



## DR9021

### WIRELESS POINT-TO-POINT RECEIVER

#### FEATURES

- Dual 4/20 mADC Outputs
- Four Digital Open Collector NPN Transistor Outputs
- 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\*
- Ranges to 20 Miles With 915MHz Band Radio
- Ranges to 10 Miles With 2.4GHz Band Radio
- DIN Rail Mount - Steel Clip
- 5 Year Warranty (1 Year on Radio Module)
- UL/cUL Recognized

#### DESCRIPTION

The DR9021 RF Receiver receives RF signals from the DR9011 Transmitter and reconstructs the analog signals as 4/20 mA outputs.

When the transmitter has a dual channel input, the DR9021 has a 4/20 mA output for each channel. If the transmitter has a single channel analog input, the DR9021 provides two 4/20 mA outputs proportional to the single input.

Switch outputs are provided as discrete Open Collector NPN transistors. A DIP Switch on the PC board allows selection of

Normal Acting or Reverse Acting (Failsafe) outputs.

Three radio modules are available for the DR9021, two 915MHz band versions with 7 Hop sequences each and a 2.4GHz band version with 7 Hop sequences. They use spread spectrum, frequency hopping\* technology. These choices provide 21 different Hop sequences that allow 21 systems to work in the same locale without interfering with each other.

A DIP Switch on the PC board is used to set the hopping sequence.

With proper antenna and cable selection and a 915MHz band version radio, the DR9021 can receive from a DR9011 up to 20 miles away.

The DR9021 provides isolation between the output and the power source.

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

###### Update Rate

10/S

###### 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

##### Certification:

FCC Part 15.247

##### OUTPUT

###### Analog

Dual 4/20 mADC  
12 VDC Compliance

###### Digital

Four Optically Isolated  
Open Collector NPN Transistors  
30 VDC Max Voltage,  
30 mA Max Current  
Operates in Saturated Mode

##### POWER

85/230 VAC  
2.0 VA Max  
12 or 24 VDC  
1.5 Watt Max

\* See page 52 for a comprehensive definition.

ORDERING  
INFORMATION

## RADIO

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

NOTE: Radio used must match DR9011 Radio

## POWER

- ☐ 85/230 VAC  
☐ 24 VDC  
☐ 12 VDC

\* NOTE: This unit must be used with a DR9011 wireless transmitter.

## ACCESSORIES

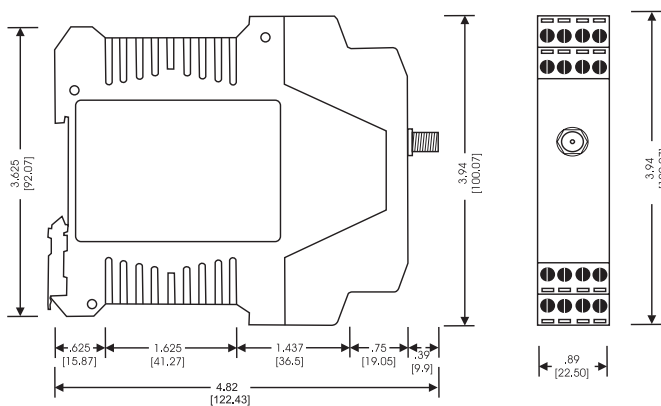
RP = Reverse Polarity

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 _____

For more accessories and cables, see the ACCESSORIES section of this catalog (Page 49).

## DIMENSIONS

Inches [mm]



## CONNECTIONS

TERMINAL	CONNECTION
1	4/20 mADC Output 1 +
2	4/20 mADC Output 1 -
3	4/20 mADC Output 2 +
4	4/20 mADC Output 2 -
5	Switch 1 +
6	Switch 1 -
7	Switch 2 +
8	Switch 2 -
9	Switch 3 +
10	Switch 3 -
11	Switch 4 +
12	Switch 4 -
13	No Connection
14	No Connection
15	Power +
16	Power -