



DR9050

WIRELESS MASTER CONTROL UNIT

FEATURES

- Modbus RTU Input/Output
- RS485/422 Interface
- Open Architecture - Customer Can Write Custom Software
- DIN Rail Mount - Steel Clip
- 10-30VDC Power
- Reverse Polarity Screw-On SMA Antenna Connector
- 915MHz ISM* Band - 2 Versions, 14 Hop Sequences
- 2.4GHz Unlicensed Band - 1 Version, 7 Hop Sequences
- Spread Spectrum, Frequency Hopping Technology*
- Line of Sight Range to 20 Miles With 915MHz Band Radio
- Line of Sight Range to 10 Miles With 2.4GHz Band Radio
- 5 Year Warranty (1 Year on Radio Module)
- UL/cUL Recognized

DESCRIPTION

The DR9050 is an RF transmitter/receiver that is used to poll data from companion DR9051R's. A user Modbus RTU Master Controller (PLC / DCS etc) initiates a query to a Modbus address. The DR9050 MCU determines the correct DR9051R for this address, polls the DR9051 and returns the requested data. A single DR9050 can poll up to 247 DR9051R's utilizing a single Hop sequence.

The radio transmitter outputs 100mW (21.5 dBm) in the 915 MHz unlicensed ISM band. It uses frequency hopping, spread spectrum* technology to allow multiple systems to work in the same locale without interference.

Setup software is provided to program all the system addresses into the DR9050. Addresses may be edited and Hop Sequences can be changed for the system. All setup can be done at the DR9050 site.

Screw terminal blocks that plug into the case allow easy wiring and removal of products.

All of the DR Series of products provide transient protection to help eliminate damage from lightning and from other transients created on the power and signal leads.

SPECIFICATIONS

RADIO

Frequency

- 915 MHz Band
- 908 or 922 MHz
- 2.4 GHz Band
- 2.4000 - 2.4835 GHz

Spread Spectrum Type

Frequency Hopping, Direct FM

I/O Data Rate Tx to Rx:

9600 bps

Range / Line of Sight

- 915 MHz Band - Up to 20 Mi.
- 2.4 GHz Band - Up to 10 Mi.

Receiver Sensitivity:

- 915 MHz Band
- 110 dBm @ 9600 baud
- 2.4 GHz Band
- 105 dBm @ 9600 baud

Transmitter Power:

- 915 MHz Band
- 100 mW (20 dBm)
- 2.4GHz Band
- 50 mW (17dBm)

Connector:

Reverse Polarity SMA Female

INPUT / OUTPUT

Modbus® RTU

- RS485/422
- Half Duplex
- 9600 Baud
- 1 Start Bit
- 8 Data Bits
- 1 Stop Bit

RS232

- For Setup Software
- Cable Adapter Supplied

CERTIFICATIONS

RF Module

FCC Part 15.247

DR9050

UL/cUL Recognized

OPERATING TEMPERATURE

- 13°F to 167°F
- 25°C to 75°C

POWER

- 85/230 VAC
- 2.0 VA Max

* See page 56 for a comprehensive definition.

ORDERING INFORMATION

RADIO

- ☐ 908 MHz - Standard
- ☐ 922 MHz - Optional
- ☐ 2.4 GHz

NOTE: Radio used must match DR9051 Radio

* NOTE: This unit must be used with DR9051R wireless transmitters.

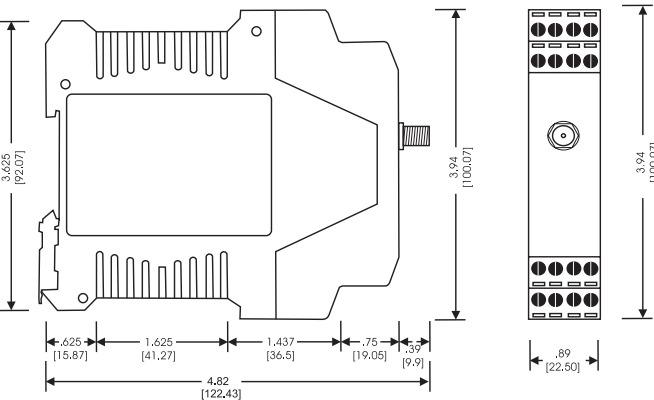
ACCESSORIES

RP = Reverse Polarity

4073	Two Antenna Coupler, Transmit and Receive, 2-Port 900 MHz	QTY _____
4051	Receive Only, 2 to 4 Antenna Coupler 4-Port 900 MHz	QTY _____
4061	Receive Only, 2 to 4 Antenna Coupler 4-Port 2.4 GHz	QTY _____
4062	50 Ohm Termination, For Unused Ports On P/N 4051,4061	QTY _____
4022	PSP24-024S, 24 VDC 1 Amp Power Supply	QTY _____
4026	Bulkhead Connector Type N Female to Type N Female	QTY _____
4011	Bulkhead Surge Protector Type N Male to Type N Female	QTY _____
4035	Bulkhead Surge Protector Type N Female to Type N Female	QTY _____
CBH2	2 Ft WBC195 Cable w/ RP-SMA Male & RP-SMA Female Bulkhead Connector	QTY _____
CBH6	6 Ft WBC195 Cable w/ RP-SMA Male & RP-SMA Female Bulkhead Connector	QTY _____
CBH10	10 Ft WBC195 Cable w/ RP-SMA Male & RP-SMA Female Bulkhead Connector	QTY _____
CBH-X	Custom Length WBC195 Cable w/ RP-SMA Male & RP-SMA Female Bulkhead Connector	QTY _____
CPT2	2 Ft WBC195 Cable w/ RP-SMA Male & Type N Male Connector	QTY _____
CPT6	6 Ft WBC195 Cable w/ RP-SMA Male & Type N Male Connector	QTY _____
CPT10	10 Ft WBC195 Cable w/ RP-SMA Male & Type N Male Connector	QTY _____
CPT-X	Custom Length WBC195 Cable w/ RP-SMA Male & Type N Male Connector	QTY _____

DIMENSIONS

Inches [mm]



CONNECTIONS

TERMINAL	CONNECTION
1	RS485 Terminal A
2	RS485 Terminal B
3	RS485 Common
4	RS485 Shield
5	RS485 Terminal A
6	RS485 Terminal B
7	RS485 Terminal A
8	RS485 Terminal B
9	RS232 RX
10	RS232 TX
11	RS232 Ground
12	RS232 Ground
13	No Connection
14	No Connection
15	AC L1 Power
16	AC L2 Power

(Termination Resistor Connection)