ModHopper

Wireless Modbus/Pulse Transceiver

R9120-500

U0M00-P00

U0M00-E00

Description

The ModHopper is a breakthrough mesh technology design that makes connecting Modbus and pulse devices simple and cost effeQActive. Our "smart" ModHopper transceivers eliminate the need for costly wiring runs allowing users to capture meter data in the most challenging retrofit and campus environments.

Features

- Designed specifically for wireless metering
- No software or programming required
- Devices automatically configure when powered
- Wireless "mesh" network—self healing, self optimizing
- Frequency hopping, spread spectrum (FHSS)
- Connect up to 32 Modbus and 2 pulse devices per ModHopper (expandable)
- Long distance communication (3000ft indoor/14 miles LOS)
- Visual display of signal strength (LEDs)
- Multiple independent network capability
- Reliable, constant two-way communication and packet verification
- Point to multi-point communication
- Field upgradable firmware
- R9120-500 available in NEMA UL508A panels
- Manufactured in the USA
- Five year warranty

Applications

- Utility submetering (electric, gas, water, etc.)
- Tenant billing
- Metering in existing buildings (retrofit)
- Metering on campus environments
- Government advanced metering projects
- Multi-tenant submetering projects
- Industrial /manufacturing facilities
- Demand response
- Renewable energy—PV projects (inverters, string monitoring)

Wireless Communication

Leviton developed a wireless Modbus/pulse transceiver to capture remote meter points. Our high-powered radios allow you to easily collect meter data from multiple buildings over long distances. Our unique "mesh" technology provides optimized routing of communications with no PC or software configuration, meaning the ModHopper works immediately "out of the box." This self-managed mesh network means that the system will function with high reliability where other wireless systems fail due to short- or long-term interference. ModHoppers can be used with any Modbus master or gateway making them an ideal solution for any project.

Compatibility

The ModHopper is compatible with virtually any Modbus RTU device, allowing customers the flexibility to use the ModHopper in existing Modbus applications. The ModHopper is a "smart" device, which requires no programming. If used with the Leviton EMB Hub or EMB HubLite, users can take advantage of numerous diagnostic tools, including a graphical display of the wireless mesh network.

Leviton Manufacturing Co., Inc. Lighting & Controls
10385 SW Avery Street, Tualatin, OR 97062 **tel** 800-736-6682 **tech line** (6:00AM-4:00PM PT Mon-Fri) 800-959-6004
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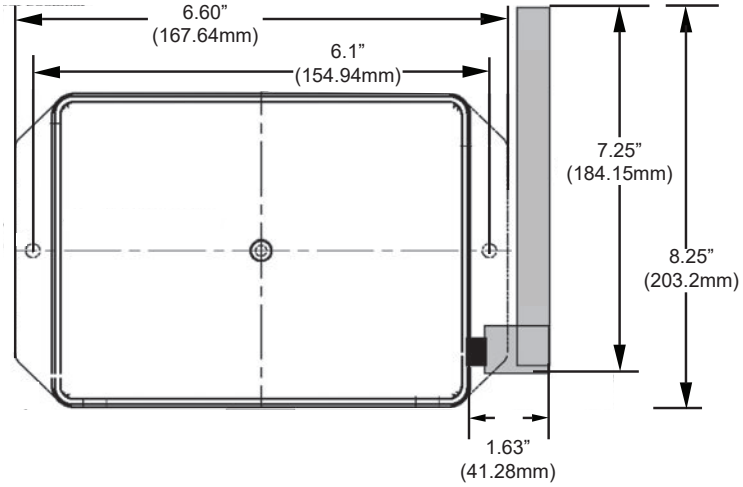
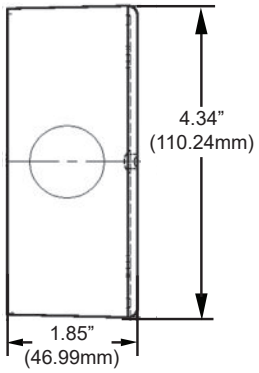
Dimensions - R9120-500

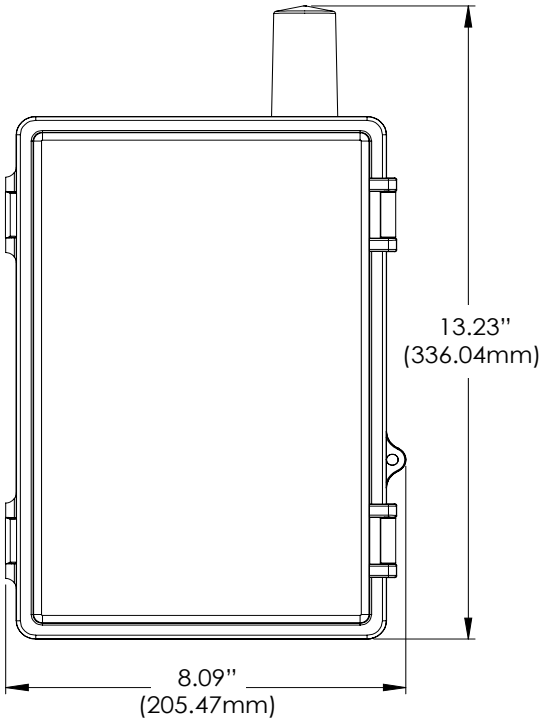


Front View

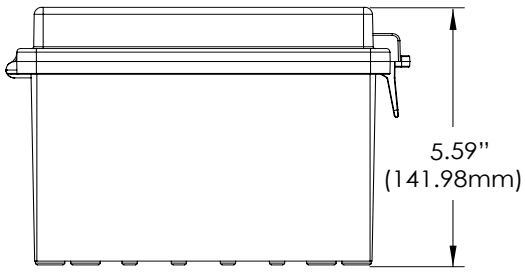


Side View

Dimensions - U0M00-P00

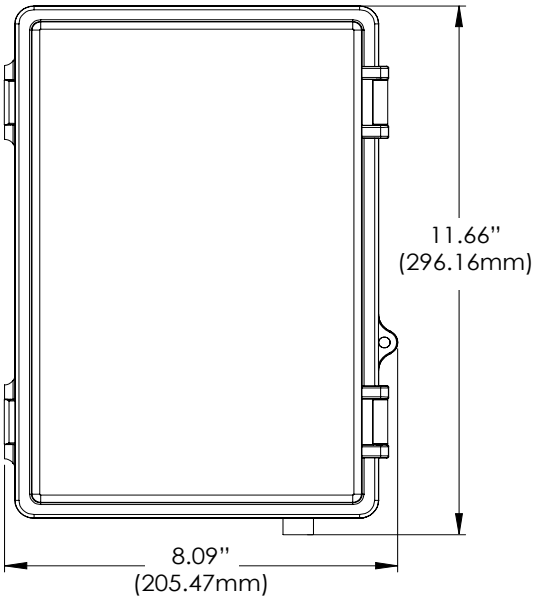


Front View

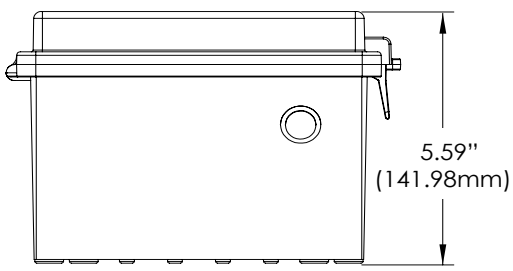


Bottom View

Dimensions - U0M00-E00



Front View



Bottom View

Specifications

	R9120-500	U0M00-P00	U0M00-E00
Processor	60MHz ARM7 embedded CPU		
LEDs	3 x RF, 2 x RS-485, 2 x Pulse, Alive, Alarm		
Power			
North America	110-120VAC, 60Hz, primary		
CE/Europe	100-240VAC, 50-60Hz, primary (interchangeable plug adapters optional)		
Power Supply	9-30VDC, 900mA required, class 2 power supply included	Integrated +24VDC, 1A, 30W, 100-277VAC input DIN Rail power supply (PST24-I10)	
Voltage Inputs	24VDC, 1A	120-277VAC, single phase, line to neutral, 50/60Hz, fused disconnect included	
Communication			
Input Protocol	Modbus RTU & 2 Pulse		
Output Protocol	Modbus RTU		
Addressing	Modbus address may be set from 1 to 247 via dipswitch		
Baud Rate	9600/19200		
RF	Frequency hopping, spread spectrum (FHSS), ISM band (see table)		
Inputs			
I/O	2x Pulse, dry contact, standard or KYZ, closure threshold 100Ω to 2.5Ω user selectable		
Pulse Rate	User selectable to 10Hz, 50Hz, 100Hz, 250Hz • Pulse rate option 10Hz, minimum pulse width 50ms • Pulse rate option 50Hz, minimum pulse width 10ms • Pulse rate option 100Hz, minimum pulse width 5ms • Pulse rate option 250Hz, minimum pulse width 2ms		
Storage	Pulse counts stored in non-volatile memory		
Modbus	Modbus RTU, 2-wire, hard-wire connect up to 32 devices		
Range	3000ft (900m) typical indoor, 14 miles (22km) line of sight)		
Antenna Options			
	½ Wavelength Dipole, 900 MHz ISM, 50 OHM Impedance, 2:1 VSWR, RPSMA, articulating	Externally mounted antenna 902-928 MHz, NGP, low profile phantom antenna (ANXTRA9023NP)	Type N connection for external antenna (antenna not included)
Physical			
Weight	1.25lbs (0.67 kg)	6.1lbs (2.77 kg)	
Size	6.5" x 4.5" x 2" (260mm x 64mm x 45mm)	13.23"H x 8.09" W x 5.59" D (335.97mm x 205.88mm x 142.10mm)	11.66"H x 8.09" W x 5.59" D (305.49mm x 205.88mm x 142.10mm)
Environment			
Operating Temperature	32-122°F (0-50°C), 0-90% RH, non-condensing		
Altitude	2000M max		
Pollution	Degree 2		
Codes and Standards			
FCC ID	OUR-9XTREAM		
IC (Industry Canada)	4214A-9XTREAM; FCC CFR 47 Part 15, Class A		
Encryption	Yes		

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Ordering Information

Cat. No.	Description
R9120-500	ModHopper and Power Supply
U0M00-P00	R9120-5T ModHopper, External Phantom Antenna, Din Mount Power Supply (24V, 1.25A, 30W), NEMA 4X enclosure
U0M00-E00	R9120-5T ModHopper, Din Mount Power Supply (24V, 1.25A, 30W), NEMA 4X enclosure, Antenna Sold Separately-ANXFG9023
R9120-ANT	External, High Gain Antenna: 5.1 dBi gain (3 dBd); VSWR 1.5:1; 50 ohms; 902-928 MHz Antenna Mount Bracket: Mounts to 2.5" mast Antenna Cable: LMR195, N-Male to RP-SMA Male, 20ft length

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