

Operating Manual

GRS 485 ISO

RS232 – RS485 Converter

1 Scope of supply

- GRS 485 ISO converter
- 2-pole screw type/plug in connector for RS485 connection
- 9-pole serial interface cable (RS232)
- operating manual



2 General information

The GRS 485 ISO is a bi-directional interface converter RS232 <-> RS485, for the connection of up to 16 GIA or GIR to the serial interface of your PC.

The converter switches automatically from transmission to reception mode. The switch back time between transmission and reception mode can be chosen by means of a switch.

The interfaces are optically isolated. Echo can be suppressed if necessary by switch setting.



The settings are made by means of DIP-switches at the side of the housing:

Switch 1: echo suppression

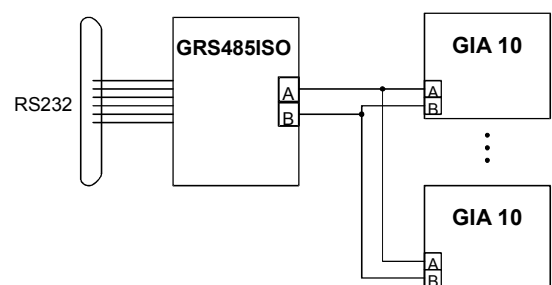
- off (switch up): Standard operation with echo.
- on (switch down): The echo will be suppressed.

Switch 2: switch back time for fast data transfer

- off (switch up): Standard operation with switch back time of ~10 ms.
- on (switch down): Switch back time of ~2 ms.
Only at baud-rates ≥ 9600 .
This is only necessary for short response times (3..10 ms).

3 Installation and commissioning

- Connect the GIR/GIA (max. 16 devices) to GRS 485 ISO according to the wiring diagram via a 2-pin connection cable (twisted line recommended).
- Then connect the GRS 485 ISO to the RS232-interface of your personal computer.
- Connect GRS 485 ISO to a supply voltage of 230VAC.



In case your PC is not equipped with a 9-pin Dsub-connector or in case it has already been assigned, the GRS 485 ISO can also be connected to a 25-pin Dsub-connector via any commercial adapter (e.g. GSA9S-25B).

If the interface converter GRS 485 ISO is not handled properly, the converter itself or the devices connected may be subject to damage. In such a case we do not assume any warranty claims! The manufacturer shall not be liable for any damage to other connected devices caused by the use of the GRS 485 ISO.



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4 Safety requirements

This device has been designed and tested in accordance with the safety regulations for electronic devices. However, its trouble-free operation and reliability cannot be guaranteed unless the standard safety measures and special safety advises given in this manual will be adhered to when using the device.

1. Trouble-free operation and reliability of the device can only be guaranteed if the device is not subjected to any other climatic conditions than those stated under "Specification".
2. Prior to opening it, disconnect device and supply voltage source. Make sure that all parts of the device are protected against direct touching when mounting the device and setting its connections.
3. Please always adhere to the standard safety regulations for electric devices, power systems and light-current installations, and make sure that your national safety regulations (e.g. VDE 0100) are observed.
4. If device is to be connected to other devices (e.g. PC) the circuitry has to be designed most carefully. Internal connection in third party devices may result in not-permissible voltages.
5. If there is a risk whatsoever involved in running it, the device has to be switched off immediately and to be marked accordingly to avoid re-starting.
Operator safety may be at risk if:
 - there is visible damage to the device
 - the device is not working as specified
 - the device has been stored under unsuitable conditions for a longer time.
 In case of doubt, please return device to manufacturer for repair or maintenance.
6. **Attention:** Do NOT use this product as safety or emergency stopping device, or in any other application where failure of the product could result in personal injury or material damage. Failure to comply with these instructions could result in serious injury and material damage.

5 Specification

Supply voltage:	220 ... 240 VAC; 50/60Hz
Power supply:	approx. 3W
Working conditions:	0 ... 50 °C, 0 ... 80 %RH (non condensing)
Storage temperature:	-20 ... 70 °C
Dimensions:	70 * 112 * 45 mm (W * L * D; housing only)
Isolation voltage:	up to 1.5kV RMS (for 1 min)

RS485:

Transmission mode:	half-duplex
Connection:	2-pin screw-type/plug-in terminal: PHOENIX MC1.5/2-ST-3.81
Connection cable:	2-pin, twisted (recommended)
Length of line:	max. 1000 meters
Baud rate:	max. 115.2 kBaud
Switch back time:	switch 1 on, switch 2 off: ~10ms, suitable for data transfer rate \geq 1200 baud switch 1 on, switch 2 on: ~2ms, suitable for data transfer rate \geq 9600 baud

RS232:

Connection:	9 pin Sub-D-socket		
Pin assignment:	Dsub 9	Dsub 25	
	3	----- 2	TxD
	2	----- 3	RxD
	7	----- 4	RTS
	8	----- 5	CTS
	5	----- 7	GND
	6	----- 6	DSR
	4	----- 20	DTR

EMC: The device corresponds to the essential protection ratings established in the Regulations of the Council for the Approximation of Legislation for the member countries regarding electromagnetic compatibility (89/336/EWG).
Tested in accordance with EN50081-1 and EN50082-1 for unlimited use in commercial and residential areas.

6 Disposal instructions

The device must not be disposed in the regular domestic waste.
Send the device directly to us (sufficiently stamped), if it should be disposed. We will dispose the device appropriate and environmentally sound.