



AVS47-232/USB CONVERTER

The AVS47-232/USB is an external protocol converter. It creates a galvanically isolated RS232 or USB computer interface for the AVS-47B Resistance Bridge. The box does not need a power supply, power is received from the AVS-47B. Old AVS-47 bridges cannot supply the required power and therefore this device is only for the “B” version.

The converter is connected to the AVS-47B by a 5-meter cable (different lengths can be made upon request). Communications in this cable is based on the isolated, proprietary, low-speed, low-EMI Picobus protocol. The box can be kept far from the experimental apparatus and the shielding braid of the cable can be grounded to e.g. the conducting wall of the cryostat room in order to eliminate possible antenna effects.

The box, in turn, is connected to a USB-232 converter (not included - supplied separately by us or by the user) by a 1.5-meter cable. The USB-232 converter is connected to the computer’s USB port, and it creates a virtual RS232 port, which the user’s application program can access.

If the computer has a physical RS232 port, no USB-232 converter is needed.

The AVS47-232/USB uses the most common RS232 format: baud rate 9600, 8 data bits, no parity, one stop and no handshaking. It can be used with any computer, operating system and programming language that support simple RS232 communications. This device is based on the very popular Arduino Mega2560 circuit board.

The **operating manual** can be downloaded from our WEB site.

SPECIFICATIONS

REMOTE CONTROL COMMANDS: Remote/local, Input(zero, measure, calibrate), Multiplexer channel, Range, Autorange with settling delay, Excitation, Display selector, Deviation reference, Null deviation.

REMOTE CONTROL QUERIES: Remote, Input, Multiplexer, Range, Excitation, Display selector, Reference, Reference source, Magnification, Polarity, Adc Overrange, Autorange.

MEASUREMENT COMMANDS AND QUERIES:

Res X: make X a/d conversions and calculate their mean value. Res? returns this value in ohms (floating point).

Adc X: make X a/d conversions and calculate their mean value. Adc? returns this value (integer -19999...+19999).

OTHER COMMANDS FOR AVS-47B: Queries for Identification, firmware and hardware versions, Operation complete and Error. Commands: Line terminator, Command delimiter, Stabilisation delay and Reset.

COMMANDS FOR TS-530A: Set point, Proportional gain, Integrator time, Derivation time, Output bias, Power range. Heater output voltage and current are read via the AVS-47B.

DIMENSIONS: 130 x 105 x60 mm (L x W x H)

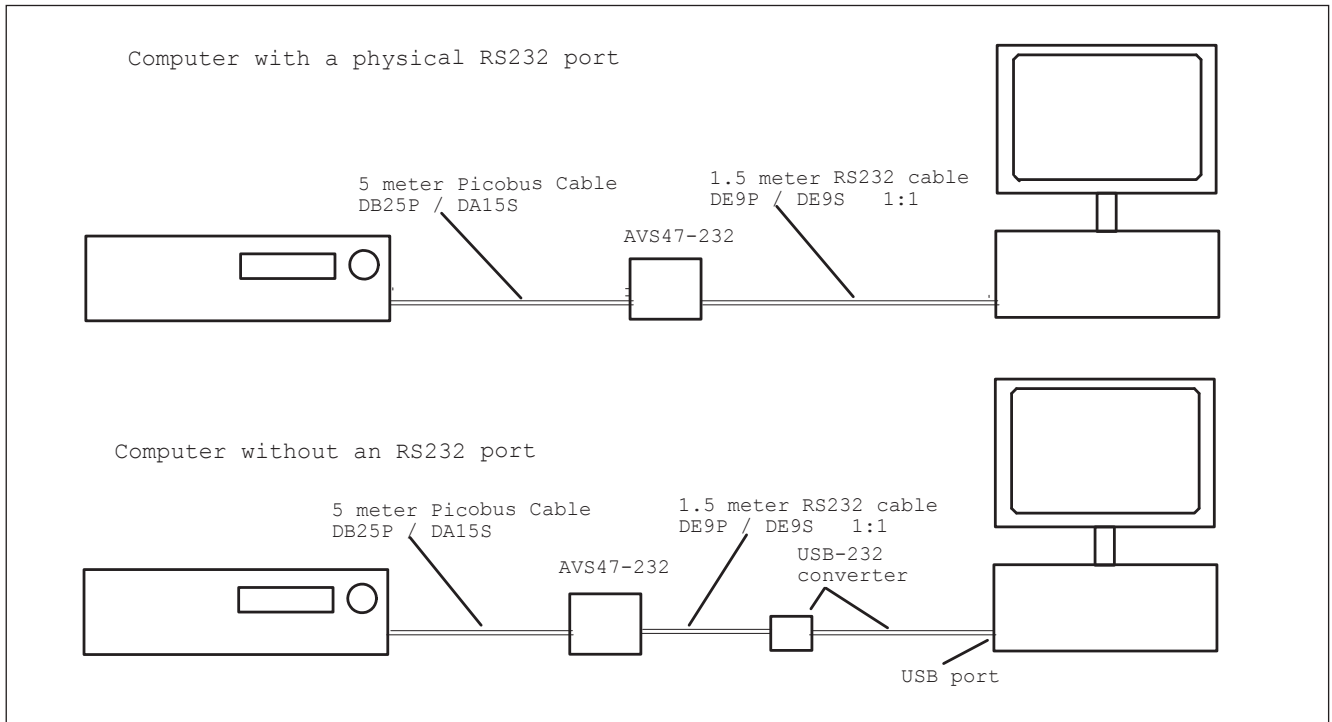
INCLUDED: AVS47-232/USB converter, 5-meter Picobus cable (DB25P/DA15P), 1.5-meter RS232 cable (DE9P/DE9S)



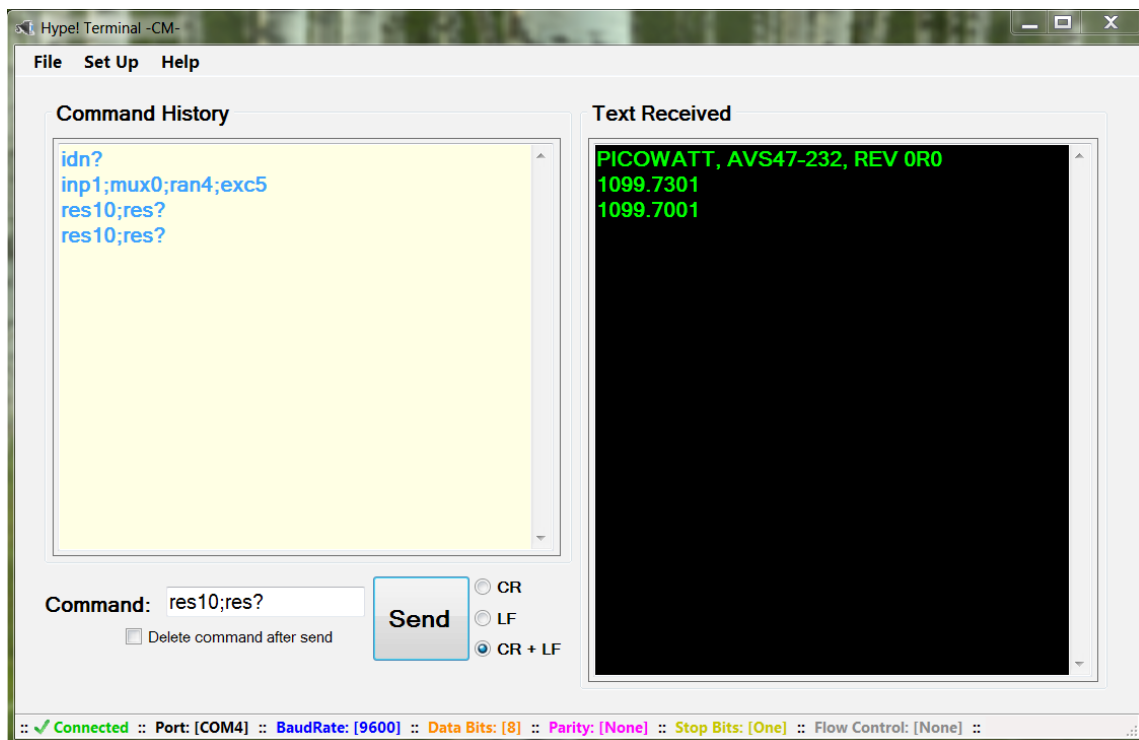
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AVS47-232/USB Converter

For Interfacing the AVS-47B with Computers



There are two ways to connect the AVS47-232/USB: Either directly to computer's RS232 port, or via a USB-232 converter to computers USB port. The USB converter creates a virtual RS232 port that your high-level program will access.



A free downloadable RS232 terminal program from WEB can be useful for getting acquainted with the AVS47-232/USB. This example shows the simplicity of using some typical commands and queries.