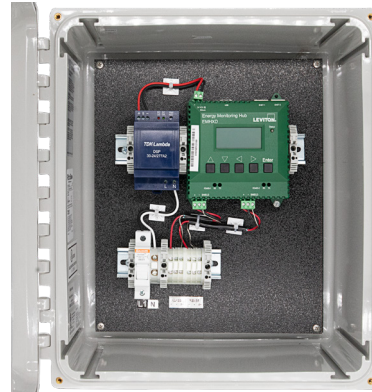# EMHXD & EMHSP Data Acquisition Server
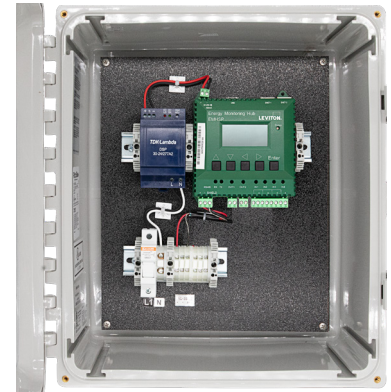

EMHXD-220

EMHSP-214

EMHXD-N4X

EMHSP-N4X

Description

Leviton's EMHXD and EMHSP are intelligent, flexible data acquisition servers allowing users to collect energy data from meters and environmental sensors through Modbus protocol or pulse input. Designed to connect to IP-based applications such as enterprise energy management, demand response and smart grid programs, the EMB Hub server lets you connect thousands of energy points, benchmark energy usage and reduce energy costs. Featuring Dual Ethernet ports and Dual Modbus (RS485) ports, the EMHXD provides expanded capacity and flexibility to address a broad range of applications. The EMHSP offers the same Dual Ethernet ports with a single Modbus (RS485) input and 4 inputs for pulse or other sensor inputs. The EMHxx-N4X comes integrated into a NEMA 4X enclosure with an integrated power supply to simplify installation in the field.

Embedded OEM Solution

The compact EMH footprint and industrial temperature range -22°F to 158°F (-30° to 70°C) makes this a perfect solution for embedded applications. Reduce development time and speed up integration by collecting and distributing energy information directly from your equipment.

Data Collection

The EMH collects and logs data from connected devices based on user selected intervals. Data from downstream devices is time stamped and stored locally in non-volatile memory until the next scheduled upload or manual download. Using an Ethernet (LAN) connection you can push or pull data via HTTPS, XML, FTP or any custom protocol utilizing our EMH Module to build your own application. Dual Ethernet ports allow for separate and secure upstream connections to external networks and downstream connections to the internal device networks.

Compatibility

The EMH is compatible with nearly any front-end software platform allowing customers to use a variety of reporting tools; whether it's a local server or an enterprise wide reporting suite.
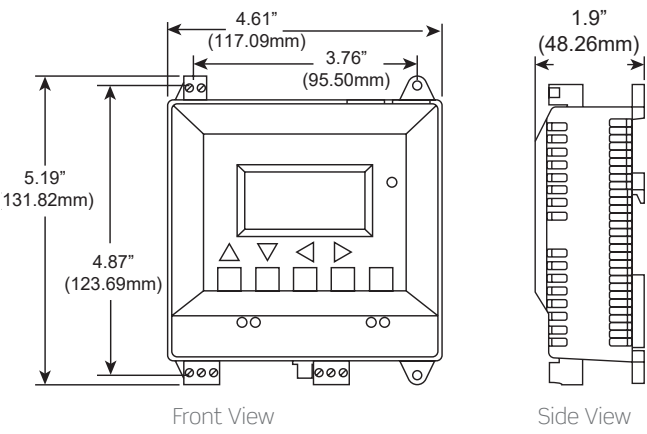
Installation & Features

No software is required. Easily access information through your web browser. There are several additional features including alarming, SNMP traps, network configuration, wireless diagnostics, USB, security provisions and backlit LCD. Our integrated meter driver library is designed to speed up installation and lower integration costs through plug-and-play connectivity.
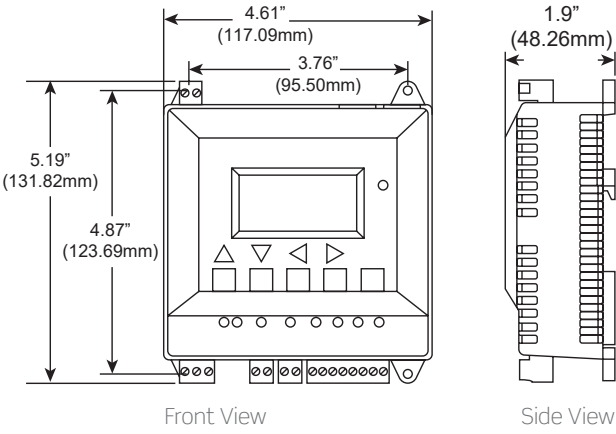
Applications

- Code compliance reporting
- Measurement and verification (M&V)
- Tenant billing
- Reduce energy costs
- Access energy information from local or remote sites
- Benchmark building energy usage
- View "real time" performance data
- Track energy use and peak demand for Demand Response programs
- Monitor performance of critical systems (lighting, HVAC, PDUs, inverters, etc.)
- Alarm notification for data points above or below target levels (including SNMP traps)
- Monitor renewable energy performance and production
- Push or pull meter data to energy dashboards, kiosks and software applications
- EMHxx available in NEMA UL508A panels
- EMHxx available with cellular modems in NEMA UL508A panels
- Manufactured in U.S.A.
- Supports code compliance applications like ASHRAE, IECC, 2022 CA Title 24, and LEED
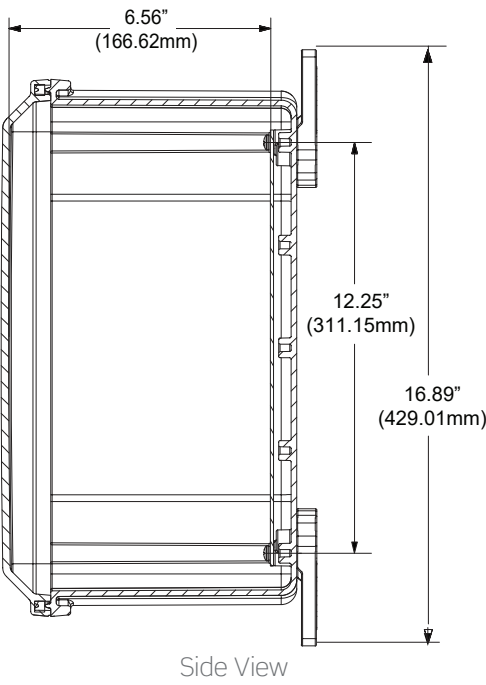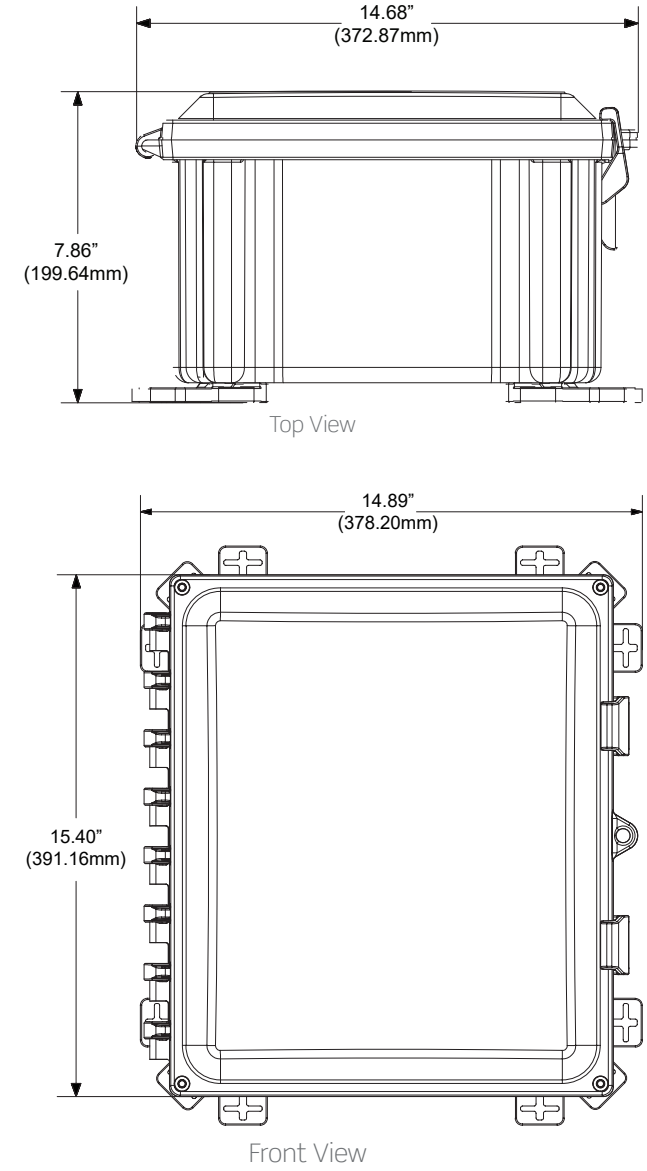
Dimensions - EMHXD-220

4.61"
(117.09mm)

3.76"
(95.50mm)

5.19"
131.82mm)

4.87"
(123.69mm)

1.9"
(48.26mm)

Front View

Side View

Dimensions - EMHSP-214

4.61"
(117.09mm)

3.76"
(95.50mm)

5.19"
(131.82mm)

4.87"
(123.69mm)

1.9"
(48.26mm)

Front View

Side View

Dimensions - EMHXD-N4X and EMHSP-N4X

14.68"
(372.87mm)

7.86"
(199.64mm)

Top View

14.89"
(378.20mm)

15.40"
(391.16mm)

6.56"
(166.62mm)

12.25"
(311.15mm)

16.89"
(429.01mm)

Front View

Side View

Product Data
EMHxx-xxx

LEVITON®

Specifications

	EMHXD-220	EMHSP-214	EMHXD-N4X	EMHSP-N4X
Processor	i.MX 6UltraLite			
Operating System	Linux 4.x			
Memory	512 MB RAM			
Flash ROM	8 GB eMMC Flash			
Interval Recording	1 to 60 minutes, user selectable (default 15 minutes)			
LEDs	Ethernet, Modbus TX/RX, power, alarm			
Console	128 x 64 pixel LCD with 5 button interface			
Power				
Power Supply*	24VDC, 500mA *This unit is to be sourced by a Class 2 power supply with the following output: 24VDC, 500mA min not to exceed 8A		100-277VAC 50/60Hz, 1.5A Max, Class II, double insulated	
Isolation	RJ45 Ethernet and RS-485 port are isolated to 1500VDC from the main board (Power and USB non-isolated)		RJ45 Ethernet is isolated to 1500VDC from the main board (Power and USB non-isolated)	
Communication				
Protocols	Modbus/RTU, BACnet/MSTP, Modbus/TCP, BACnet/IP, TCP/IP, PPP, HTTP/HTML, FTP, NTP, XML, SNMP trap			
LAN	2 RJ45 10/100 Ethernet, full duplex, auto polarity			
USB	USB expansion port			
Security	SSL/TLS			
Inputs				
Serial Ports	2 RS-485 Modbus, each supporting up to 32 external devices (64 devices total)	1 RS485 Modbus	2 RS-485 Modbus, each supporting up to 32 external devices (64 devices total)	1 RS485 Modbus
Digital Inputs	-	4 pulse inputs, pulse-KYZ, 250 Hz	-	4 pulse inputs, pulse-KYZ, 250 Hz
Outputs	-	2 dry contact relay outputs (0-30v up to 50 mA)	-	2 dry contact relay outputs (0-30v up to 50 mA)
Physical				
Weight	0.42lbs (0.19kg)		14.5lbs (6.58kg)	
Size	4.61" W x 5.19" H x 1.9" D (117.1mm x 131.9mm x 48.3mm)		14.68" W x 15.40" H x 7.86" D (372.872mm x 391.16mm x 199.64mm)	
Environment				
Operating Temperature Range	-22°F to 158°F (-30°C to 70°C), 95% RH, non-condensing			
Altitude	2000M max			
Pollution	Degree 2			
Codes & Standards				
	FCC CFR 47 Part 15, Class A, EN 61000, EN 61326, CE, UL61010 Recognized			

Ordering Information

EMHxx	
Cat. No.	**Description**
EMHXD-220	Energy Monitoring HUB, 2 Ethernet, 2 Modbus (RS485)
EMHSP-214	Energy Monitoring HUB, 2 Ethernet, 1 Modbus (RS485), 4 Pulse Inputs, 2 Relay Outputs
EMHXD-N4X	EMHXD Energy Monitoring HUB with line voltage power supply, NEMA 4X enclosure
EMHSP-N4X	EMHSP Energy Monitoring HUB with line voltage power supply, NEMA 4X enclosure
YBM07-001	Power Supply, required for use with the EMHXD-220 and EMHSP-214