurable
- 1P/2W, 2P/3W, 3P/4W (WYE), 3P/3W (Delta)

User Interface Options
- Meter front panel display unit
- Power Meter Viewer software with either USB direct to the meter or PC/Ethernet

Panel Features



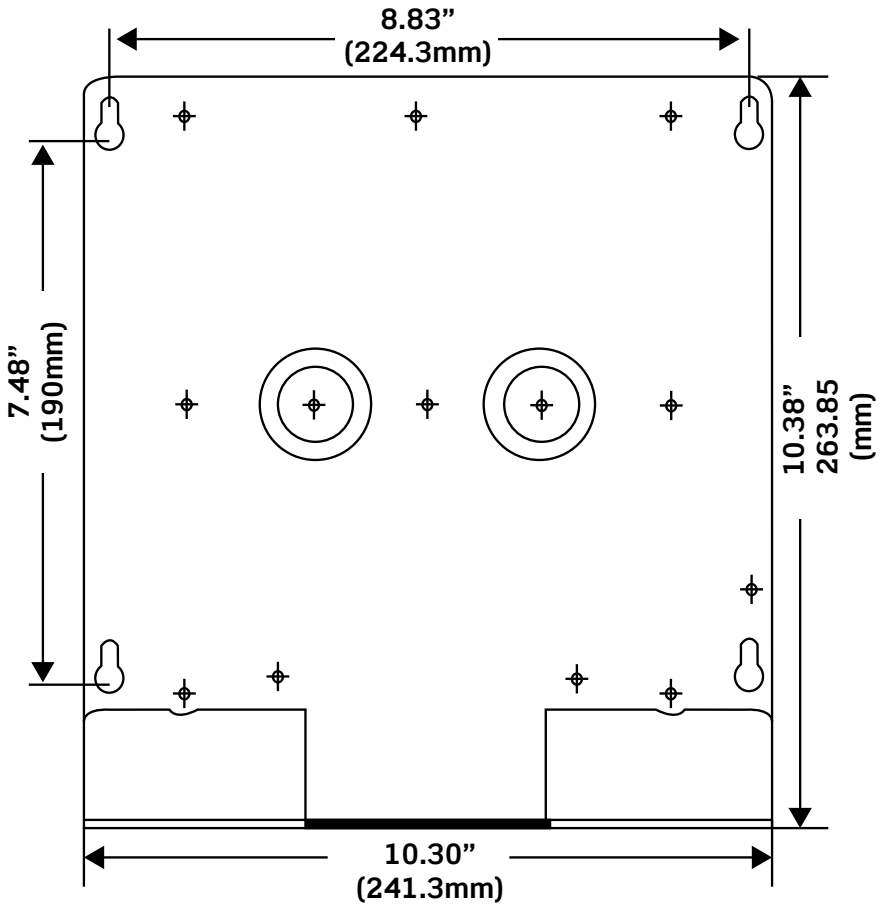




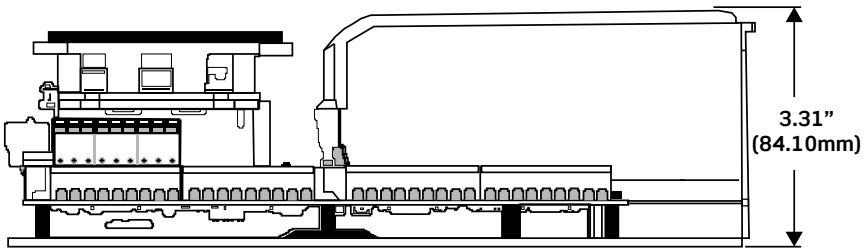
Series 7000 48 Circuit

Series 7000 24 Circuit

Series 7000 Dimensions



Series 7000 Embedded (Panel Mount)



Series 7000 Embedded (Panel Mount)

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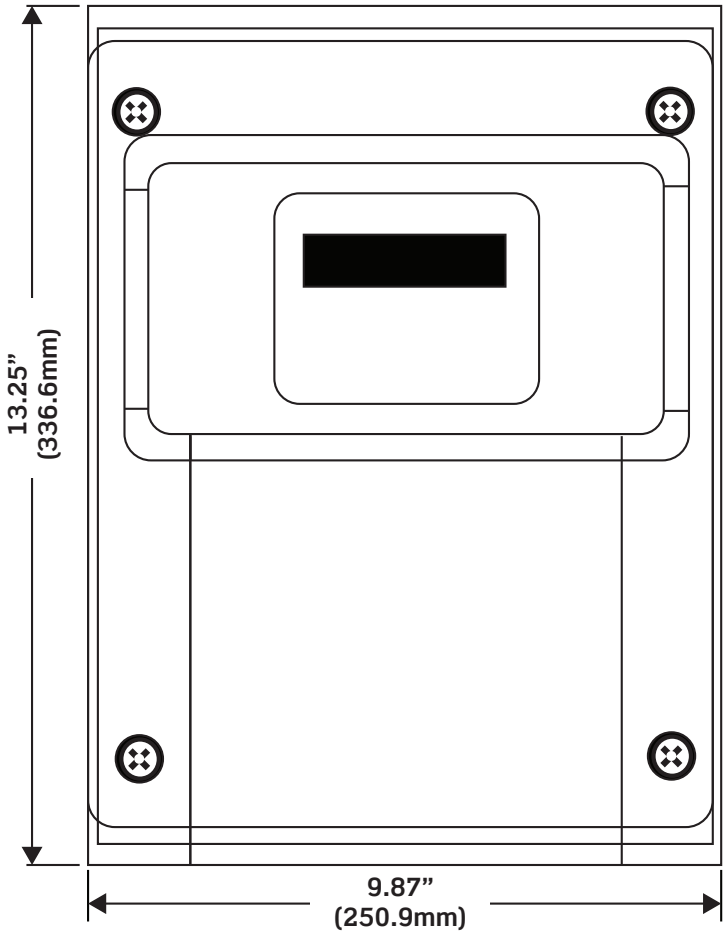
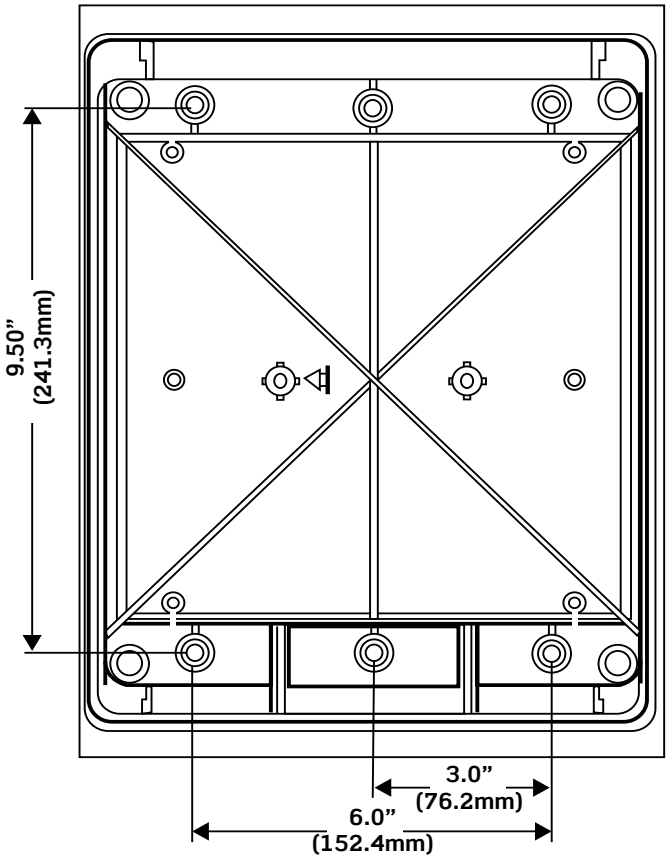
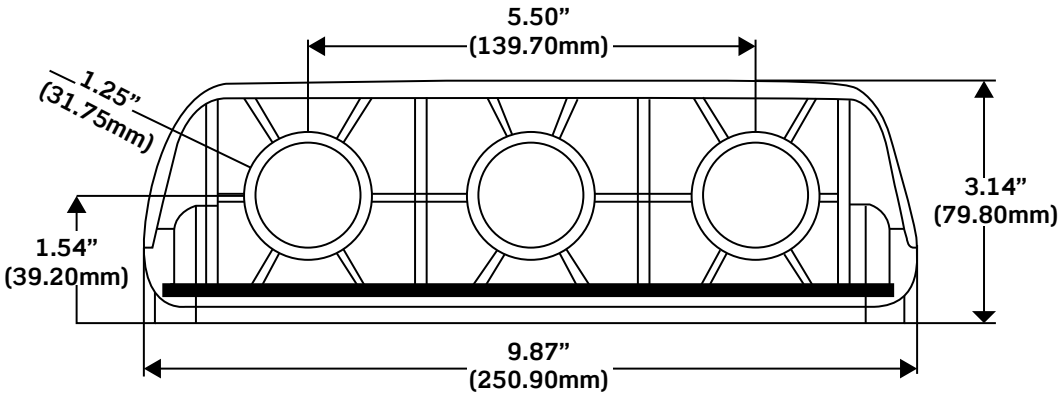
Series 7100 Dimensions



Series 7100 Enclosure Front



Series 7100 Enclosure Back



Series 7100 Enclosure Bottom

Specifications

Panelboard Monitoring System	
Electrical	
Service Type	1P/2W, 2P/3W, 3P/4W, 3P/3W (Delta)
Power	From L1 Phase to L2 Phase, 90-600VAC RMS CAT 3 50/60Hz, 500mA AC Max
AC Protection	0.5A Fuse 200kA interrupt capacity
Power Out	Unregulated 12VDC output, 200mA, self-resetting fuse
Voltage Channels	90-347 Volts AC Line-to-Neutral, 600V Line-to-Line, CAT 3. Two independent sets of reference voltage
Current Channels	24 or 48 channels, 0.525 VAC max, 333 mV CTs, 0-4,000+ Amps depending on CT
Maximum Current Input	150% of current transducer rating (mV CTs) to maintain accuracy. Measure up to 4000A with Rogowski Coil CTs.
Measurement Type	True RMS using high-speed Digital Signal Processing (DSP) with continuous sampling
Line Frequency	50/60Hz
Mechanical	
Wire Connections	12-22 AWG 600 VAC, voltage connection must be #14 AWG or larger & 600 VAC rated
Mounting	Panel Mount/Enclosure
High Voltage Cover	IP30
PCBA Mounting	0.5” standoffs #6 (quantity 6, user supplied)
Mounting Plate	Available with Series 7000 model
Communications	
Hardware	RS-485, Ethernet and USB (for configuration only)
Supported Protocols	ModBus, BACnet MS/TP, ModBus TCP or BACnet IP
Max Distance	ModBus RTU - 1200 meters (4000 ft) max, other network protocols follow standard network management practices
Environmental	
Operating Temperature	-4° to 140°F (-20° to 60°C) At -4°F, LCD display could be illegible, meter voltage at -4°F must exceed 100 VAC to power the meter
Operating Humidity	5-95% non-condensing
Codes & Standards	
Accuracy & Billing	ANSI C12.20 Class 0.2, NIST traceable calibration
Certifications	**UL Recognized(E186827):** Applies to mounting plate and circuit board only version, conforms to UL Standard 61010-1 3rd edition, certified to CSA Standard C22.2 No. 61010-1 3rd edition **UL Listed (E186827):** Applies to indoor enclosure version, conforms to UL Standard 61010-1 3rd edition, certified to CSA Standard C22.2 No. 61010-1 3rd edition
Listing/Safety	CE EN 61000-6-4: Class A
Other	
Enclosure Dimensions	13.25” L x 9.87” W x 3.14” D (336.6mm x 250.90mm x 79.80mm)
Panel Mount Dimensions	10.38” L 9.5” W 3.14” D (263.90mm x 241.3mm 79.80mm)

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Ordering Information

Series 7000 and 7100 24 & 48 Circuit Advanced Branch Circuit Monitor	
Cat. No.	**Description**
70D48-000	Series 7000 Dual Voltage, Embedded Panel Mount (no enclosure) Branch Circuit Monitor, 48 inputs, LCD display
70N48-000	Series 7000 Dual Voltage, Embedded Panel Mount (no enclosure) Branch Circuit Monitor, 48 inputs, no display
71D48-000	Series 7100 Dual Voltage, Branch Circuit Monitor, 48 inputs, LCD display, NEMA 1 enclosure
70D24-000	Series 7000 Dual Voltage, Embedded Panel Mount (no enclosure) Branch Circuit Monitor, 24 inputs, LCD display
70N24-000	Series 7000 Dual Voltage, Embedded Panel Mount (no enclosure) Branch Circuit Monitor, 24 inputs, no display
71D24-000	Series 7100 Dual Voltage, Branch Circuit Monitor, 24 inputs, LCD display, NEMA 1 enclosure

VerifEye UL508A Configured Panel Solutions	
Cat. No.	**Description**
70D24-N4X	VerifEye 70D24, 2 x 3P Disconnects
70D48-N4X	VerifEye 70D48, 2 x 3P Disconnects

Compatible CT Options*		
Cat. No.	**Description**	**Accuracy**
CDV01-W15	Solid Core CT, 333mV:100A, 0.60"	0.2%
CDV02-W20	Solid Core CT, 333mV:200A, 0.78"	0.2%
CTV5X-WA4	Split Core CT, 333mV:50A, 0.4”	0.5%
CTV5X-WA4	Hinged Split Core CT, 333 mV: 50A, .40” Window	1.0%
CTV01-KD0	Split Core CT, 333mV:100A, 1” Window	0.5%
CTV01-WC9	Hinged Split Core CT, 333 mV: 100A, .94” Window	1.0%
CTV02-KD0	Split Core CT, 333mV:200A, 1” Window	0.5%
CTV02-WC9	Hinged Split Core CT, 333 mV: 200A, .94” Window	1.0%
CTV04-KD1	Split Core CT, 333mV:400A, 1.25” Window	1.0%
CTV04-WD5	Hinged Split Core CT, 333 mV: 400A, 1.42” Window	1.0%
CTV08-KG1	Split Core CT, 333mV:800A, 3.0”x3.5” Window	1.0%
CRV50-LR2	5-4000A Rogowski Coil CT 16”, 4.5” Inside Diameter, 131mV/1000A @ 60Hz, 109.2mV/1000A @ 50Hz	<0.2% accuracy
CRV50-LR4	5-4000A Rogowski Coil CT 24”, 7.65” Inside Diameter, 131mV/1000A @ 60Hz, 109.2mV/1000A @ 50Hz	<0.2% accuracy

*Series 7000 Embed Branch Circuit Monitors are compatible with 333mV CTs, sold separately

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Leviton Manufacturing Co., Inc. Global Headquarters
201 North Service Road, Melville, NY 11747-3138 **tel** 800-323-8920 **tech line** (8:00AM-10:00PM ET Mon-Fri, 9:00AM-7:00PM ET Sat, 9:00AM-5:00PM ET Sun) 800-824-3005

Visit our Website at: www.leviton.com/verifeye

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