GC 52100

Repeater Power Supply

Powering and Isolation of 2- and 3-wire Transmitters

The repeater power supply GC 52100 is used to supply and separate 2- and 3-wire transmitters and active sensor signals.

The repeater power supply supplies the transmitter with power and transmits the current or voltage measuring signal with high accuracy galvanic isolated to the output. Alternative the measuring input accepts active signals from 4-wire transmitters.

The input and output range of GC 52100 can be easily set by using DIP switch. Due to the calibrated range selection no further adjustment is necessary.

The auxiliary power can be supplied via the connection terminals or via the optional In-Rail-Bus connector. A green LED on the front of the unit has been provided to monitor the power supply.

- **Universal operation of Transmitters**
  Energization and separation of field located 2-, 3- and 4-wire transmitters with current or voltage output

- **Calibrated signal setting**
  Input and output range can be set by using DIP switch – high precision without any further adjustment

- **3-Port isolation**
  Protection against erroneous measurements due to parasitic voltages or ground loops

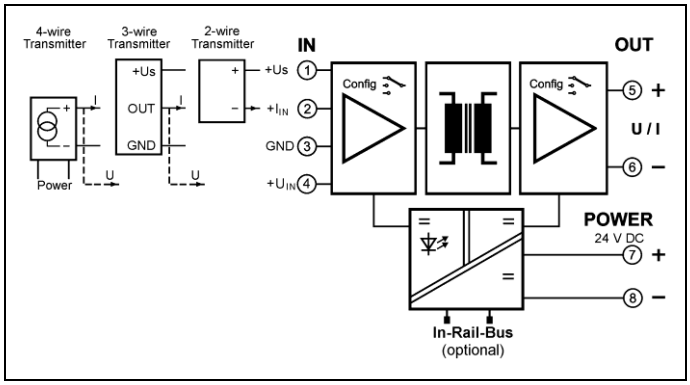
- **Extremely slim design**
  6.2 mm slim housing for a simple and space saving DIN rail mounting

- **Optional In-Rail-Bus mounting rail connector**
  allows for fast and economical installation

- **Protective Separation acc. to EN 61140**
  Protects service personnel and downstream devices against impermissibly high voltage

- **5 Years Warranty**
  Defects occurring within 5 years from delivery date shall be remedied free of charge at our plant (carriage and insurance paid by sender)

Block diagram

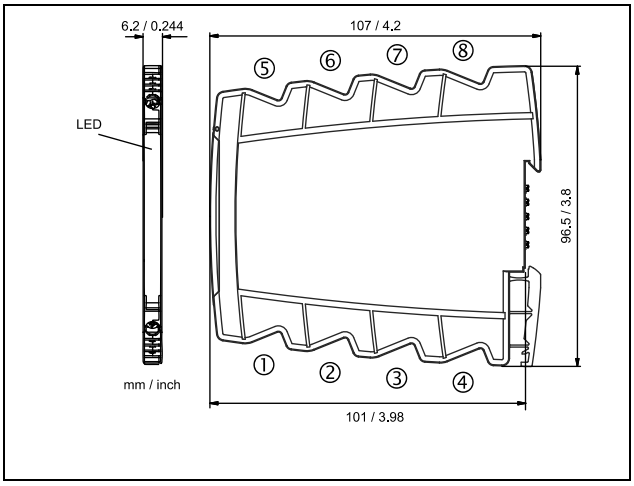


Technical Data

Input				
Input signal (calibrated switchable)	0 … 20 mA	4 … 20 mA	0 … 10 V	2 … 10 V
Input resistance	current input ≤ 25 Ω		voltage input ≥100 kΩ	
Overload	50 mA / 30 V			
Transmitter supply (Tx)	17 V at 20 mA (open circuit / short circuit < 22 V / 35 mA)			
Output				
Output signal (calibrated switchable)	0 … 20 mA	4 … 20 mA	0 … 10 V	2 … 10 V
Load	Current output: ≤ 12 V (600 Ω at 20 mA)		Voltage output: ≤ 5 mA (2 kΩ at 10 V)	
Linear transmission range	–1 ... +110 %			
Residual ripple	< 10 mV_{rms}			
General Data				
Transmission error	< 0.1 % full scale			
Temperature coefficient[1)]	< 100 ppm/K			
Cut-off frequency -3 dB (switchable)	5 kHz	100 Hz		
Response time T_{99}	150 µs	7 ms		
Test voltage	3 kV AC, 50 Hz, 1 min.	Input against output against power supply		
Working voltage[2)] (Basic Insulation)	Up to 600 V AC/DC for overvoltage category II and pollution degree 2 acc. to EN 61010-1 between all circuits.			
Protection against electrical shock[2)]	Protective separation according to EN 61140 by reinforced insulation in accordance with EN 61010 -1 up to 300 V AC/DC for overvoltage category II and pollution degree 2.			
Ambient temperature	Operation	–25 °C to + 70 °C	(–13 to +158 °F)	
	Transport and storage	–40 °C to + 85 °C	(–40 to +185 °F)	
Power supply	24 V DC	voltage range:16.8 V … 31.2 V DC, approx. 1.3 W		
EMC[3)]	EN 61326–1			
Construction	6.2 mm housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715			
Weight	Approx. 70 g			

1) Average TC based on the final value in specified operating temperature range
2) As far as relevant the standards and rules mentioned above are considered by development and production of our devices. In addition relevant assembly rules are to be considered by installation of our devices in other equipment. For applications with high working voltages, take measures to prevent accidental contact and make sure that there is sufficient distance or insulation between adjacent situated devices.
3) Minor deviations possible during interference

Dimensions



Terminal assignments

1	+	Transmitter supply voltage
2	+	Input current
3	-	Input GND
4	+	Input voltage
5	+	Output
6	-	Output
7	+	Power supply (connected to In-Rail-Bus)
8	-	Power supply (connected to In-Rail-Bus)

Connection

Captive plus-minus clamp screws
Wire cross-section max. 2.5 mm^2 / AWG 14
Stripped length 6 … 8 mm / 0.28 in
Screw terminal torque 0.8 Nm / 7 lbf in
Optional power connection via In-Rail-Bus (see accessories)

Subject to change!

Product line

Device	Order No.
Repeater Power Supply, calibrated range selection	GC 52100 S
Repeater Power Supply, calibrated range selection, In-Rail-Bus for power supply	GC 52100 B