



# DR9011-02

## BRIDGE INPUT POINT-TO-POINT TRANSMITTER

### FEATURES

- Direct Strain Gauge (Bridge) Input
- 10 VDC Regulated Excitation Voltage
- Four Digital Inputs For Contact Closure or NPN Transistor
- 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 DR9011 is an RF transmitter that will accept both analog and switch contact inputs. A 12 bit A/D converter is used to digitize the analog data. Analog data and switch status is then transmitted to the companion DR9021 Receiver where the analog signal and switch status is reconstructed.

The switch inputs require a standard contact closure or an open collector NPN transistor. Three radio modules are available for the DR9011, 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 Hop sequence.

With proper antenna and cable selection and a 915MHz band version radio, the DR9011 can transmit up to 20 miles. The 2.4GHz band version can transmit up to 10 miles.

The DR9011 provides isolation between input and power source.

A 10 VDC precision power supply is built-in and provides excitation for up to four (4) 330 ohm bridges.

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

#### INPUT

- Strain Gauge  
Span  
0.5 mV/V to 1 V/V
- Accuracy  
±0.1% of Span
- Linearity  
±0.01% of Span
- Excitation:  
10 VDC Precision Supply for  
up to 4 Strain Gauges  
125 mA Maximum
- Switch Input  
Open Circuit Voltage  
Equals Power Input  
(10 to 30 VDC)
- Closed Circuit Current  
3 to 9 mA

#### 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  
6.5/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

#### CERTIFICATIONS

- RF Module  
FCC Part 15.247  
DR9011-02  
UL/cUL Recognized

#### COMMON MODE REJECTION

100 dB, DC to 60 Hz

#### OPERATING TEMPERATURE

-13°F to 167°F  
-25°C to 75°C

#### TEMPERATURE STABILITY

±(0.01% of Span)/°C Max

#### POWER

10 to 30 VDC  
1.5 Watts Max

\* See page 56 for a comprehensive definition.

**ORDERING INFORMATION**

**Input Range**

(Must be within minimum to maximum specification)

Span

- mV/V     V/V

**RADIO**

- 908 MHz - Standard  
 922 MHz - Optional  
 2.4 GHz

\* **NOTE:** This unit must be used with a DR9021 wireless receiver.

**ACCESSORIES**

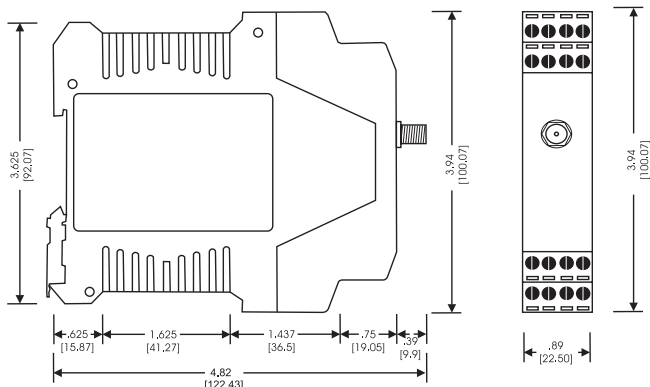
RP = Reverse Polarity

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 51).

**DIMENSIONS**

Inches [mm]



**CONNECTIONS**

TERMINAL	CONNECTION
1	Bridge Input +
2	Bridge Input -
3	Shield
4	Shield
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	10 VDC Excitation +
14	Excitation Common
15	Power +
16	Power -