



Overview

The SRM-5A, manufactured by RAD, is an asynchronous modem used for local communication between a datalogger and a computer. Two SRM-5A Short Haul Modems are required: one at the datalogger end and one at

the computer end. Each short haul modem transmits over an unconditioned 4-wire telephone line or the CABLE2TP two-twisted pair cable. Data rates up to 9,600 bps are possible.

Benefits and Features

- ▶ Provides the easiest link for communicating with one data logger over longer distances
- ▶ Low voltage transmission levels minimize crosstalk between adjacent lines within the same cable.
- ▶ Data are transmitted and received at a balanced impedance, providing excellent immunity to circuit noise.
- ▶ Transmits up to 6.2 miles using 19 gauge cable at 9600 bps
- ▶ Transmits up to 7.6 miles at 1200 bps

Technical Description

Campbell Scientific recommends connecting the SRM-5A to the data logger's CS I/O port via the SC932A interface; a 9-to-25 pin adapter is required. It may be possible to connect the SRM-5A to the data logger's RS-232 port, but configuration is more complicated; contact Campbell Scientific for more information. Surge protectors on both ends of the transmission line are strongly recommended.

Approximate Range with Various Data Rates and Wire Gauge

Wire Gauge	9600 bps Data Rate	1200 bps Data Rate
19 Gage (0.9 mm)	10.0 km (6.2 miles)	12.2 km (7.6 miles)
24 Gage (0.5 mm)	4.5 km (2.8 miles)	2.8 km (3.4 miles)
26 Gage (0.4 mm)	3.3 km (2.0 miles)	4.0 km (2.5 miles)

Power Requirements

- ▶ At Computer: uses low power from the EIA RS-232-C/CCITT V.24 data and control signals

» At Data logger: combined current drain of the SC932A and RAD modem, which is 2.2 mA quiescent, and 10 to 15 mA active

» Protection: ac/dc over voltage connected via isolation transformers rated at 1,500 V RMS

Specifications

Data Rates	Up to 9,600 bps
Transmission Mode	Asynchronous, full duplex, 4-wire operation
Transmission Distance or Area	Up to 12.2 km (7.6 mi) depending on data rate and wire gage
Line Interface	5-screw (4-wire and ground) connector block with cable strain relief inside plastic cover
Transmission Line	CABLE2TP (for short RS-232 or prewired enclosures) or unconditioned, 4-wire telephone line
Transmission Level	6 dBm
Terminal Interface	EIA RS-232-C/CCITT V.24, female integral 25-pin connector

Operating Temperature Range	0° to 60°C (Manufacturer's temperature specification is listed. Limited tests conducted by Campbell Scientific have shown the SRM-5A to perform at temperatures over -25° to +50°C.)
Current Drain at 12 Vdc	» 2.2 mA (quiescent) » 10 to 15 mA (active)
Altitude	Up to 3,000 m (10,000 ft)
Humidity	Up to 95% (non-condensing)
Service Requirements	Dedicated two-twisted pair cable connects one field station with base.
Dimensions	5.2 x 5.2 x 1.8 cm (2.1 x 2.1 x 0.7 in.)
Weight	38 g (1.3 oz)

For comprehensive details, visit: www.campbellsci.eu/srm-5a 



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