

# Remote Data Radio - HR240

## H Series



For professional license-free data radio communications in SCADA and Telemetry systems, the solution is Trio DataCom's HR240.

The compact HR240 is an industrial strength frequency hopping spread spectrum data radio designed for use in the 2.4GHz international license exempt frequency bands for applications such as water, electricity, oil and gas. Rugged construction and full -40C to +60C operational capability make it suitable for the harshest environments.

The HR240 is a highly versatile product that can be used in a variety of configurations including Point to Point Systems and also for store and forward repeater operation to extend the range of customer networks.

With a 1 Watt RF output power and high performance receiver, the HR240 is capable of providing long range communications between industrial serial communications devices.

### Features

#### Radio

- License Free communication in the 2.400 - 2.4835GHz international ISM band
- Compatible with most industry standard data protocols, e.g., MODBUS, DNP-3, IEC 870-5-101 etc.
- 1 Watt transmitter output power
- 115kbps over the air data speed
- Industrial temperature specifications
- Extremely robust, long range frequency hopping data radio
- Supports Point to Point, Point to Multipoint and Repeater.
- Repeater units can also support interface to local application
- No restriction on the number of repeaters in the system.
- Internal CRC and user-selectable forward error correction
- Excellent BER performance
- Industry standard TNC antenna connector
- Compact footprint
- Rugged die-cast alloy chassis

#### Data Modem

- User configurable 2400-115,000 bps asynch RS-232/RS485 port
- Fully transparent 3 wire user interface
- Intelligent transmitter control

#### Configuration and Diagnostics

- User friendly Windows GUI for configuration of all paramaters
- Local and remote diagnostics access

Innovative and sophisticated  
digital communications  
designs products and solutions



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### Radio

**Frequency Range:** 2.4000 to 2.4835GHz

**Spreading Code:** Frequency Hopping

**Frequency Accuracy:**  $\pm 2$  ppm  
(-30 to 60°C) (-22 to 140°F) ambient

**Hopping Patterns:** 43 pseudo-random,  
user selectable

**Bandwidth / Data Rate:** 2,400 to 115,200  
bps, uncompressed half duplex

**Communications Range:** 30 km \*\*

**System Gain:** 138dB

**Operational Modes:** Half duplex

**Configuration:** All configuration via  
Windows based software

**Compliances:**  
FCC PART 15.247  
IC RSS 139 (RSS210)

### Transmitter

**Tx Power:** 0.01 to 1W (+10 to +30 dBm)  
Software adjustable

**Modulation:** CPFSK

**Tx Spurious:** < -60 dBc

### Receiver

**Adjacent Channel Rejection:** >60dB

**In Band Rejection:** >70dB

**Out of Band Rejection:** >80dB

\*\*Requires suitable gain antenna and line of site path

### Diagnostics

Offline local and remote diagnostics  
facilities

### Connections

**User Data Port:** DB9 female port wired  
as DCE (modem)

**Antenna:** TNC

**Power:** 2 pin screw locking (mating  
connector supplied)

**LED Display:** Multimode LED Indicators  
for Pwr, Tx, Rx/Sync, RSSI level

### Modem

**Data Serial Port:**  
RS232/RS485(half-duplex)  
DCE 2400 to 115,200bps asynchronous

**Diagnostics Connection:** RS232,  
2400 to 115,200 bps asynchronous

**Flow Control:** Selectable hardware /  
software / 3 wire interface. (Tx, Rx & Gnd)

**RF Channel Data Rate:**  
115,200bps

**Error Detection:**  
CRC-16 with auto re-transmit

**Sensitivity:**  
-105 dBm

### General

**Power Supply:** 13.8 Vdc nominal  
(10-30 Vdc)

**Transmit Current:** 750mA nom. @ 1 W

**Receive Current:** <156 mA nominal

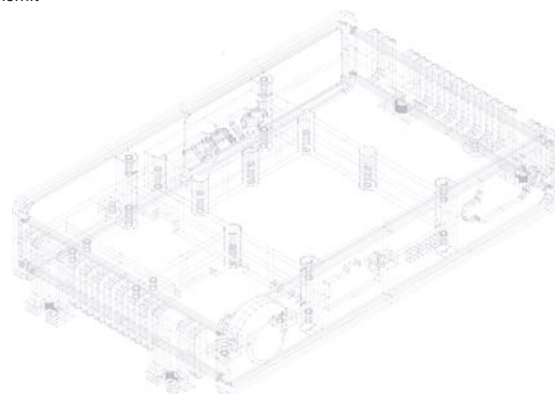
**Dimensions:** Solid Diecast Alloy Housing  
154 x 102 x 29 mm  
(6.1 x 4.1 x 1.2 inches)

**Mounting:** Integral Solid Diecast feet

**Weight:** 0.395 kg (0.87 lbs)

### Options

**HR-PROG™** Configuration and Diagnostics  
Windows GUI Software



Local regulatory conditions may determine the performance and suitability of individual versions in different countries. It is the responsibility of the buyer to confirm these regulatory conditions. Performance data indicates typical values related to the described unit.

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