STANDARD INTERFACE

shielded room wall

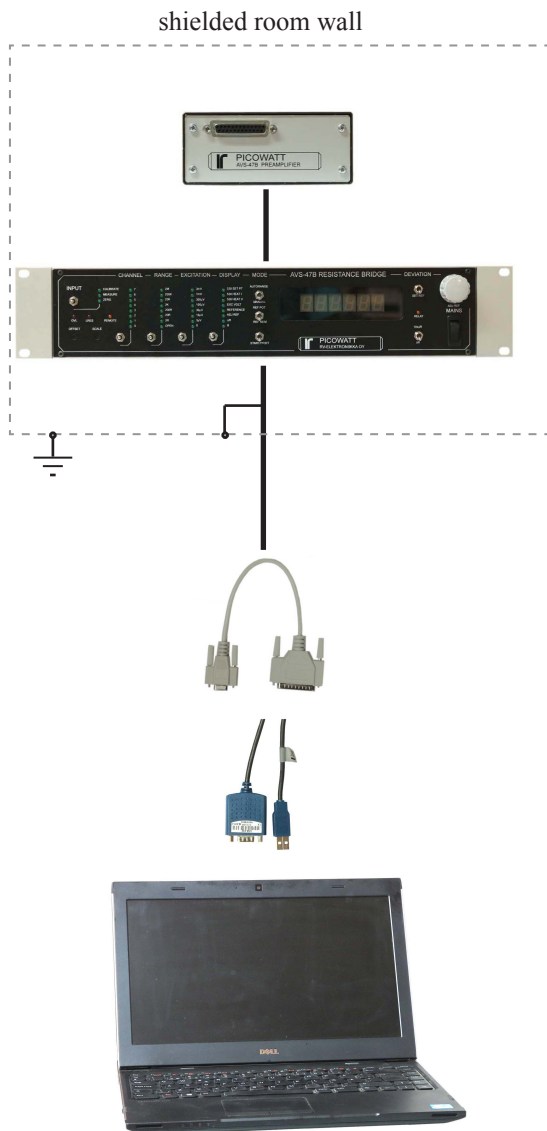## USB-PICOBUS

This the simplest, no-cost way to interface AVS-47B with a remote computer. Supported by a number of LabView VIs and examples. Can be connected to a USB port via a USB-232 adapter.

AVS-47B Preamplifier

5 meter Preamplifier Cable   PR25P25P25W5M

AVS-47B 19" Main Unit

5 meter Picobus Cable   PB25P25S5W5M
Recommended: Ground the jacket to the wall of the shielded room. Comes standard with AVS-47B.

RS232 Adapter Lead from 9 to 25 pins. Connectors DE9S and DB25P. Comes standard with AVS-47B.

USB-232 Adapter. Not required if computer has a physical COM port. For avoiding compatibility problems, it is left to the customer to obtain an adapter and driver that work with his computer and operating system. The adapter creates a virtual COM port that the application program can access via the computer's USB port. Recommended for a Windows PC: National Instruments part No. 778472-01.

USB-Picobus application requires a PC-type computer running Windows and at least the base version of LabView2012 or newer.

Different configurations need their own wire cables. Interpreting key for cable types:

PR25P25S25W5M
                └─── Cable length in meters
                  ── Wires in the cable
                   ─ 2nd connector pin count + gender
                    1st connector pin count + gender
                    Cable type: PR=preamplifier
                              PB=Picobus data
                              RS=RS232 cable

ORDERING: USB-Picobus is standard with AVS-47B. LabView programs for USB-Picobus are freely downloadable from our WEB site. The recommended 778472-01can be purchased from us, or directly from National Instruments.

optionally order from us with the bridge:
040   USB-232 converter (NI part 778472-01)

RV-Elektroniikka Oy Picowatt, Veromiehentie 14, FI01510 VANTAA, Finland.   Tel. +358 50 337 5192
E-mail: reijo.voutilainen@picowatt.fi   Internet: www.picowatt.fi   Duns No. 36 931 9322   NCAGE A408G

STANDARD INTERFACE WITH OPTICAL FIBRE CONNECTION

shielded room wall

front   rear

+5VDC

front   rear
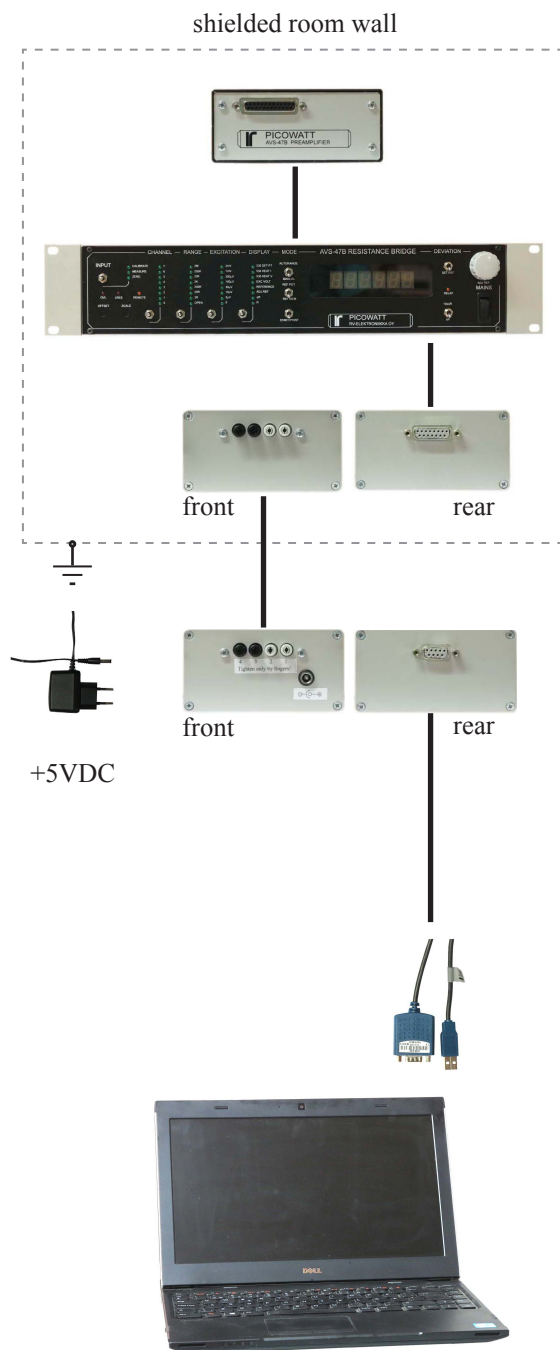
AVS47-PICOLINK

Adding AVS47-PICOLINK optical fibre link between AVS-47B and the PC is the ultimate measure against problems with electromagnetic interference. This product consists of two transmitter/receiver boxes, a 5 or 10 meter optical cable and of the required cables. Can be connected to the computer's Com: port, or to USB port via a USB-232 adapter.

AVS-47B Preamplifier

5 meter Preamplifier Cable   PR25P25P25W5M

AVS-47B 19" Main Unit

1.5 meter Picobus Cable PB25P15P6W1.5M
Included in AVS47-PICOLINK order.

15-PIN transmitter/receiver Box1 of AVS47-PICOLINK. Powered by AVS-47B. **Included** in order.

5 meter Picolink all-plastic fibre cable. **Included** in AVS47-PICOLINK order.   Option: 10 meter cable length.

9-PIN transmitter/receiver Box2 of AVS47-PICOLINK. Powered by external +5V wall adapter, which is **included** in AVS47-PICOLINK order (specify plug type and mains voltage).

1.5 meter Picobus Cable PB9P9S5W1.5M
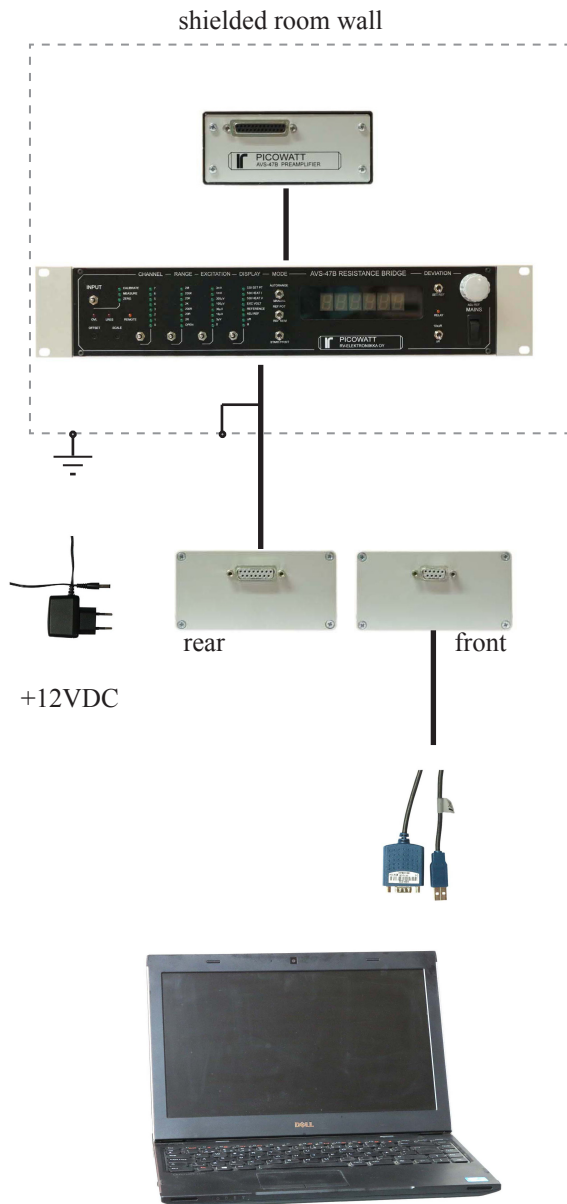**Included** in AVS47-PICOLINK order.

USB-232 Adapter. Not required if computer has a physical COM port. For avoiding compatibility problems, it is left to the customer to obtain an adapter and driver that work with his computer and operating system. The adapter creates a virtual COM port that the application program can access via the computer's USB port. Recommended for a Windows PC: National Instruments part No. 778472-01.

USB-Picobus application requires a PC-type computer running Windows and at least the base version of LabView2012 or newer.

ORDERING:
005   AVS47-PICOLINK   (plug type and voltage)
          and
013   5 meter optical cable OR
014   10 meter optical cable
     optionally include in the order
040   USB-232 converter (NI part 778472-01)

CONVERSION TO SERIAL (USB, RS232) WIRE CONNECTION

AVS47-Serial/USB-W

This option communicates with the computer via the common RS232 protocol, which enables interfacing with any computer, operating system and programming language that support RS232 in its simplest form. This protocol converter can be connected to a USB port via a USB-232 adapter or directly to the computer's RS232 port, if available. High-level commands make application programs shorter and simpler.

AVS-47B Preamplifier

5 meter Preamplifier Cable   PR25P25P25W5M

AVS-47B 19" Main Unit

shielded room wall

rear　　　front

+12VDC

5 meter Picobus Cable PB25P15S6W5M
Recommended: Ground the jacket to the wall of the shielded room. **Included** in AVS47-Serial/USB-W order.

AVS47-Serial/USB-W Protocol Converter. Powered by AVS-47B. **Included** in order.

1.5 meter Serial Cable RS9P9S7W1.5M. **Included** in AVS47-Serial/USB-W order

USB-232 Adapter. Not required if computer has a physical RS232 port. For avoiding compatibility problems, it is left to the customer to obtain an adapter and driver that work with his computer and operating system. The adapter is connected to computer's USB port and it creates a virtual RS232 port that the application program can access.

The computer needs not be a PC. Serial communication offers much more alternatives for interfacing than the standard no-cost USB-Picobus, which is designed for LabView running on a Windows PC.

Refer to AVS47-Serial/USB-W Brochure and User Guide

ORDERING:
004   AVS47-Serial/USB-W Protocol Converter
　　　optionally include in the order
040   USB-232 adapter (NI part 778472-01)

CONVERSION TO SERIAL (USB, RS232) OPTICAL FIBRE CABLE

shielded room wall

front   rear

+12VDC   front   rear
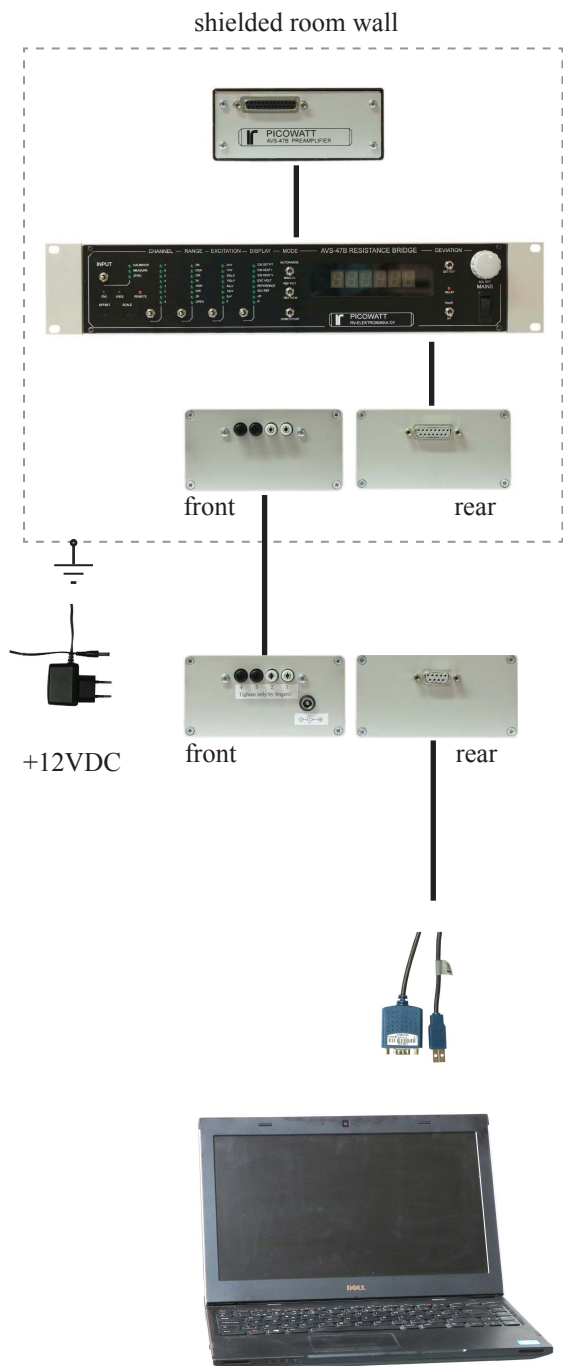
Refer to AVS47-Serial/USB-F
Brochure and User Guide

AVS47-Serial/USB-F

In this protocol converter, the wire connection out from the shielded room is replaced by a 5- or 10 meter optical link ("W" is for wire, "F" is for fibres). It consists of two boxes and necessary cables. Can be connected to a USB port via a USB-232 adapter or directly to computer's RS232 port if available.

AVS-47B Preamplifier

5 meter Preamplifier Cable   PR25P25P25W5M

AVS-47B 19" Main Unit

1.5 meter Picobus Cable PB25P15P6W1.5M
Included in AVS47-Serial/USB-F order.

15-pin transmitter/receiver Box1 of AVS47-Serial/USB-F. Powered by AVS-47B. **Included** in order.

5 meter Picolink all-plastic fibre cable. **Included** in AVS47-Serial/USB-F order.   **Option**: 10 meter cable length.

9-pin transmitter/receiver box of AVS47-Serial/USB-F. This box contains the protocol converter. Powered by external +12V wall adapter, which is **included** in the order.

1.5 meter RS232 Cable RS9P9S7W1.5M. **Included** in AVS47-Serial/USB-F order.

USB-232 Adapter. Not required if computer has a physical RS232 port. For avoiding compatibility problems, it is left to the customer to obtain an adapter and driver that work with his computer and operating system. The adapter is connected to computer's USB port and it creates a virtual RS232 port that the application program can access.

The computer needs not be a PC. Serial communication offers much more alternatives for interfacing than the standard free USB-Picobus.

ORDERING:
006   AVS47-Serial/USB-F Protocol Converter
       and
013   5 meter optical cable **OR**
014   10 meter optical cable
       optionally include in the order
040   USB-232 adapter (NI part 778472-01)

GPIB INTERFACE, WIRE CONNECTION

AVS47-IB GPIB CONVERTER

In addition to protocol conversion between the proprietary low-level Picobus and GPIB, this product offers automatic scanning of sensors, buffering of data and many macro commands. Although an old standard, GPIB is still widely supported by computers, operating systems and programming languages.

A LabView Driver (compiled for LV7.1) is freely downloadable from our WEB site.
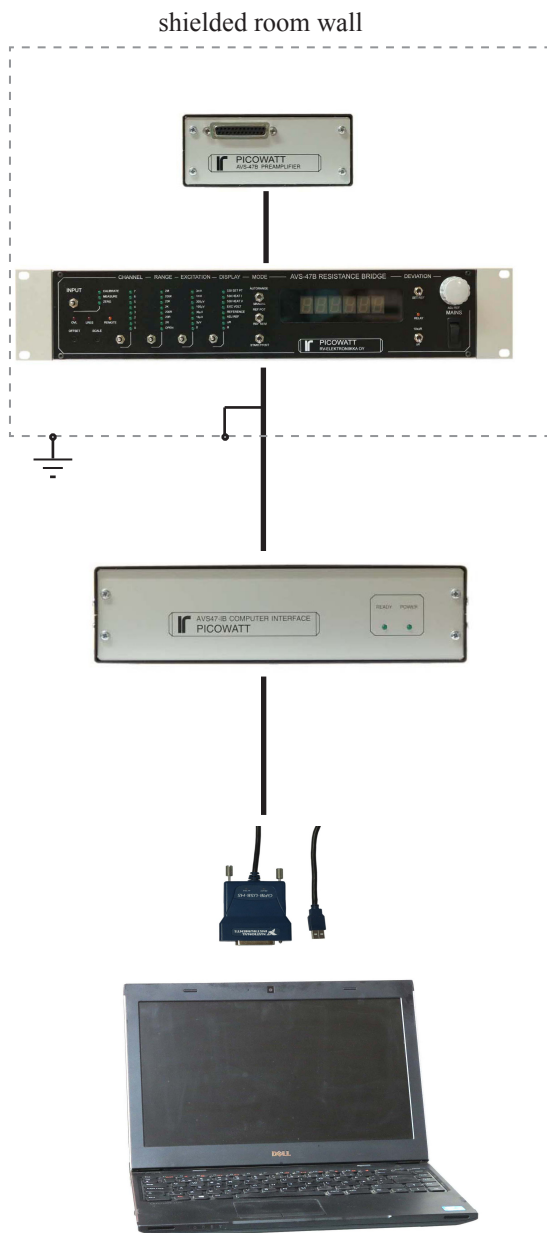
shielded room wall

AVS-47B Preamplifier

5 meter Preamplifier Cable   PR25P25P25W5M

AVS-47B 19" Main Unit

5 meter Picobus Cable PB25P25S5W5M
Recommended: Ground the jacket to the wall of the shielded room. **Included** if AVS47-IB is ordered separately. Normally comes standard with AVS-47B.

Model **AVS47-IB** Computer Interface Option (IEEE-488, GPIB). Mains powered 90-250V.

GPIB Cable is **NOT** included.

An external GPIB controller, connected to a USB port, can be used with computers without an installed controller card. **NOT** included.

Computer with internal or external GPIB controller. Also driver software for the controller is needed.

ORDERING:
002   AVS47-IB Computer Interface Option (GPIB)
(if ordered together with AVS-47B, only one standard 5 meter Picobus cable is supplied).

OPTICAL FIBRE CONNECTION FOR AVS47-IB

shielded room wall

front

rear

+12VDC   front   rear
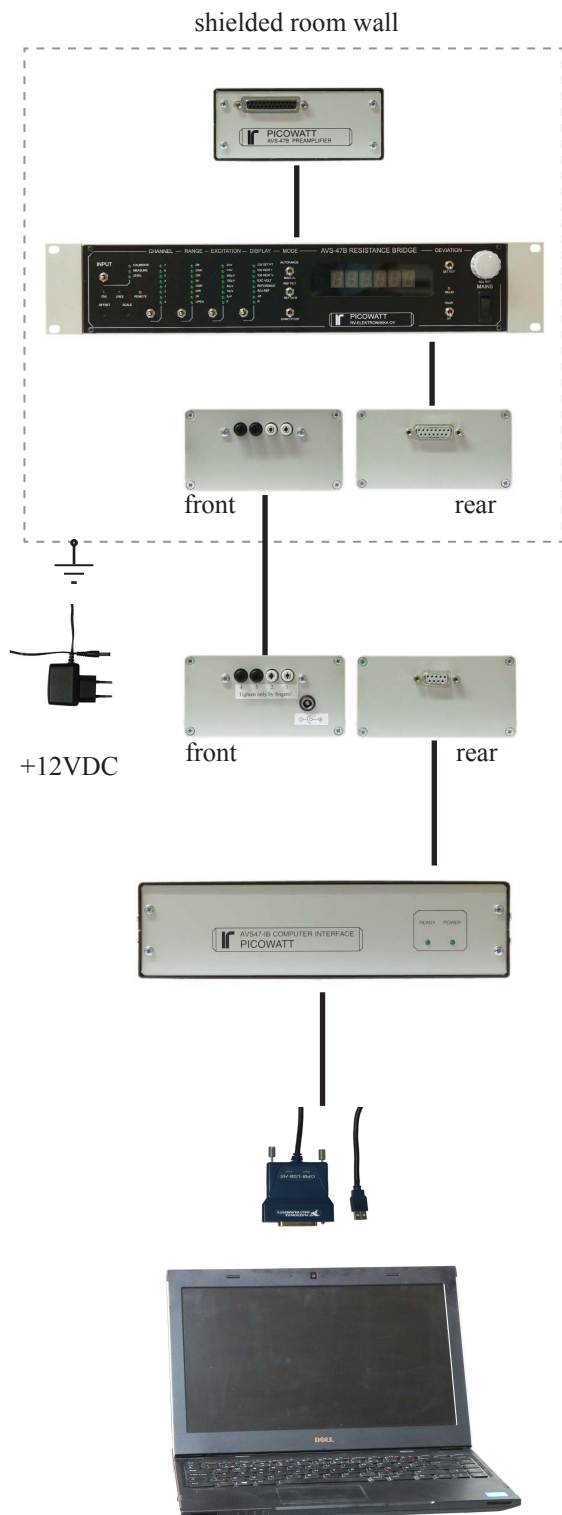
AVS47IB-PICOLINK

Replacing the standard wire connection between AVS-47B and AVS47-IB by an optical cable link is an efficient protection against EMI problems that the GPIB bus can cause. This product differs from AVS47-PICOLINK only by the type of the cable leaving Box2.

AVS-47B Preamplifier

5 meter Preamplifier Cable   PR25P25P25W5M

AVS-47B 19" Main Unit

1.5 meter Picobus Cable PB25P15P6W1.5M **Included** in AVS47IB-PICOLINK order.

Transmitter/receiver Box1 of AVS47IB-PICOLINK. Powered by AVS-47B. **Included** in order.

5 meter Picolink all-plastic fibre cable. **Included** in AVS47IB-PICOLINK order.   **Option**: 10 meter cable length.

Transmitter/receiver Box2 of AVS47IB-PICOLINK. Powered by external +12V wall adapter, which is **included** in AVS47IB-PICOLINK order.

1.5 meter Picobus Cable PB9P25S5W1.5M **Included** in AVS47IB-PICOLINK order.

Model AVS47-IB Computer Interface Option (IEEE-488, GPIB). Mains powered 90-250V.

GPIB Cable is **NOT** included.

An external GPIB controller, connected to a USB port, can be used with computers without an installed controller card. **NOT** included.

Computer with internal or external GPIB controller. Also driver software for the controller is needed.

ORDERING:
044   AVS47IB-PICOLINK (specify voltage and plug type of the wall adapter)
     and
013   5 meter optical cable **OR**
014   10 meter optical cable