Vibro Meter GSI127 244-127-000-017 A1-B02

Galvanic Separation Unit

Vibro Meter GSI127 244-127-000-017 A1-B02 provides power, signal conversion and electrical isolation in machinery monitoring measurement chains. This B02 configuration is intended for current-output IPC signal conditioners or a compatible VE210 velocity sensor. It converts the modulated sensor current into a voltage signal for the monitoring input while separating sensor-side ground from monitoring electronics. The A1 code identifies the standard version, making the full A1-B02 configuration important when replacing another visually similar GSI127.



Technical Specifications

Product Identity	
Complete configuration	GSI127 244-127-000-017 A1-B02
Functional Configuration	
Function	Galvanic isolation, sensor power and current-to-voltage conversion
B02 offset	12 mA input to 7 V DC ±200 mV
Sensor/monitor isolation	4 kV RMS
Version	A1 standard; B02 IPC/VE210 current interface
Performance & Power	
Supply voltage	18–30 V DC
Transfer gain	B02: 1 V/mA ±1%
Sensor supply	20 V DC ±1 V
Input current range	0–20 mA
Signal bandwidth	DC–20 kHz, ±0.5 dB
Environment	
Operating temperature	0 to +70 °C

Selected original manufacturer material follows on pages 3–7.

Compatibility & Selection Guide

System compatibility. Use B02 with the applicable current-output IPC704/IPC707 chain or VE210 configuration. Other GSI127 options have different transfer functions: current-output IQS conditioners use B03, while voltage-output chains use other options. The A1 standard unit must not be represented as the A2 Ex version. Match the upstream conditioner output and downstream voltage range together.

Wiring & Installation Reference

DIN-rail mounting

1. Identify the version Verify A1-B02 on the unit before connecting a measurement chain.
2. Fit the rail holder Mount on the specified TH35 DIN rail and retain the unit securely.
3. Connect terminal blocks Use the removable terminal blocks as shown in the front and mechanical drawings.

Installation precautions

A1 is a standard version; do not infer an A2 Ex approval.

Match B02 signal scaling before applying power to the completed chain.

View terminal layout (PDF) — page 6 · View mounting diagram — page 6

SPECIFICATIONS

Environmental

General

Temperature	
• Operating	: 0 to 70°C (32 to 158°F)
• Storage	: −40 to 85°C (−40 to 185°F)
Humidity (according to IEC 60068-2-30)	
• Operating	: 90% max. non-condensing
• Storage	: 95% max. non-condensing
Vibration (according to IEC 60068-2-6)	: 1 g peak above resonant frequency and 0.15 mm peak below (5 to 35 Hz, 90 minutes/axis)
Shock acceleration (according to IEC 60068-2-27)	: 6 g peak (half sine-wave, 11 ms duration, 3 shocks/axis)
Induced signal susceptibility (according to IEC 61000-4-4/5)	: Performance criteria B
RF susceptibility (according to IEC 61000-4-3)	: Performance criteria A
RF emissions – limits at 1 m (according to IEC 61000-4-3)	: <60 dBµV/m (quasi-peak) from 30 to 230 MHz. <67 dBµV/m (quasi-peak) from 230 to 1000 MHz.
Electrostatic discharge (according to IEC 61000-4-2)	: Performance criteria B

SPECIFICATIONS *(continued)*

Electrical

Power supply (to GSI127)

Input voltage range	: 18 to 30 V_{DC}
Current consumption (with nominal 24 V_{DC} supply)	
• No load on sensor side	: ≤80 mA
• 20 mA load on sensor side	: ≤120 mA

Input signal (sensor side)

Supply	
• Ordering options B0x	: 20 V_{DC} ±1 V_{DC}
• Ordering options B21	: 8 mA ± 0.5 mA
Impedance	
• Ordering options B0x	: ≤30 Ω
• Ordering options B21	: ≥50 kΩ
Dynamic range	
• Ordering options B0x	: 0 to 20 mA
• Ordering options B21	: 0 to 20 V_{DC}
Overload protection	
• Ordering options B0x	: 26 mA
• Ordering options B21	: 22 V_{DC}

Output signal (monitor side)

Output voltage dynamic range (with 10 kΩ load)	: 2 to 20 V_{DC}
Output impedance	: 20 Ω, protected against short-circuits
Power supply voltage rejection ratio	
• 10 Hz to 400 Hz	: ≥60 dB
• 400 Hz to 100 kHz	: ≥30 dB
Output signal offset drift with temperature	: ≤2 mV/°C
Output signal sensitivity drift with temperature	: ≤50 ppm/°C
AC output signal residual noise	: ≤3.5 $\mu V_{RMS}/\sqrt{Hz}$

SPECIFICATIONS *(continued)*

Transfer characteristics

Sensitivity

- Ordering options B01 and B02 : 1 V/mA ±1%
- Ordering option B03 : 3.2 V/mA ±1%
- Ordering options B04 and B21 : 1 V/V ±1%
- Ordering options B05 : −1 V/V ±1%

Output offset voltage (zero)

- Ordering option B01 (5 mA_{DC} on transmission line) : 7 V_{DC} ±200 mV_{DC}
- Ordering option B02 (12 mA_{DC} on transmission line) : 7 V_{DC} ±200 mV_{DC}
- Ordering option B03 (17.5 mA_{DC} on transmission line) : 8 V_{DC} ±200 mV_{DC}
- Ordering options B04, B05 and B21 (10 V_{DC} on transmission line) : 10 V_{DC} ±200 mV_{DC}

Bandwidth

- Frequency band with a transfer inside ±0.5 dB : DC to 20 kHz
- Typical −3 dB cut-off frequency : 30 kHz

Linearity : <0.2%

Galvanic separation voltage

- Sensor side and monitor side : 4 kV_{RMS}
- Power supply and output signal : 50 V_{RMS}

Connectors

Screw-terminal connector (top) : 4 contacts for sensor-side signals

Screw-terminal connector (bottom) : 4 contacts for monitor-side signals

Electrical connections

- IEC : 400 V / 0.2 to 2.5 mm^2
- UL : 300 V / 10 A / 26 to 12 AWG

Clamping range : 3.31 mm^2 (max.), rated connection

Note: The GSI127 features removal screw-terminal connectors that can unplugged from the main body of the housing to simplify installation and mounting.

Physical

Mounting : Suitable for TH 35 DIN rails (according to EN 50022 / IEC 60715). For example, TH 35-7.5 or TH 35-15.

Electrical connections : Removable screw-terminal connectors (see **Connectors on page 6**)

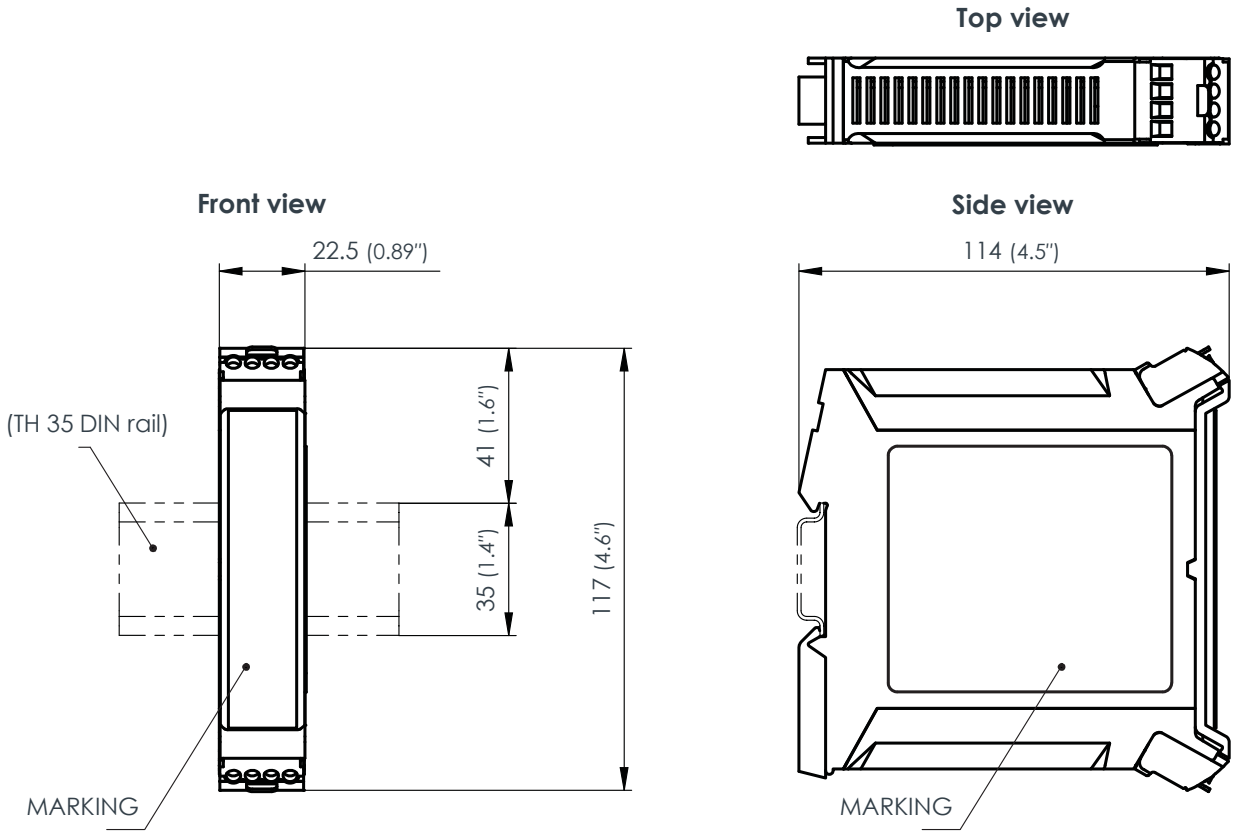
Housing

- Material : Polyamide (PA 66 GF 30)
- Colour : Standard versions: Grey. Ex approved versions: Grey with the electrical connections to the sensor side indicated by blue.

Dimensions : See **Mechanical drawings on page 7**

Weight : 140 g (0.31 lb) approx.

MECHANICAL DRAWINGS



Notes

All dimensions are in mm (in) unless otherwise stated.

For standard versions of the GSI127, the housing is completely grey in colour.

For Ex approved versions of the GSI127, the housing is grey in colour but with a screw-terminal connector (top) for sensor-side signals (electrical connections) that is blue in colour.

ORDERING INFORMATION

To order please specify

Type	Designation	Part number (PNR)
GSI127	Galvanic separation unit	See below

Part number (PNR):
244-127-000-017 — **A** — **B**

Environment	
Standard	1
Explosive (Ex)	2

	Sensitivity	Zero	Description
01	1 V/mA	5 mA → 7 V	For CExxx with a current output[1]
02	1 V/mA	12 mA → 7 V 13 mA → 8 V	For IPCxxx or VE210 with a current output[2]
03	3.2 V/mA	15 mA → 0 V	For IQSxxx with a current output[3]
04	1 V/V	---	For IPCxxx with a voltage output[4]
05	−1 V/V	---	For IQSxxx or VE210 with a voltage output[5]
21	1 V/V	---	For industry standard IEPE (integrated electronics piezo electric) vibration sensors[6]

1. Only CExxx piezoelectric accelerometers with a current output signal require a GSI127. For example, the CE134, CE281 and CE31x.

2. An IPCxxx signal conditioner or a VE210 velocity sensor with a current output signal is typically used for signal transmission over longer distances.
Note: For an IPC707 without diagnostics, the nominal current output signal (DC) is 12 mA (→ 7 V). For an IPC707 with diagnostics, the nominal current output signal (DC) is 13 mA (→ 8 V).
Refer to the IPC707 signal conditioner data sheet for further information.

3. An IQSxxx signal conditioner with a current output signal is typically used for signal transmission over longer distances.

4. An IPCxxx signal conditioner with a voltage output signal is typically used for signal transmission over shorter distances.
Note: For an IPC707 without diagnostics, the nominal voltage output signal (DC) is 7 V. For an IPC707 with diagnostics, the nominal voltage output signal (DC) is 8 V.
Refer to the IPC707 signal conditioner data sheet for further information.

5. An IQSxxx signal conditioner or a VE210 velocity sensor with a voltage output signal is typically used for signal transmission over shorter distances.

6. For use with industry standard IEPE (integrated electronics piezo electric) vibration sensors, that is, constant-current voltage-output sensors such as the CE620 and PV660 (and older CE680, CE110I and PV102 sensors).