VerifEye®

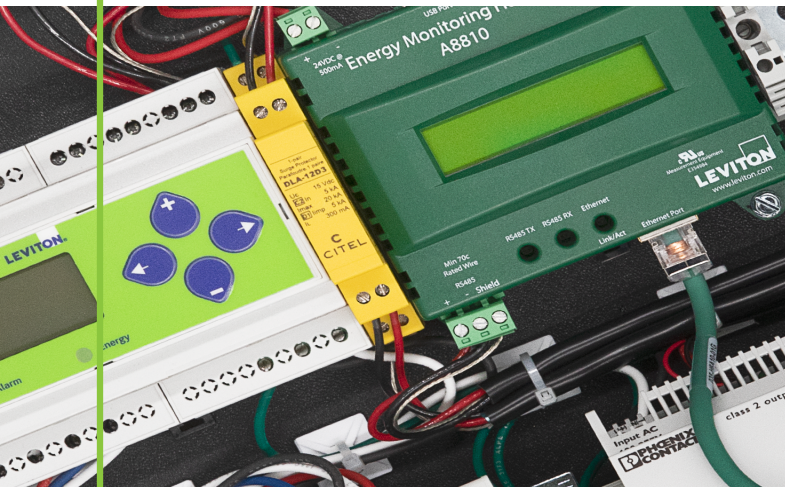## Configured UL508A Solutions for Submetering & Data Acquisition

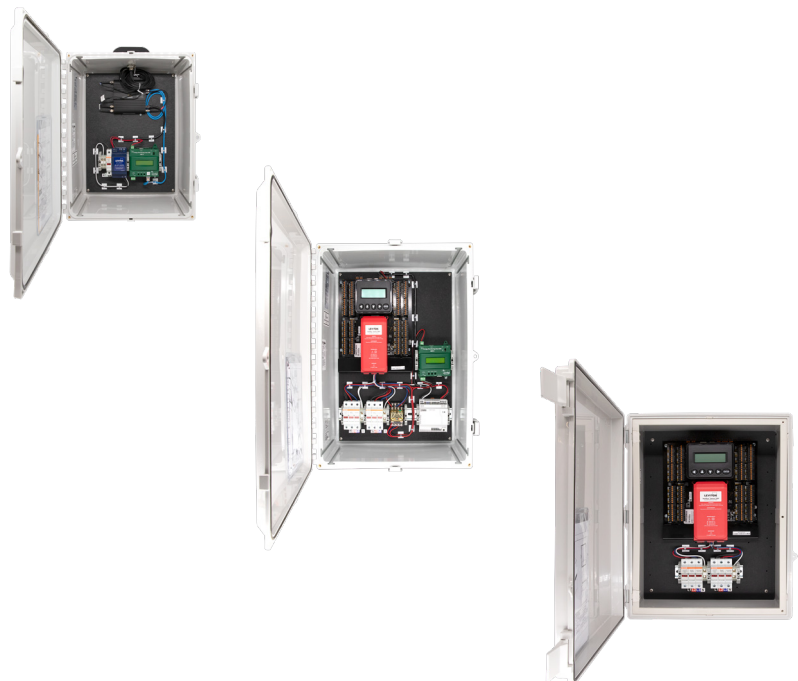# Smarter Solutions for Configured Panels:
Leviton UL508A Panel Shop

Leviton offers a wide range of configured panel solutions for the communications, data acquisition, and submetering market. With in-house UL508A Panel Shop certification, Leviton can deliver significantly better value than third party panel shops.

Utilizing decades of experience in energy submetering solution development coupled with manufacturing expertise and scale, Leviton's one stop shopping approach provides unparalleled value for the client desiring fully configured/designed/assembled solutions.

The Leviton UL508A Advantage

- Eliminate multiple vendors and associated logistics burden
- Reduced lead times for completed solutions
- Full solution design services
- Customer supplied components included
- Price efficiency of established global manufacturer

Leviton offers its full UL508A design and consultation services to address custom configurations for volume applications. Consult with your Leviton sales representative for details.

Service includes full design and consultation for new applications.

Typical Use Cases for Configured Solutions
Integrated Data Acquisition

Demand Response

The 810DU-000 is a perfect tool for demand response event logging, reporting, and controls.

- Collect real-time utility and submeter data
- Cellularly upload the data to your NOC (Network Operating Center)
- Verify your participation in demand response events with your local utility and take advantage of financial incentives
- Connect with your local Building Automation System (BAS) system to turn on generators or battery storage systems during a grid event
- Shed unnecessary loads during peak demand hours
- Maintain independent communication without sitting on your Local Area Network (LAN)

Big Box Store Submetering

The 81000-L48 is the perfect tool to safely and securely submeter down to the circuit level for any Big Box retailer.

- Identify submeter circuit level loads such as lighting, HVAC, and refrigeration
- Remotely monitor for trends and events to reduce waste and activate savings opportunities
- Monitor and meter outdoor and rooftop loads with a NEMA 4X weather proof enclosed submetering system

Mobile Home Park/Marina Submetering

The 70D48-N4X allows owners and operators to submeter individual RV/marine pedestals at the electrical distribution panels. From a single point, meter and monitor each one of your tenant spaces and generate hourly electric data for accurate billing purposes.

- Submeter up to 48 tenants from a single distribution panel
- Wirelessly transmit meter data—no walking the site or running wires
- Generate meter data at 15-minute intervals and get precise reads for move in / move out bills
- Install outdoors in a NEMA 4X enclosure to withstand the elements

UL508A Communication Panels	Ul508A Meter Panels	Ul508A Meter Panels
UMH00-000	**70D03-N4X**	**70D48-N4X**
• HD Pulse Module with Wireless ModHopper • 24V DC Power Supply included	• Advanced 3-phase meter • Supports both Modbus and BACnet interface • NEMA 4X Enclosure	• 48 circuit meter with dual reference voltage inputs • Supports both Modbus and BACnet interface • NEMA 4X Enclosure • Fuse protection for two reference voltage circuits

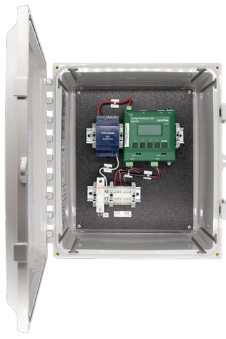## VerifEye UL508A Configured Panel Solutions - Communications

Description	Cat. No.	Enclosure Dimension	Integrated Meter	Integrated Communications
A8332-8F2D, Power Supply	U0F00-000	11.28" x 7.47" x 5.53" (286mm x 189mm x 140mm)	-	A8332 Flex IO Module
A8911-23, Power Supply	U0H00-000	11.28" x 7.47" x 5.53" (286mm x 189mm x 140mm)	-	A8911 HD Pulse Module
VerifEye ModHopper, Phantom Antenna	U0M00-P00	11.28" x 7.47" x 5.53" (286mm x 189mm x 140mm)	-	R9120 ModHopper Wireless
VerifEye ModHopper, Antenna Connector (No antenna), Power Supply	U0M00-E00	11.28" x 7.47" x 5.53" (286mm x 189mm x 140mm)	-	R9120 ModHopper Wireless
ModHopper, External Antenna, Power Supply	U0M00-P00	11.28" x 7.47" x 5.53" (286mm x 189mm x 140mm)	-	R9120 ModHopper Wireless
ModHopper, External Antenna Capable	U0M00-E00	11.28" x 7.47" x 5.53" (286mm x 189mm x 140mm)	-	R9120 ModHopper Wireless
ModHopper, Flex IO, Power Supply	UMF00-000	17.41" 16.68" x 9.86" (442mm x 423mm x 250mm)	-	R9120 ModHopper Wireless, Flex I/O Module
VerifEye ModHopper, HD Pulse Module, Power Supply	UMH00-000	17.41" 16.68" x 9.86" (442mm x 423mm x 250mm)	-	R9120 ModHopper Wireless, A8911 HD Pulse Module
ModHopper, HD Pulse Module, Power Supply	UMH00-000	17.41" 16.68" x 9.86" (442mm x 423mm x 250mm)	-	A8911 HD Pulse Module, R9120 ModHopper Wireless

VerifEye UL508A Configured Panel Solutions - Meters

Description	Cat. No.	Enclosure Dimension	Integrated Meter	Integrated Communications
VerifEye 70D03, 3P Disconnect	70D03-N4X	15.40" x 14.68" x 7.86" (391mm x 373mm x 200mm)	70D03	-
VerifEye 70D12, 3P Disconnect	70D12-N4X	17.41" x 16.68" x 9.86" (442mm x 423mm x 250mm)	70D12	-
VerifEye 70D24, 3P Disconnect	70D24-N4X	19.17" x 14.64" x 7.85" (487mm x 372mm x 199mm)	70D24	-
VerifEye 70D48, 2 x 3P Disconnects	70D48-N4X	19.17" X 14.64" X 7.85" (487mm x 372mm x 199mm)	70D48	-
VerifEye 72D48 S7000 Virtual Element 48 input Meter	72D48-N4X	19.17" X 14.64" X 7.85" (487mm x 372mm x 199mm)	72D48	-

VerifEye UL508A Configured Panel Solutions

Description	Cat. No.	Enclosure Dimension	Integrated Meter	Integrated Communications
Phoenix Contact Power Supply, Fuse Block	UP24V-A00	11.28" x 7.47" x 5.53" (286mm x 189mm x 140mm)	-	-

UL508A Data Acquisition Server Panels

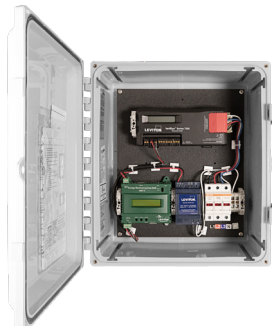| EMHXD-N4X	81M00-000	81H00-000
• EMHXD DAS • Dual Modbus ports • 24V DC Power Supply included	• DAS with Wireless ModHopper • Base Station for 900 mHz wireless architecture • 24V DC Power Supply included	• DAS with HD Pulse Module • Connect up to 23 standard pulse sensors • 24V DC Power Supply included

VerifEye UL508A Configured Panel Solutions - DAS

Description	Cat. No.	Enclosure Dimension	Integrated DAS	Integrated Communications
A8810, Power Supply	81000-000	11.28" x 7.47" x 5.53" (286mm x 189mm x 140mm)	A8810	-
A8820 NEMA, Power Supply	A8820-N4X	15.40" x 14.68" x 7.86" (391mm x 373mm x 200mm)	A8820	-
EMHSP NEMA, Power Supply	EMHSP-N4X	15.40" x 14.68" x 7.86" (391mm x 373mm x 200mm)	EMHSP	-
EMHXD NEMA, Power Supply	EMHXD-N4X	15.40" x 14.68" x 7.86" (391mm x 373mm x 200mm)	EMHXD	-
A8810, Ethernet Switch	81000-0S0	15.40" x 14.68" x 7.86" (391mm x 373mm x 200mm)	A8810	Ethernet Switch
A8810, Flex IO	81F00-000	17.41" x 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	Flex I/O Module
A8810, Flex IO, ModHopper, External Antenna	81FM0-N00	17.41" 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	Flex I/O Module, R9120 ModHopper Wireless
A8810, Flex IO, ModHopper w/ Adapter for External Antenna, Phantom Antenna	81FM0-P00	17.41" 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	Flex I/O Module, R9120 ModHopper Wireless
VerifEye A8810, HD Pulse Module, Power Supply	81H00-000	17.41" x 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	A8911 HD Pulse Module
A8810, HDPM	81H00-000	17.41" x 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	A8911 HD Pulse Module
A8810, ModHopper, Power Supply	81M00-000	17.41" x 16.68" 9.86" (442mm x 423mm x 250mm)	A8810	R9120 ModHopper Wireless
A8810, ModHopper, External Antenna	81M00-E00	17.41" x 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	R9120 ModHopper Wireless
A8820, Ethernet Switch	8200E-000	17.41" 16.68" x 9.86" (442mm x 423mm x 250mm)	A8820	Ethernet Switch
A8820, Fiber Switch	8200F-000	17.41" 16.68" x 9.86" (442mm x 423mm x 250mm)	A8820	Fiber Switch

UL508A Data Acquisition Servers + 4G Panels	UL508A DAS + Meter	UL508A DAS + Meter
81HDU-000	**81000-L03**	**81000-L48**
• DAS with HD Pulse Module • 4G Cellular Modem • 24V DC Power Supply included	• A8810 DAS • Advanced 3-phase meter • 24V DC Power Supply included	• A8810 DAS • 48 circuit meter with dual reference voltage inputs • 24V DC Power Supply included

VerifEye UL508A Configured Panel Solutions - DAS + 4G

Description	Cat. No.	Enclosure Dimension	Integrated DAS	Integrated Communications
VerifEye A8810, Dual Protocol Modem	810DU-000	15.40" x 14.68" x 7.86" (391mm x 373mm x 200mm)	A8810	4G Dual Protocol Modem
VerifEye A8810, Dual Protocol Modem	810DU-000	15.40" x 14.68" x 7.86" (391mm x 373mm x 200mm)	A8810	4G Dual Protocol Modem
VerifEye A8810, Flex IO, DUAL-Band Modem	81FDU-000	17.41" 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	Flex I/O Module, 4G Dual Procotol Modem
A8810, HDPM, DUAL-Band Modem	81HDU-000	17.41" x 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	A8911 HD Pulse Module, 4G Dual Procotol Modem
A8820, Modem, Ethernet Switch	820DE-000	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8820	Modem, Ethernet Switch
A8820, Modem, Fiber Switch	820DF-000	17.41" x 16.68" x 9.86" (442mm x 423mm x 250mm)	A8820	Modem, Fiber Switch

VerifEye UL508A Configured Panel Solutions - DAS + Meter

Description	Cat. No.	Enclosure Dimension	Integrated DAS	Integrated Meter	Integrated Communications
VerifEye A8810, 70D03, Power Supply	81000-L03	15.40" x 14.68" x 7.86" (391mm x 373mm x 200mm)	A8810	70D03	-
VerifEye A8810, 70D12, Power Supply	81000-L12	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	70D12	-
VerifEye A8810, 70D24, Power Supply	81000-L24	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	70D24	-
VerifEye A8810, 70D48, Power Supply	81000-L48	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	70D48	-
Leviton A8810, 72D48 S7000 Virtual Element 48 Input Meter	81000-7VE	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	72D48	-
VerifEye A8810, 4DUMR-00M, Power Supply	A8810-41M	17.41" x 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	4DUMR-00M (Split Core)	-
VerifEye A8810, 4DUMR-00R, Power Supply	A8810-41R	17.41" x 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	4DUMR-00R (Rogowski)	-

Ul508A DAS + Meter + 4G Panels	
81SDU-41M	**810DU-L48**
• A8810 DAS • 4DUMR-00M Meter with Split Core CTs • 4G Cellular Modem	• A8810 DAS • 70D48 Meter • 4G Cellular Modem

VerifEye UL508A Configured Panel Solutions - DAS + Meter + 4G

Description	Cat. No.	Enclosure Dimension	Integrated DAS	Integrated Meter	Integrated Communications
VerifEye A8810, 70D03, 4G Modem	810DU-L03	17.41" x 16.68" x 9.86" (442mm x 423mm x 250mm)	A8810	70D03	4G Modem
VerifEye A8810, 70D12, 4G Modem	810DU-L12	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	70D12	4G Modem
VerifEye A8810, 70D24, 4G Modem	810DU-L24	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	70D24	4G Modem
VerifEye A8810, 70D48, 4G Modem	810DU-L48	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	70D48	4G Modem
VerifEye A8810, E51C2, 4G Modem, Ethernet Switch	81SDU-510	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	E51C2	4G Modem, Ethernet Switch
VerifEye A8810, E51C2A, 4G Modem, Ethernet Switch	81SDU-51A	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	E51C2A	4G Modem, Ethernet Switch
VerifEye A8810, 4DUMR-00M, DUAL-Band Modem (CradlePoint), Ethernet Switch	81SDU-41M	19.17" x 14.64" x 7.85" (487mm x 372mm x 199mm)	A8810	4DUMR-00M (Split Core)	4G Dual Procotol Modem, Ethernet Switch
VerifEye A8810, 4DUMR-00R, DUAL-Band Modem (CradlePoint), Ethernet Switch	81SDU-41R	19.17" x 14.64" x 7.85" (487mm x 372mm x 199mm)	A8810	4DUMR-00R (Rogowski)	4G Dual Procotol Modem, Ethernet Switch
PV Advance A8810, AcuVim II, 4G Modem	81SDU-V00	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	AcuVim II	4G Modem
A8810, AcuVim II, 4G Modem	81SDU-V00	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8810	AcuVim II	4G Modem
A8820, Modem, Ethernet Switch, AcuVim II	820DE-V00	19.17" x 14.64" x 7.85" (487mm x 372mm x 199mm)	A8820	AcuVim II	4G Modem, Ethernet Switch
A8820, Modem, Fiber Switch AcuVim II	820DF-V00	21.41" x 18.68" x 9.96" (543mm x 474mm x 252mm)	A8820	AcuVim II	4G Modem, Fiber Switch

Metering Communications Systems

To create a data network between Leviton submeters and stakeholders (BAS, third party billing, Building Manager Online (BMO)), Leviton offers Metering Communication Systems. These solutions transmit data from meters to end systems, creating a seamless transition between data collection and data display. Leviton Metering Communications Systems also enable facilities to create metering systems that can easily share data through open protocols such as Modbus, and IP-based data transfer through HTTP/FTP of .csv or XML files. The results are robust and reliable networks scalable to accommodate future expansion, with data made accessible from any internal or external location.

Data Acquisition Hubs
Energy Monitoring Hubs

Data Acquisition Hubs, including the Energy Monitoring Hubs (EMHXD and EMHSP) and EMB are intelligent, flexible data acquisition servers allowing users to collect energy data from meters and environmental sensors. As Designed to connect to IP-based applications such as enterprise energy management, demand response and smart grid programs, Hub servers allow you to connect thousands of energy points, benchmark energy usage and reduce energy costs.

- Collects and logs data from connected wired or wireless devices based on user-set intervals
- Pushes or pulls data via HTTP, XML, FTP or any custom protocol using an Ethernet (LAN) connection
- No software required—information can be accessed through any web browser in any location
- Plug and play connectivity
- Compatible with nearly any front-end software platform allowing customers to use a variety of reporting tools
- Push or pull meter data to energy dashboards, kiosks and software applications
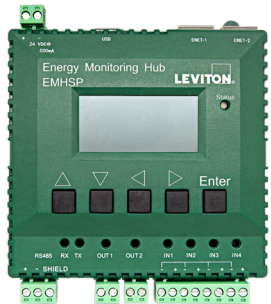- Monitor performance of critical systems (lighting, HVAC, PDUs, inverters, etc.)

Energy Monitoring Hub
(Dual Ethernet, Dual Modbus)

Energy Monitoring Hub
(Dual Ethernet, 1 Modbus, 4 Pulse
Inputs, 2 Relay Outputs)

EMB Hub

Data Acquisition Hubs

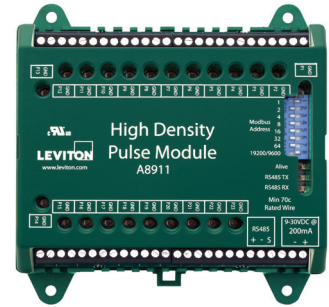| Description	Cat. No.
Energy Monitoring Hub, Dual Ethernet, Dual Modbus	EMHXD-220
Energy Monitoring Hub, 2 Ethernet, 1 Modbus (RS485), 4 Pulse Inputs, 2 Digital Outputs	EMHSP-214
EMB Hub	A8810-000
Power Supply for EMB Hubs (order separately)*	YBM07-001

*Power supply is used for EMB Hub

Input/Output Modules

High Density Pulse Module

The High Density Pulse Module provides a convenient way to expand a Leviton VerifEye Metering System by connecting the HD Pulse Module to an Energy Monitoring Hub (EMH) and/or ModHopper for system expansion. The HD Pulse Module accepts up to 23 standard pulse sensors and can function as a slave device with any Modbus master. This data can easily be integrated to a network of other critical energy sensors to provide a comprehensive energy monitoring solution. The HD Pulse Module is ideal for applications with a high density of pulse output devices, giving users access to meters that would previously require multiple modules.

- External communications handled via shielded twisted pair 18-22 gauge wire allowing communication up to 4,000 ft and pulse input communications up to 200 ft using 18-24 gauge control wire
- DIN or wall mounting make installations quick and easy
- Device verification—LED indicators for each pulse input allow for fast indication and verification of pulses to reduce installation and troubleshooting time
- Non-volatile memory retains configuration and pulse count totals during power failures for reliable data collection and retention
- Easily add pulse meters to Modbus network for a scalable, open protocol solution
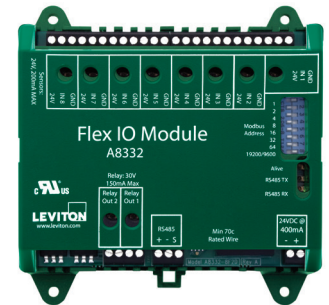- Field upgradable firmware for user-friendly future upgrades and expansion

High Density Pulse Module

Flex I/O Module

The Flex I/O Module is a cost-effective way to collect data from meters or sensors and bring the information into a Modbus network or energy monitoring system. As a stand-alone or bundled package, the Flex I/O Module can be incorporated with data acquisition and metering devices to provide a cost-effective energy monitoring solution. The Flex I/O Module is compatible with virtually any Modbus master, allowing customers the flexibility to use it in existing Modbus networks. Use with the VerifEye Energy Monitoring Hub (EMH).

- Easily add meters and sensors to the Modbus network
- 8x user selectable inputs
- 2x output relays for manual controls or pulse replication
- Non-volatile memory
- Industrial temperature range of -22 to 158°F (-30 to 70°C)
- LEDs for visual verification/status reduce installation and troubleshooting time
- Din or wall mount for easy installation
- Field upgradable firmware for user-friendly future upgrades and expansion

Flex I/O Module

Input/Output Modules

Description	Cat. No.
High Density Pulse Module, 23 Inputs	A8911-000
Flex I/O Module, 8 User Selectable Inputs, 2 Relay Outputs	A8332-000
DIN Rail Mount Power Supply, +24VDC	PST24-I10

Modhopper
Wireless

The ModHopper is designed with breakthrough mesh technology that makes connecting Modbus RTU (RS-485) and pulse devices simple and cost effective. Our "smart" ModHopper transceivers eliminate the need for costly wiring runs allowing users to wirelessly capture meter data in the most challenging retrofit and campus environments. Collect data from meter points in existing buildings with minimum down-time or disruption of day-to-day operations.

- Designed specifically for wireless metering and VerifEye submetering solutions for guaranteed compatibility

- No software or programming required and devices automatically configure when powered, reducing labor costs and installation time

- Wireless "mesh" network—self-healing, self-optimizing for ease of installation and maintenance

- Connect up to 32 Modbus and 2 pulse devices per ModHopper for the ultimate expandable solution

- Long distance communication (3,000 ft indoor/14 miles LOS Outdoors) for flexibility of placement and easier future expansion

- Multiple independent network capability

- Reliable, constant two-way communication and packet verification

- Point to multi-point communication

- Field upgradable firmware for user-friendly future upgrades and expansion

ModHopper

Wireless Modbus/Pulse Transceiver

Description	Cat. No.
ModHopper and Power Supply	R9120-500
High Gain Antenna for ModHopper	R9120-ANT

High Gain Antenna for ModHopper

Series 7000 Meters

The VerifEye Series 7000 Meters are a versatile option for a broad range of commercial/industrial submetering applications. 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 full complement of data points are immediately captured and made available for countless applications.

- 3 Input version configurable as 1-pole or 2-pole loads
- 12 Input versions configurable as follows:
  - 12 Single Pole Meters -or-
  - 4 Two Pole Meters -or-
  - 4 Three Pole Meters
- 24/48 Unit versions configurable as follows:
  - 24/48 Single Pole Meters -or-
  - 8/16 Two Pole Meters -or-
  - 8/16 Three Pole Meters
- Reference Voltage inputs
  - 3 & 12 Input Version—One set of three phase reference inputs
  - 24 or 48 Input Versions—Two sets of three phase reference inputs
  - Line powered from 90-600V, phase-to-phase
- Supports solid core, split core and Rogowski Coil CTs
  - Solid core CTs (100A & 200A)
  - Split core CTs (50A to 800A)
  - Rogowski coil CTs (5A to 4000A)
- Reports volts, amps, power, demand and energy for each circuit
- ANSI & IEC metering system accuracy including branch CTs
- Meter board features:
  - Easy access terminals for CT wiring, removable connectors
  - Easily route cable and view LEDs from any angle
  - Provides multi-phase totals for loads with 1-, 2-, and 3-pole breaker positions
  - User-configurable alarm thresholds register for improved load management
  - Selectable phase orientation
- Limited 5-year warranty

Series 7000 Meters

Voltage	Description	Cat. No.
90-346 Volts AC Line-to-Neutral, 600V Line-to-Line, CAT III	Series 7000 Advanced 3-Phase Meter (DIN Rail Mount)	70D03-000
	Series 7000 Embedded Panel Mount (no enclosure) Branch Circuit Monitor, 12 inputs, LCD display	70D12-000
	Series 7100 Dual Voltage, Branch Circuit Monitor, 24 inputs, LCD display, NEMA 1 enclosure	71D24-000
	Series 7000 Dual Voltage, Embedded Panel Mount (no enclosure) Branch Circuit Monitor, 48 inputs, LCD display	70D48-000

Compatible CT Options*

AMP	Description	Cat. No.
100	Solid Core CT, 333mV:100A, 0.75"	CDV01-W15
200	Solid Core CT, 333mV:200A, 0.75"	CDV02-W20
100	Split Core CT, 333mV:100A, 1" Window	CTV01-KD0
200	Split Core CT, 333mV:200A, 1" Window	CTV02-KD0
400	Split Core CT, 333mV, 400A, 1.25" x 1.25"	CTV04-KD1
800	Split Core CT, 333mV:800A, 3.0"x3.5" Window	CTV08-KG1
50	Hinged Split Core, 333mV:50A, 0.4"	CTV5X-WA4
100	Hinged Split Core, 333mV:100A, 0.94"	CTV01-WC9
200	Hinged Split Core, 333mV:200A, 0.94"	CTV02-WC9
400	Hinged Split Core, 333mV:400A, 1.42"	CTV04-WD5
5-4000A	5-4000A Rogowski Coil CT 16", 131mV/1000A @ 60Hz, 109.2mV/1000A, @ 50Hz	CRV50-LR2
5-4000A	5-4000A Rogowski Coil CT 24", 131mV/1000A @ 60Hz, 109.2mV/1000A, @ 50Hz	CRV50-LR4

70D03-000

70D12-000

70D24-000

70D48-000

*333mV CTs, sold separately

Series 4000 Industrial Modbus Meters

Series 4000 Industrial Modbus Meters are revenue-grade (ANSI C12.20 Class 0.2%) kWh electrical meters. The Series 4000 Meters include a DIN rail mount, 3-phase, advanced communication meter with split core or flexible rope-style Rogowski 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.

- Industrial Temperature Range of -22 to 158°F (30 to 70°C)
- DIN Rail options available
- Options for 100, 200, 400 and 800A Split Core CTs and Rogowski CTs (50-5000A)
- ANSI 12.20 0.2% accuracy, IEC 62053-22 Class 0.2S
- Real energy output and phase loss alarm output
- User-enabled password protection to protect meter from tampering
- Bright, backlit LCD for installation in dark areas and viewing real time data
- AMR/BAS system integration via Modbus RTU- RS-485 2-wire with shield
- 90-600VAC (50/60Hz) versatility including 347V (L-N) and 600V (L-L) with fewer models to stock

Series 4000 Modbus Meters

Voltage	AMPS	CTs Included	Cat. No.
Universal 3PH 3W/4W	100, 200, 400, 800	Split Core CTs Only	4DUMR-00B
	50-5000	Rogowski Coil CTs Only	4DUMR-00R

Compatible CTs

AMPS	Description	Cat. No.
100	Split Core CTs	CTV01-KD0
200		CTV02-KD0
400		CTV04-KD1
800		CTV08-KG1
50	Hinged Split Core	CTV5X-WA4
100		CTV01-WC9
200		CTV02-WC9
400		CTV04-WD5
—	Fuse Pack, 1/2A, 600VAC, slow blow	CTV00-FK3
20-5000	12" Rogowski Coil CTs	CRV50-K62
	18" Rogowski Coil CTs	CRV50-K93
	24" Rogowski Coil CTs	CRV50-KC2
100	Solid Core CTs	CDV01-W15
200		CDV02-W20

Series 4000 DIN Rail Mount

Cradlepoint IBR600C & S700 Series Semi-Ruggedized Router

The Craddlepoint Router for IoT networks is semi-ruggedized, cloud-manages LTE router, built for light industrial, IoT, and portable applications where security is a foundational requirement. Offering connectivity through LTE plus wired and Wi-Fi options, the S700 accommodates a variety of use cases in high availability, portable, or fixed uses. The S700 Series are available with IoT NetCloud Service Plans, which provide features optimized for each unique deployment.

Cradlepoint S700 Series Modem

Cradlepoint IBR600C Series Modem

Cradlepoint Router Hardware Specifications

Interface

Modem	Embedded 150M modem • 2 x SMA cellular antenna connectors
	Optional dual modem (requires the COR Extensibility Dock): • Modular MC400 Modem
Ethernet	1 x GbE (LAN/WAN switchable)
	1 x FE (LAN/WAN switchable)
WI-FI	Single-radio, single-band (2.4 GHz) • 2x2 MIMO 802.11b/g/n Wi-Fi 4 • 300 Mbps (2.4 GHz) • Two (2) Wi-Fi SSIDs • WPA/WPA2 Personal, WPA2 Enterprise, Open
Expansion	1 x USB 2.0 Type A (output: 5V, 500mA, 2.5W)
	1 x Extensibility Port • Extensibility Dock • 9-Wire Power and GPIO Cable • Serial Port Adapter
GNSS/GPS	1 x SMA GNSS antenna connector

Environmental

Temperature	Operating: -4 to 140°F (-20 to 60℃)
	Storage: -4 to 168°F (-20 to 70℃)
Humidity	Operating: 5% to 95%
	Storage: 5% to 95%

Power

Required	One of the following: • 9-33 VDC steady state input • External DC power supply, 100-240 VAC input, 12 VDC 3A output (included)
Features	Reverse polarity and transient voltage protection (ISO 7637-2)
	Ignition sensing (automatic ON and time-delay OFF)
Consumption	Idle: 4 W
	Wi-Fi TX/RX: 9 W
	LTE TX/RX: 6.25 W

Physical

Size	4.6 x 4.5 x 1.2 in (118 x 113.5 x 29.3 mm)
Weight	14 oz (400 g)

Certifications

Safety	UL/cUL, CB Scheme, EN 60950-1, EN 62368-1, MIL-STD 810G, SEA J1455
Materials	WEEE, RoHS, REACH, California Prop 65

WI-FI Power

FCC	2.4 GHz band: 28.1 dBm Conducted
Rest of World	2.4 GHz band: 15 dBm Conducted
	2.4 GHz band: 20 dBm EIRP

LEDs

Refer to the Router Quick Start Guide.

Specifications (Continued)

Technology	LTE Cat 4 (3GPP Rel. 11), DC-HSPA+
	Dual SIM slots, 2FF form factor
	SIM-based auto-carrier selection
Fallback	WCDMA/UMTS/HSPA+
Carrier Aggregation	N/A
Peak Downlink Rates	LTE: 150 Mbps
	WCDMA: 42.2 Mbpas
Peak Uplink Rates	LTE 50 Mbps
	WCDMA: 5.76 Mbps
MIMO	2x2 MIMO
QAM	Up to 64
LTE Bands	LTE FDD
	B2, B4, B5, B12, B13, B14, B66, B71
WCDMA Bands	B2, B4, B5
Power	LTE 23 dBm ± 1, DC-HSPA+ 23 dBm ± 1 (typical conducted)
Antennas	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 2, included)
GNSS/GPS	Passive GNSS
	GPS, GLONASS, BeiDou, Galileo
SMS	Yes
Regulatory	FCC (U.S.), IC (Canada)
Network Operator Standards	PTCRB (U.S., Canada)
Network Operator Certifications	AT&T, Verizon[†]
Public Safety Network Certifications	FirstNet ReadyTM
Private Cellular Network	N/A

[†] Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications. A carrier listed in the approvals section means Cradlepoint completed additional testing and acquired technical approval for that given carrier. Any carrier not listed may not require additional testing or approval beyond telecom industry certifications to operate on their network.

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