

# HRC

## Optoisolated RS485/RS485 repeater RS232 to RS485 serial line converter



- 2 RS485 Half Duplex serial ports
- 1 RS232 serial port
- 1 KVdc isolation
- Line speed 1200-115200 bps
- Consumption 2 VA
- Plug-in screw connection terminal blocks

### Contents

<b>1</b>	<b>Warning</b>	<b>1</b>
1.1	General	1
1.2	Safety rules	1
<b>2</b>	<b>General description</b>	<b>1</b>
2.1	Device Led	1
2.2	RS232	1
2.3	Line protection	2
2.4	Termination resistor	2
<b>3</b>	<b>Wiring diagram</b>	<b>2</b>
<b>4</b>	<b>Technical data</b>	<b>2</b>
<b>5</b>	<b>End of life</b>	<b>2</b>

## 1 Warning

### 1.1 General

- This manual is part of the product and should be kept near the instrument for easy and quick reference
- GWC shall not be used for purposes different from those described hereunder. It cannot be used as a safety device.

## 1.2 Safety rules

- Check if the supply voltage is correct before connecting the instrument.
- Do not open the device
- Do not expose to water or moisture: use the controller only within the operating limits avoiding sudden temperature changes with high atmospheric humidity to prevent formation of condensation.
- In case of failure or faulty operation send the instrument back to "Higeco S.r.l." (see address at the end of this document) with a detailed description of the fault

## 2 General description

HRC is a converter/repeater for RS485 lines. It adds galvanic isolation on the data bus and it also amplifies the signal to. This combined action brings the following benefits to the system architecture:

- Electrical isolation and bus segmentation
- Increasing the range
- Creation of mixed and network structures

HRC is also a RS232 to RS485 converter. Only RX/TX and GND pins are available.

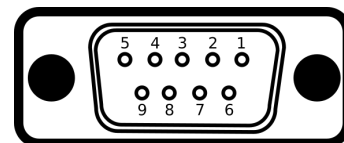
### 2.1 Device Led

Three Leds are available:

Led	Color	Description
PWR	Green	HRC is powered on
	Led is off	HRC is powered off
TX	Yellow blinking	Data transmission
	Led is off	No data transmission
RX	Yellow blinking	Data reception
	Led is off	No Data reception

### 2.2 RS232

To use the HRC as a bus converter, you need the DB9 cable extension. If HRC is used as RS232 converter it is no more possible to use it as RS485 repeater.



DB9 pinout for RS232 port

1	2	3	4	5	6	7	8	9
NC	<b>RX</b>	<b>TX</b>	NC	<b>GND</b>	NC	NC	NC	NC



**WARNING:** RS232 comm. port does not have flow control.

### 2.3 Line protection

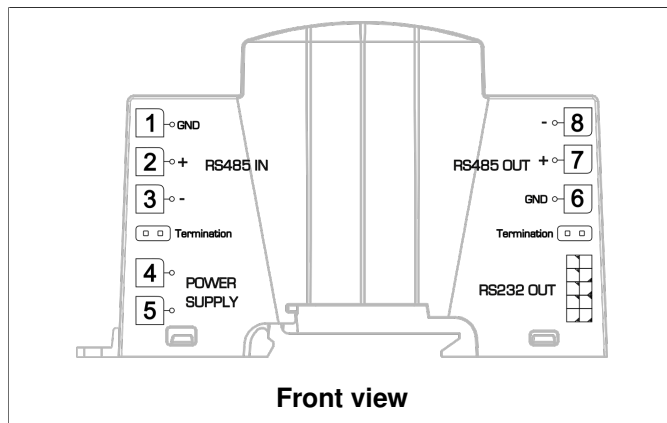
HRC is equipped with internal line protection to increase line reliability and stabilize signal quality:

- TVS: Transient Voltage Suppression
- TBU: Transient Blocking Unit
- GDT: Gas Discharge Tube

### 2.4 Termination resistor

If necessary add the "Termination" resistor by shorting the corresponding pins. See below diagram.

## 3 Wiring diagram



**1-2-3 RS485 IN** : 3 negative (B), 2 positive (A), 1 GND.

**TERMINATION** : Termination for RS485 IN.

**4-5 POWER SUPPLY** : Power supply.

**6-7-8 RS485 OUT** : 8 negative (B), 7 positive (A), 6 GND.

**TERMINATION** : Termination for RS485 OUT.

**RS232 OUT** : RS232 connector

## 4 Technical data

**Housing** : ABS.

**Format** : 1 DIN.

**Installing** : DIN rail.

**IP range** : IP20.

**Terminal blocks** : Plug-in screw connection terminal blocks  $\leq 1,5\text{mm}^2$ .

**Power supply** : 15-24 Vac  $\pm 10\%$  - 12-35 Vdc  $\pm 10\%$ .

**Consumption** : 2 VA max.

**Transmission channels** : 1 input, 2 outputs.

**Leds** : Power, Tx and Rx.

**Insulation** : 1 KVdc.

**Dimensioni** : 8.8 x 6.2 x 1.7 mm.

**Temperatura di esercizio** :  $-20^\circ\text{C} \div +55^\circ\text{C}$ .

**Termination resistor** : 150  $\Omega$ .

**Protections** : TVS (Transient Voltage Suppression), TBU (Transient Blocking Unit), GDT (Gas Discharge Tube).

## 5 End of life

Dispose according to the in force regulations



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