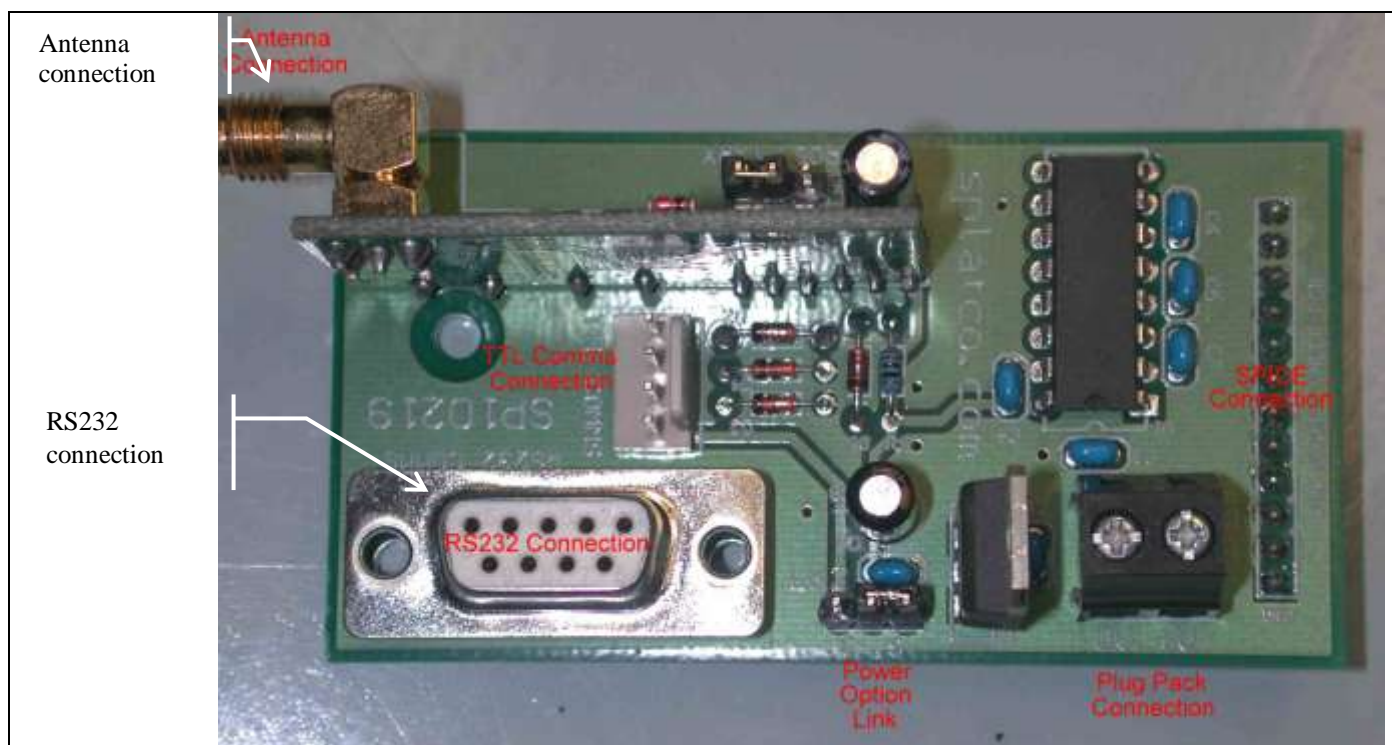


SP-10219 Half Duplex 433/915MHz Radio Communications SPice Board Quick Reference Guide

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Introduction

The SP-10219 allows for half duplex communications at 9600 baud, 8 data bits, no parity, one stop bit, between a SPLat Controllers, PC or some other equipment over a 433/915MHz radio link. The module is suitable for SPLatLink, MODBUS and arbitrary communication only, where the controller is polled for data and then replies. It is not suitable for replacing the communications cable when connecting to a board to view I/O status or down loading programs, as this type of connection relies on full duplex communications. The unit has both TTL and RS232 interfaces.



The SP-10219 has been made multipurpose so that the same board can be used with any SPLat Controller (including custom models) or a PC. The following table defines which connector to use and the position of the power option link depending on the application:

Application Type	Connection Cable	Power Configuration
Mmi202 SP-10219 mounted on SPice connector	DB9M → DB9M, 3 wires required: pins 2 and 3 crossed over, pin 5 to pin 5	Power derived from SPice connector Vdd, power option link in the “S” position
SL100 SP-10219 mounted on SPice connector	DB9M → DB9M, 3 wires required: pins 2 and 3 crossed over, pin 5 to pin 5	Power derived from SPice connector Vdd, power option link in the “S” position
MS120 SP-10219 mounted on SPice 1 connector	TTL 0.1” 4 pin → 0.1” 4 pin cable required: pins 2 and 3 crossed over, pins 1 and 4 straight through	Power derived from SPice connector Vdd, power option link in the “S” position
CC18 SP-10219 loose, use SPice mounting hole for securing	TTL 0.1” 4 pin → 0.1” 4 wire cable required: pins 2 and 3 crossed over, pins 1 and 4 straight through	Power derived from TTL comms connection, power option link in the “C” position ***
CC18 SP-10219 loose, use SPice mounting hole for securing	TTL 0.1” 4 pin → 0.1” 3 wire cable required: pins 2 and 3 crossed over, pins 4 straight through, pin 1 left unconnected	Power derived from terminal block TB1, polarity as marked, power option link in the “S” position, 8 → 24 VDC
Custom Controller with TTL comms connector and either no SPice connector or non standard SPICE connector	TTL 0.1” 4 pin → 0.1” 4 wire cable required: pins 2 and 3 crossed over, pins 1 and 4 straight through	Power derived from TTL comms connection, power option link in the “C” position ***
Custom Controller with TTL comms connector and either no SPice connector or non standard SPICE connector	TTL 0.1” 4 pin → 0.1” 3 wire cable required: pins 2 and 3 crossed over, pins 4 straight through, pin 1 left unconnected	Power derived from terminal block TB1, polarity as marked, power option link in the “S” position, 8 → 24 VDC
Custom Controller or equipment with RS232 connection	DB9M → DB9M, 3 wires required: pins 2 and 3 crossed over, pin 5 to pin 5	Power derived from terminal block TB1, polarity as marked, power option link in the “S” position, 8 → 24 VDC
PC SP-10219 loose, use SPice mounting hole for securing	DB9M → DB9F straight through cable	Power derived from terminal block TB1, polarity as marked, power option link in the “S” position, 8 → 24 VDC
PC SP-10219 loose, use SPice mounting hole for securing	SPLat PC232 RS232 → TTL prog adaptor plugged into TTL comms connector on SP-10219, DB9 at PC end	Power derived from terminal block TB1, polarity as marked, power option link in the “S” position, 8 → 24 VDC

*** Refer to factory, as there may be power supply considerations

Antenna

Antenna connection is via a female SMA connector mounted on the radio module and is intended for 50 Ohm, 433/915MHz antennas.

Application Data

The SP-10219 consumes less than 35mA in receive mode and less than 50mA when transmitting. A small slide on heat sink may be required for the voltage regulator (next to the terminal block) if TX duty cycle is high and ambient temperature is high.

The radio module has 2 surface mount LEDs that indicate the status of the radio module: Green LED flashes when receiving data and the Red LED flashes when transmitting data.

The working temperature range of the unit is $-30 \rightarrow +50^{\circ}\text{C}$.

No tuning of the RF module is required. Typical RF output power of the module is 8dBm for the 433MHz version and 4dBm for the 915MHz version.