LEVITON®

VerifEye™ Series 7000 and 7100 12 Circuit Advanced Branch Circuit Monitor

7100

7000

70D12-N4X
UL508 Panel

Solid Core CT

Split Core CT

Hinged Split Core CT

Rogowski Rope CT

Description

The VerifEye™ Series 7000 and 7100 12 Circuit Advanced Branch Circuit Monitor is an ideal fit for applications requiring more than a single, three-phase meter, but less than the full capacity of the 48-circuit models of the Series 7000 and 7100 family. The meter's versatile power metering functionality continues the VerifEye mission of lowering the total cost of collecting data by reducing install complexity, and increasing flexibility. The plug-and-play integration ensures the hundreds of data points are immediately captured and made available for countless applications.

The Series 7000 and 7100 supports all industry standard communications protocols including RS-485, BACnet MS/TP, BACnet IP, ModBus TCP and Ethernet 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

- Real-time power monitoring for:
  - Commercial
  - Retail
  - Industrial
  - Higher Education/Campuses
- REIT management
- Data centers
- Tenant submetering

Features

- 12 independent, user defined inputs
  - 12 individual panel circuits
  - (4) 3-phase loads
  - 50-400A CTs
  - User configured combination
- Line powered from 90-600V, phase-to-phase
- ANSI & IEC metering system accuracy including branch CTs
- Supports solid core, split core and Rogowski Coil CTs
- Meter board features:
  - Easy access terminals for CT wiring, removable connectors
  - Easily route cable and view LEDs from any angle
- 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
- Provides multi-phase totals for loads with any combination of 1-, 2-, and 3-pole breaker positions.
- User-configurable alarm thresholds register for under voltage and phase loss
- Selectable phase orientation and number of circuits
- Limited 5-year warranty

NOTE: Factory commissioning on the Series 7000 and 7100 Meters is highly recommend as remote configuration of the meters is not an option offered by Leviton Technical Support.

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
- 90-346 Volts AC Line-to-Neutral
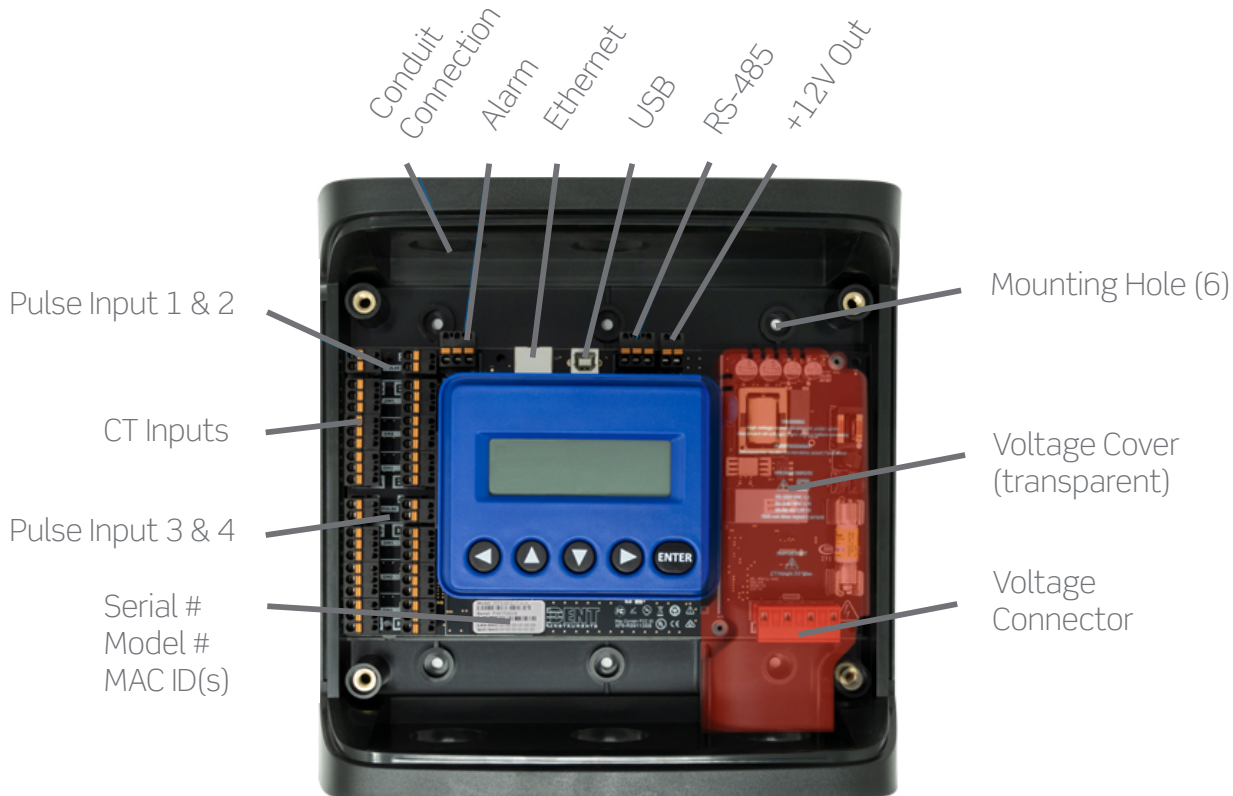- 600V Line-to-Line, Cat 3

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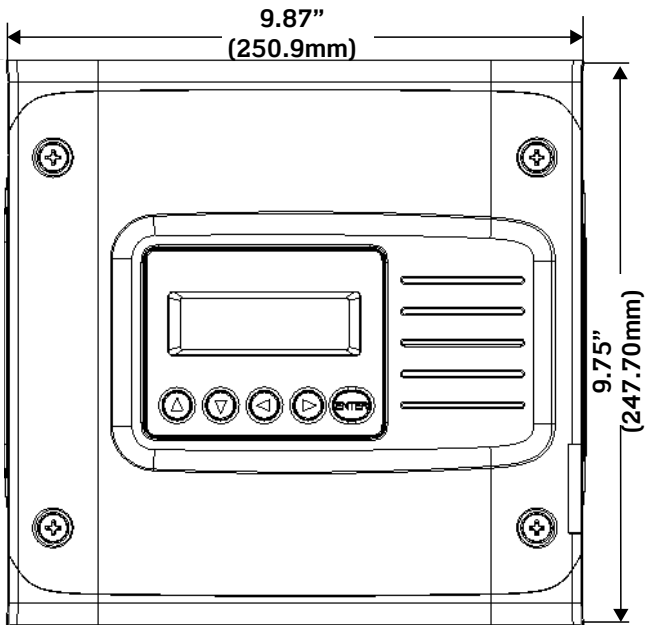- 1P/2W, 2P/3W, 3P/4W (WYE), 3P/3W (Delta)

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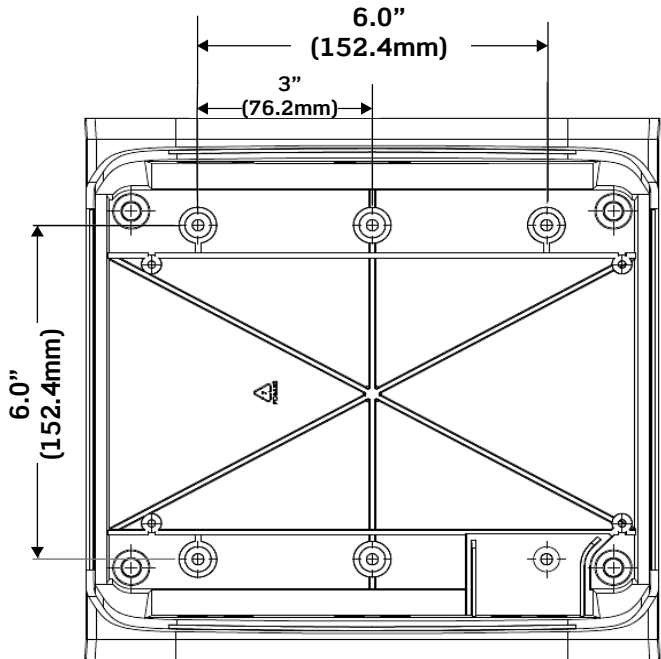- Power Meter Viewer software with either USB direct to the meter or PC/Ethernet
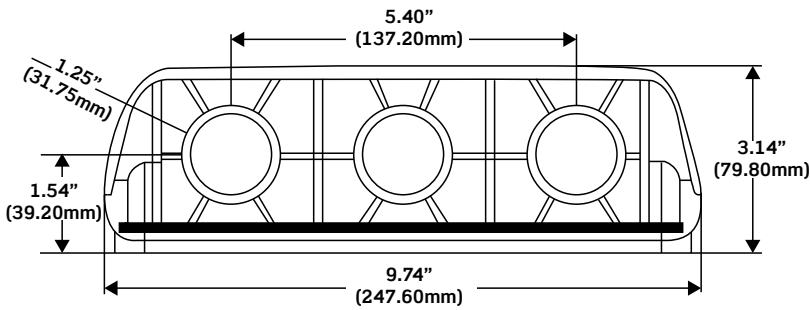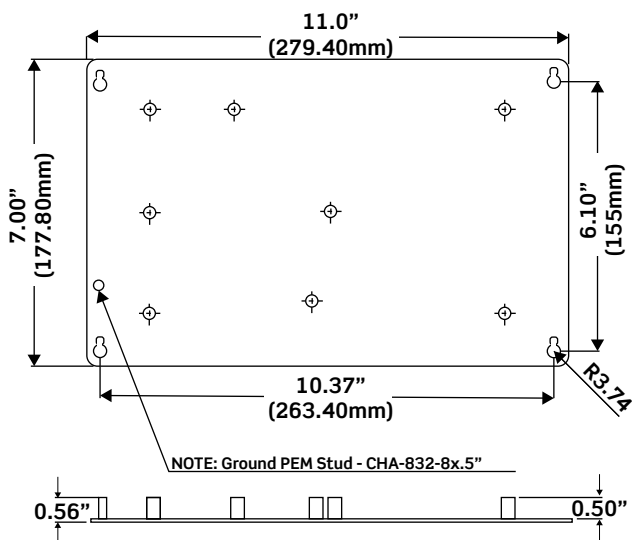
Panel Features

Conduit Connection
Alarm
Ethernet
USB
RS-485
+12V Out

Pulse Input 1 & 2

CT Inputs

Pulse Input 3 & 4

Serial #
Model #
MAC ID(s)

Mounting Hole (6)

Voltage Cover (transparent)

Voltage Connector

LEVITON®

Dimensions

9.87"
(250.9mm)

9.75"
(247.70mm)

Series 7100 Enclosure Front

6.0"
(152.4mm)

3"
(76.2mm)

6.0"
(152.4mm)

Series 7100 Enclosure Back

5.40"
(137.20mm)

1.25"
(31.75mm)

1.54"
(39.20mm)

3.14"
(79.80mm)

9.74"
(247.60mm)

Series 7100 Enclosure Bottom

11.0"
(279.40mm)

7.00"
(177.80mm)

6.10"
(155mm)

10.37"
(263.40mm)

R3.74

NOTE: Ground PEM Stud - CHA-832-8x.5"

0.56"

0.50"

Series 7000 Embedded
(Panel Mount)

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, 200 mA, self-resetting fuse
Voltage Channels	90-347 Volts AC Line-to-Neutral, 600V Line-to-Line, CAT 3
Current Channels	12 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)
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
Data Bits	8
Parity	None, Even, Odd
Stop Bit	2,1
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
Listing/Safety	CE EN 61000-6-4: Class A, UL Listed (Indoor enclosure version only), UL Recognized (Circuit board version only)
Other	
Enclosure Dimensions	9.75" H x 9.87" W x 3.14" D (247.70mm x 250.90mm x 79.80mm)
Panel Mount Dimensions	7.00" H x 11.00" W x 0.56" D (177.80mm x 279.40mm x 14.22mm)

Ordering Information

Series 7000 and 7100 12 Circuit Advanced Branch Circuit Monitor		
Cat. No.	**Description**	
70D12-000	Series 7000 Embedded Branch Circuit Monitor Platform, 12 inputs with display	
70N12-000	Series 7000 Embedded Branch Circuit Monitor Platform, 12 inputs, no display	
71D12-000	Series 7100 Branch Circuit Monitor, 12 Inputs with display, NEMA 1 enclosure	
VerifEye UL508A Configured Panel Solutions		
Cat. No.	**Description**	
70D12-N4X	VerifEye 70D03, 3P Disconnect	
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	Hinged Split Core CT, 333 mV: 50A, .40" Window	0.5%
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

*The Series 7000 Embedded Branch Circuit Monitors are compatible with 333mA CTs, sold separately.

LES-G-10393B/D24-mm
REV APR 2024