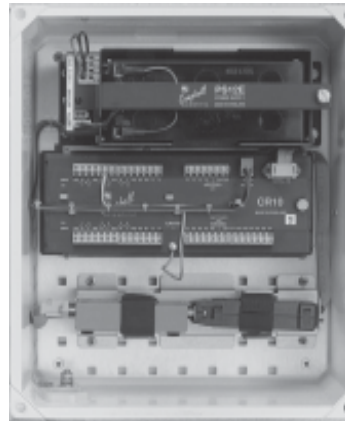


CS-SRM Short Range Modem Package



Typical CS-SRM installation with datalogger and power supply

For remote communication with a Campbell Scientific datalogger up to 12km away

Description of modem

The CS-SRM Short-Range Modem package is ideal for communication between a remote Campbell Scientific datalogger and a computer with an RS232 port. The CS-SRM ensures integrity of data transmission using unconditioned 4-core cable at data rates up to 19200 baud. The modem operates over distances up to 12km (7.44 miles) depending on wire gauge and data rate (see table overleaf).

Function

When used with a PC running Campbell Scientific software, the CS-SRM package allows data retrieval, uploading and downloading of datalogger programs and remote monitoring.

Operation

The CS-SRM can operate without a mains supply; ultra low power consumption allows it to be driven from the standard RS232/V24 data and control signal voltages at the PC and from the CSI/O port on the logger.

Transmission levels are chosen to minimise cross-talk onto adjacent circuits within the same cable. Data is transmitted and received at a balanced impedance, ensuring excellent immunity to circuit noise.

The model 5A modem shown is not BAPT approved. However a fully BAPT-approved model for use in the UK on leased lines (such as EPS8) is available to special order.

Key Features

Asynchronous transmission at up to 19200 baud

Transmission range up to 12km (7.44 miles) over low grade twisted pair or telephone cabling

Miniature modem using hybrid technology

No AC power required

Transformer isolated


Easy to install


Compact and lightweight

Includes SC932C interface

Includes 2 off RAD-SP surge protectors

Typical Applications

Accessing an automatic weather station from a nearby office 

Communication with a datalogger in a harsh industrial environment 

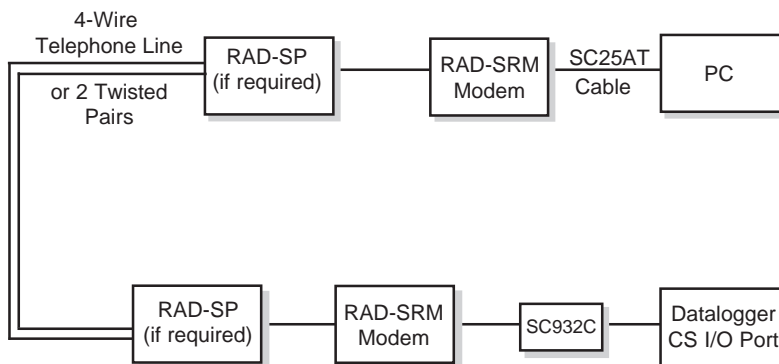
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Transmission Range

Approximate Transmission Range of RAD-SRM Modems						
Data Rate bps	19 Gauge (.9mm)		24 Gauge (.5mm)		26 Gauge (.44mm)	
	km	miles	km	miles	km	miles
19,200	5.0	3.1	2.0	1.24	1.5	0.93
9,600	10.0	6.2	4.5	2.79	3.0	1.86
4,800	11.5	7.14	5.0	3.1	4.0	2.48
2,400/1,200	12.0	7.44	5.5	3.41	4.0	2.48

System Configuration



Block diagram of a typical CS-SRM package

**Call for information
on alternative
communication links**

Specifications

Communication

Data Rate: Up to 19200 baud with Campbell Scientific dataloggers

Transmission Range: Up to 12km

Transmission Line: 4-wire unconditioned cable (two twisted pairs)

Transmission Mode: Asynchronous, full duplex

Connections

Terminal Interface: RS232, 25-way D-type female connector

Line Interface: 5-way (four wires and ground) via terminal block

Power Requirements (with SC932C): less than 2.5mA quiescent, 10-15mA active

Protection from Electrical Transients

The RAD-SRM is coupled to the telephone cable through isolation transformers rated at over 1500V RMS. Surge protectors (model RAD-SP) are included for additional protection where the lines run outside.

NOTE: Campbell Scientific will not accept any warranty claims where damage to the RAD-SRM has occurred because the recommended surge protectors were not used.

Customer-supplied surge protectors may be needed on the AC supply to protect the PC. Call for further information.

Operation Details

The modem will operate fully even if only the Transmit Data line is connected — i.e. without the terminal sending Request to Send or Data Terminal Ready signals. Both positive and negative signals are generated in compliance with EIA RS232C/CCITT V24 standards irrespective of the state of the Transmit Data line.

Physical

Operating Temperature: 0°C to +50°C

Humidity: Up to 90%, non-condensing

Size: 52mm x 53mm x 18mm

Weight: 38g

Campbell Scientific products are available from: