

# VerifEye™ Series 7000 and 7100 Advanced Branch Circuit Monitor



Series 7000 Embedded -  
With Display

Series 7000 Embedded -  
No Display

Series 7100

Split Core CT

Solid Core CT

Rogowski Coil CT

## DESCRIPTION

The VerifEye™ Series 7000 and 7100 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 48 branch circuits with one single meter board.

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. As a circuit approaches the user-configured threshold, alarm indicators are triggered, preventing costly downtime from overloaded circuits or failed loads.

## 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

- 48 independent, user-defined inputs
- 2 independent sets of reference voltage inputs allow for simultaneous monitoring of multiple 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
- Reports volts, amps, power, demand and energy for each circuit—each Series 7000 covers a complete 42 breaker panelboard plus mains for a total of 48 circuits
- Provides multi-phase totals for loads with any combination of 1-, 2-, and 3-pole breaker positions
- User-configurable alarm thresholds register for improved load management
- Selectable phase orientation and number of circuits
- Limited 5-year warranty

## PRODUCT DATA



### 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

\* All parameters for each phase and system total

#### 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

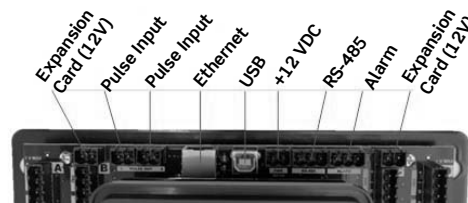
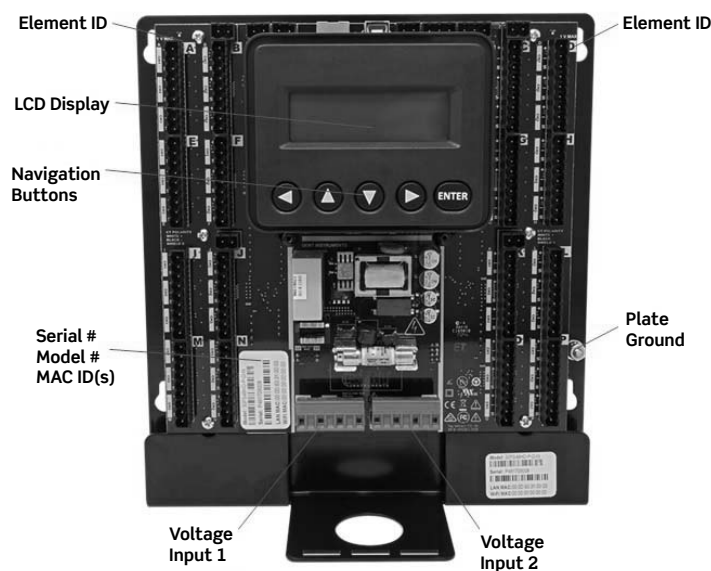
#### HIGHLY CONFIGURABLE

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

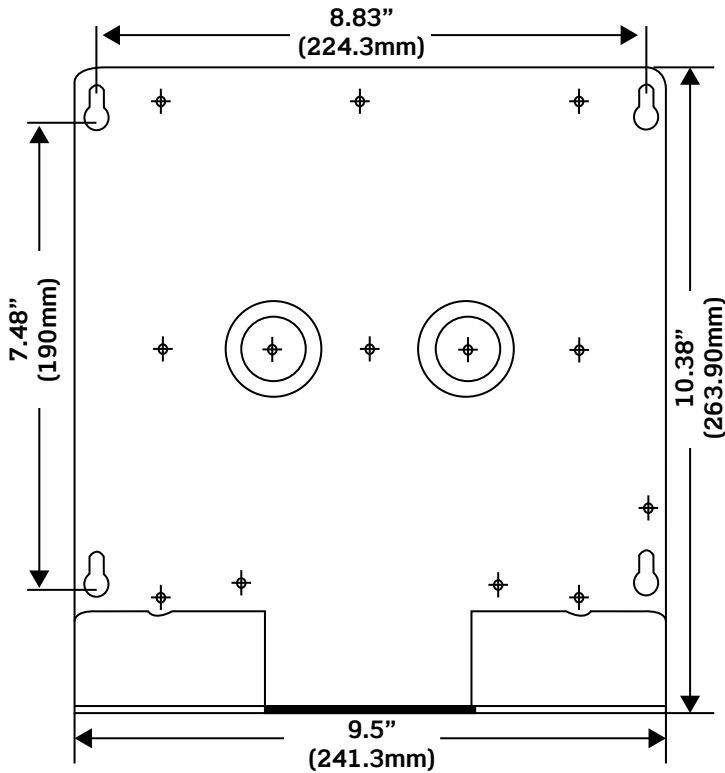
#### USER INTERFACE OPTIONS

- Meter front panel display unit
- Viewpoint HD software with either USB direct to the meter or PC/Ethernet

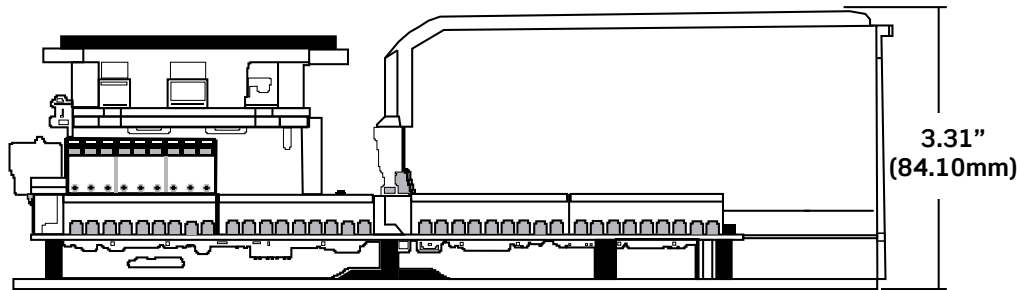
### PANEL FEATURES



**SERIES 7000 DIMENSIONS**



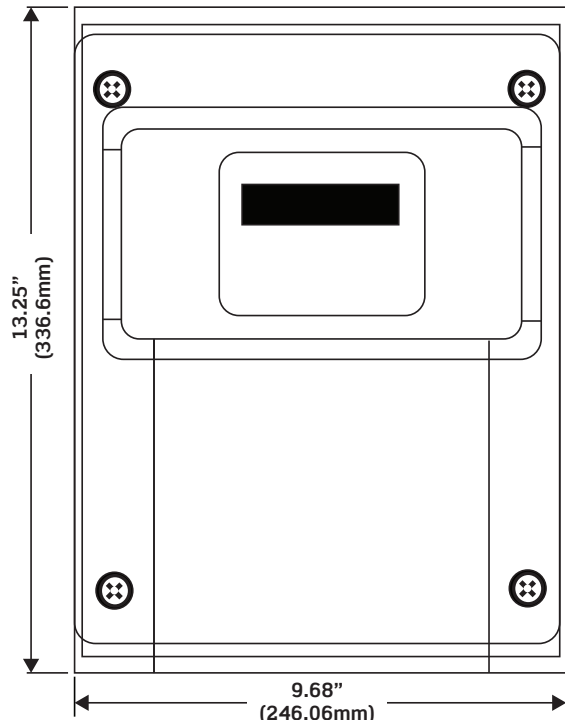
Series 7000 Embedded (Panel Mount)



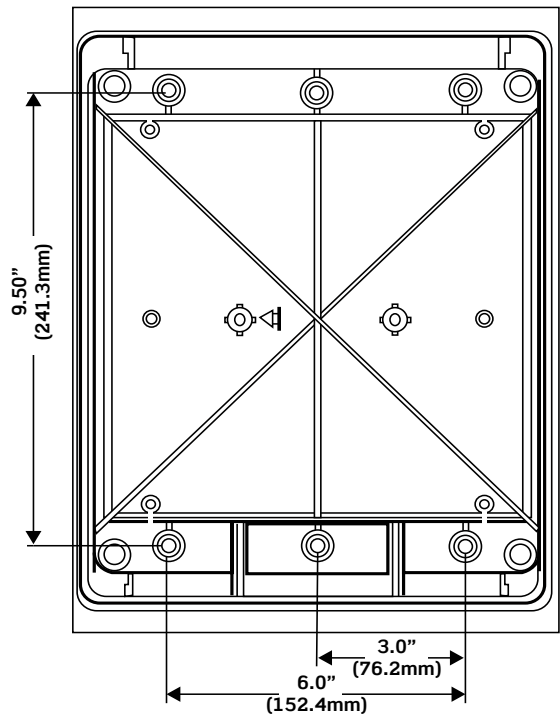
Series 7000 Embedded (Panel Mount)

PRODUCT DATA

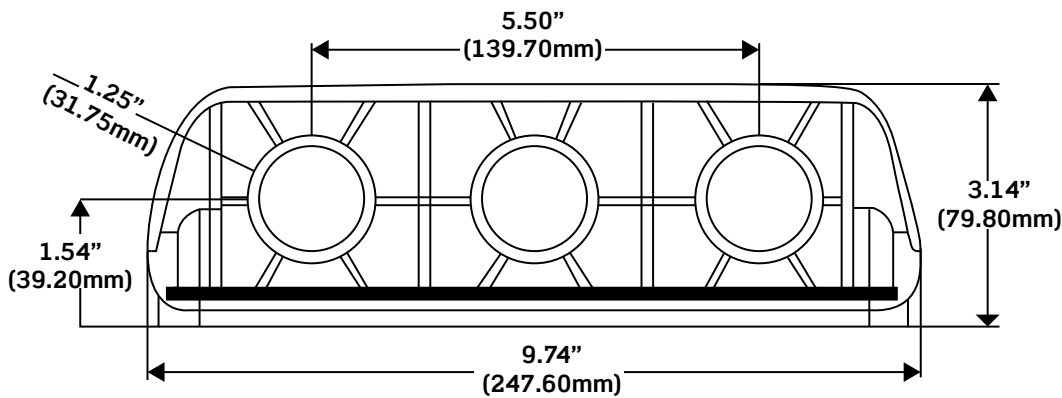
SERIES 7100 DIMENSIONS



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 III 50/60Hz, 500mA AC Max
AC Protection	0.5A Fuse 200kA interrupt capacity
Power Out	Unregulated 12VDC output, 200mA, self-resetting fuse
Voltage Channels	90-346 Volts AC Line-to-Neutral, 600V Line-to-Line, CAT III. Two independent sets of reference voltage
Current Channels	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	<b>UL Recognized(E186827):</b> 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 <b>UL Listed (E186827):</b> 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	13.5" L x 10" W x 3.0" H (343mm x 254mm x 76mm)
PCBA Dimensions	8.5" L x 8.5" 2.5" (216mm x 216mm x 64mm)

**PRODUCT DATA****ORDERING INFORMATION**

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
COMPATIBLE CT OPTIONS*	
CAT. NO.	DESCRIPTION
CTV5X-WA4	Split Core CT, 333mV:50A, 0.4"
CTV01-K21	Split Core CT, 333mV:100A 1.6" x 2.1"
CTV02-K21	Split Core CT, 333mV:200A 2.2" x 2.8"
CTV04-K40	Split Core CT, 333mV:400A 6.0" x 5.2"
CTV08-K40	Split Core CT, 333mV:800A 6.0" x 5.2"
CDV01-K17	100A Solid Core CT, 333mV, 0.76" (19mm) ID, 0.2% accuracy
CDV02-K17	200A Solid Core CT, 333mV, 0.76" (19mm) ID, 0.2% accuracy
CDV04-K25	400A Solid Core CT, 333mV, 1.0" (25mm) ID, 0.2% accuracy
CRV50-LR2	5-4000A Rogowski Coil CT 16", 131mV/1000A @ 60Hz, 109.2mV/1000A @ 50Hz, <0.6% accuracy
CRV50-LR4	5-4000A Rogowski Coil CT 24", 131mV/1000A @ 60Hz, 109.2mV/1000A @ 50Hz, <0.6% accuracy

\*Series 7000 Meters are compatible with 333mV CTs, sold separately

**Leviton Manufacturing Co., Inc. Energy Management, Controls and Automation**

20497 SW Teton Avenue, Tualatin, OR 97062 **tel** 800-736-6682 **fax** 503-404-5594 **tech line** (6:00AM-4:00PM PT Mon-Fri) 800-959-6004

**Leviton Manufacturing Co., Inc. Global Headquarters**

201 North Service Road, Melville, NY 11747-3138 **tel** 800-323-8920 **fax** 800-832-9538 **tech line** (8:30AM-7:00PM ET Mon-Fri) 800-824-3005

**Visit our Website at: [www.leviton.com/verifeye](http://www.leviton.com/verifeye)**

©2019 Leviton Manufacturing Co., Inc. All rights reserved. Subject to change without notice.

G-9960B/E19-aa  
REV MAY 2019