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BR-3502

User Manual



Safety Warning

Based on limits specified by the Federal Communication Commission (FCC) on Radio Frequency (RF) emissions in a general population environment, continued exposure to radiation should be avoided within 0.5 meter in front of the radar. Radiation levels outside this region fall within regulations of 1 mW/cm² and are not considered safety hazards. When setting up the antenna, special care should be taken to avoid situations where the antenna radiates towards individuals. The antenna should be positioned such that bystanders are located behind the antenna. During antenna setup, the antenna power cord should be unplugged to avoid accidental hazardous exposures to radiations. Always turn the antenna transmitter off during periods of inactivity. Direct visual contact with the radar when transmitting should be avoided at all times.

Specifications

<i>Nominal Frequency</i>	<i>35.5 GHz</i>
<i>Nominal Transmitting Power</i>	<i>100 mW</i>
<i>Antenna Gain</i>	<i>20 dBi</i>
<i>Transmitter Stability</i>	<i>±1.0%</i>
<i>Beam Width</i>	<i>12° x 12°</i>
<i>Dimension Radar Head</i>	<i>5.8 x 5.8 x 4.3 cm</i>
<i>Power Supply / Amplifier</i>	<i>20.3 x 14.6 x 6 cm</i>
<i>Total weight</i>	<i>2.7 kg</i>

Introduction

The BR-3502 radar can be used to measure the radial velocity of any moving object located in the radar beam coverage. The output of the radar is an analog signal with a frequency and amplitude proportional to the radial velocity and distance of the moving object.

Installation

The BR-3502 radar system includes the following two components:

- Radar antenna head
- Power supply / amplifier unit

The radar head has two (2) 1/4" mounting holes that can be used to install the head at specific locations in your test setup. The radar head is attached to the power supply/amplifier via a two (2) meter shielded cable which provides flexibility in positioning it for optimum results.

Operation

The BR-3502 is powered on 120/240 VAC, 50-60 Hz using a conventional power cord for connection in standard power outlet. It is interfaced to a processing unit using a single four-wire cable equipped with military connectors. This cable is used to carry the radar doppler signal to the processing unit and the antenna transmission control. You should connect your radar cable from this connector to the appropriate radar input on your processing unit.

The connector type is ITT Cannon MS3124E16-8P. The following table describes the pinout of this connector:

Pin	Function
A	Not Connected
B	Not Connected
C	Not Connected
D	Remote Make for Antenna Transmitter Control (+ 5 Vdc Output)
E	Make Ground
F	Doppler Signal + (5 Vpp max.)
G	Doppler Signal - (5 Vpp max.)

The remote activation of the transmitter is done by the processor by short circuiting pins D and E of the connector. When the antenna interface cable is not connected, the radar unit does not transmit.

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