FLOMEC®

partnering with obvius

ModHopper R9120-5

The ModHopper is a breakthrough mesh technology design that makes connecting Modbus and pulse devices simple and cost effective. 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. Collect meter points in existing buildings with minimum down-time or disruption of day-to-day operations.

WHY YOU SHOULD USE MODHOPPERS FOR WIRELESS METERING:

- Designed specifically for wireless metering
- 256Bit AES, FIPS-197 certified, J/F-12 8306
- No software or programming required
- Devices automatically configure when powered
- Wireless "mesh" network self-healing, selfoptimizing
- 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

FLOMEC® has partnered with Obvius, a leading energy solutions provider, to offer the optimum solutions for data collection and connectivity.

Qbvius manufactures data acquisition and wireless connectivity products specifically for energy management.

Solutions offered include:

- Data Acquisition
- Wireless Communication
- Meters & Sensors
- Custom Packaged Solutions
- Integration & Software Partners

WIRELESS COMMUNICATION

Obvius developed a wireless Modbus/Pulse transceiver to capture remote meter points. Our highpowered 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. Ask us about international frequency options.

COMPATIBILITY

The ModHopper is compatible with virtually any PLC or 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 Obvius AcquiSuite, users can take advantage of numerous diagnostic tools, including a graphical display of the wireless mesh network.

APPLICATIONS

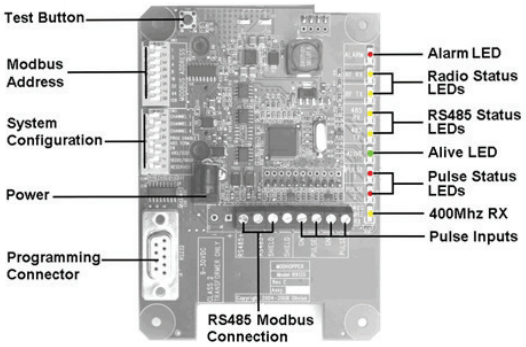
- Utility submetering (electric, gas, water, etc.)
- Metering in existing buildings (retrofit)
- Metering on campus environments
- Government advanced metering projects (256Bit AES, FIPS-197 certified, J/F-12 8306)
- Multi-tenant submetering projects
- Industrial / Manufacturing facilities
- Demand Response
- Renewable Energy – PV projects (inverters, string monitoring)

SPECIFICATIONS

Processor:	60MHz ARM 7 embedded CPU
LEDs:	3 x RF, 2 x RS-485, 2 x Pulse, Alive, Alarm
POWER	
North America:	100-240VAC, 50/60Hz, 0.5A, 12VDC, 1A output class 2 power supply included
R9120-5T:	9-30VDC, 900mA Required
COMMUNICATION	
Protocols:	Modbus RTU, 2-wire
Addressing:	Modbus address may be set from 1 to 247 via dipswitch
Baud Rate:	9600/19200 baud, N, 8, 1
RF:	902-928MHz ISM band, 1W, frequency hopping spread spectrum (FHSS)
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 (expandable)
RANGE	
R9120-5:	3000ft (900m) typical indoor, 14 miles (22km) line of sight
PHYSICAL	
Weight:	1.25lbs (0.67kg)
Size:	6.5” x 4.5” x 2” (260mm x 64mm x 45mm)
ENVIRONMENT	
North America - 5:	0° to 50°C, 0-90% RH, non-condensing
CE:	5° to 40°C, 0-90% RH, non-condensing
Altitude:	2000M Max
Pollution:	Degree 2
CODES AND STANDARDS	
FCC ID:	OUR-9XTEND or MCQ-XBPSX; FCC Part 15.247, Class A
IC (Industry Canada):	4214A-9XTEND or 1846A-XBPSX; IC: RSS-210
Encryption:	256Bit AES
ADDITIONAL NOTES	
NEMA enclosures available upon request. Manufactured in the USA.	
The R9120-5 is not cross-compatible with R9120-3 models. For use with any Modbus RTU device/server.	

As per SIPCO LLC, this product may be used in a system and employ or practice certain features and/or methods of one or more of the following patents: U.S. Patent No. 7,103,511, U.S. Patent No. 6,914,893, U.S. Patent No. 6,891,838, U.S. Patent No. 5,714,931, U.S. Patent No. 6,233,327, U.S. Patent No. 7,397,907, U.S. Patent No. 6,618,578, U.S. Patent No. 7,079,810, U.S. Patent No. 7,295,128, U.S. Patent No. 7,263,073, U.S. Patent No. 7,480,501, U.S. Patent No. 6,437,692, U.S. Patent No. 7,468,661, U.S. Patent No. 7,053,767, U.S. Patent No. 7,650,425, U.S. Patent No. 7,739,378

ELECTRICAL CONNECTIONS



ORDERING INFORMATION

Part Number	Description
902010-13	ModHopper
902010-04	Power Supply, Wall Socket
902010-05	Power Supply, Din Rail

APPROVALS

CE

Service & Warranty: For technical assistance, warranty replacement or repair contact your **FLOMEC®** or **GPI®** distributor: In North or South America: **888-996-3837 / FLOMEC.net**
Outside North or South America: **+61 2 9540 4433 / FLOMEC.net**

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