

Guardian™

SERIAL RADIO MODEM FOR LICENSED SPECTRUM

136-174 MHz | 215-240 MHz | 406-512 MHz | 928-960 MHz

CalAmp®



High Speed Serial Connectivity for Remote Monitoring & Control

The Guardian wireless modem provides a high-speed data link suitable for a wide variety of applications requiring system security and diagnostic reporting. Designed for speed and efficiency, Guardian provides over-the-air data rates up to 19.2 kbps in a 25 kHz channel.

Selectable operating modes provide flexibility: RS-232, RS-422, and RS-485 compatible; simplex, half-duplex or full-duplex operation; RTS-CTS handshaking protocol or data activated transmission (DOX) mode. Transparent, asynchronous serial formats are supported, such as Modbus™, Modbus-RTU™, AB DF1™, and various other protocol formats.

Real-time, non-intrusive online diagnostics report received signal strength (RSSI), RF power output, supply voltage, and other radio performance statistics. Field Programming Software offers unit programming, link testing and RF path verification. CalAmp products are covered by a standard one-year warranty.

Experience *The Advantage*

- 1-10 Watts (1-8 W MAS)
Continuous Duty; software selectable
- 10-30 VDC Wide Range Power Supply
- On/Off-line Diagnostics for Network Health & Status
- User selectable data rates: 4,800, 9,600, 19,200 kbps
- OTA compatible with T-96SR and TSLM
- Flexible, programmable External I/O interface
- RS-232, RS-422, RS-485

Guardian Specifications

GENERAL

Frequency Range	136-174 MHz, 215-240 MHz, 406-512 MHz, 928-960 MHz
Channel Bandwidth	12.5 kHz, 25 kHz
Modes of Operation	Simplex, Half-Duplex, Full-Duplex Simplex, Half-Duplex (900 MHz)
Modulation	2FSK
Certifications	FCC, IC

RECEIVER

Bit Error Rate @ 1x10 ⁻⁶	
12.5 kHz:	-107 dBm @ 9.6 kbps -110 dBm @ 4.8 kbps
25 kHz:	-100 dBm @ 19.2 kbps -107 dBm @ 9.6 kbps -110 dBm @ 4.8 kbps
Adjacent Channel	60 db @ 12.5 kHz 70 db @ 25 kHz

TRANSMITTER

Frequency Stability	1.0 ppm
Carrier Output Power	1-10 Watts, 1-8 Watts (900 MHz)
Duty Cycle	100% (Power Foldback for High Temps)
Output Impedance	50 Ω

ELECTRICAL

Tx Current	1.2-3.6A@10V 0.6-1.8A@20V 0.4-1.2A@30V
Rx Current	360mA@10V 200mA@20V 150mA@30V
Primary Power	10-30 VDC

MECHANICAL

Nominal Dimensions	5.50" W x 2.125" H x 4.25" D 13.97 x 5.40 x 10.8 cm
Shipping Weight	2.4 lbs 1.1 kg

ENVIRONMENTAL

Operating Temperature	-30° to +60° C
Operating Humidity	5% to 95% Non-condensing

INTERFACES

Serial COM 1, COM 2	RS-232, DB-9
User	I/O, RS-422, RS-485, 8 Contacts (Male)
Antenna	TNC Female (Tx/Rx) SMA Female (Rx)-Full Duplex models only

ORDER INFORMATION

140-5016-500	GUARDIAN-100	136-174 MHZ VHF	25/12.5 KHZ
140-5026-500	GUARDIAN-200	215-240 MHZ VHF	25/12.5 KHZ
140-5046-300	GUARDIAN-400	406.1-470 MHZ UHF	25/12.5 KHZ
140-5046-500	GUARDIAN-400	450-512 MHZ UHF	25/12.5 KHZ
140-5096-500	GUARDIAN-900	928-960 MHZ MAS	25/12.5 KHZ



CalAmp's industrial wireless solutions combine utility-class performance and the proven reliability needed for mission critical communications. Our ruggedized line of licensed, unlicensed, and cellular devices provide narrowband, wideband and broadband data connectivity for fixed and mobile applications.