

Enabling the Extraordinary
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MEGGITT

DATA SHEET

vibro-meter®

GS1127 galvanic separation unit

GS1127
(Ex
version)



GS1127
(standard
version)



KEY FEATURES AND BENEFITS

- From the vibro-meter® product line
- Power supply for sensors and signal conditioners with a current output or a voltage output
- 4 kV_{RMS} galvanic separation between the sensor side and the monitor side
- 50 V_{RMS} galvanic separation between the power supply and the output signal (floating output)
- High rejection of frame voltage
- µA to mV transfer function for current-signal transmission over longer distances
- V to V transfer function for voltage-signal transmission over shorter distances
- Ex certified for use in potentially explosive atmospheres (hazardous areas)
- Compatible with industry standard IEPE (integrated electronics piezo electric) vibration sensors

KEY BENEFITS AND FEATURES (continued)

- Removable screw-terminal connectors
- DIN-rail mounting
- No ground connection needed

APPLICATIONS

- All vibro-meter® measurement chains with current or voltage outputs
- Safety-related applications

DESCRIPTION

The GS1127 is a galvanic separation unit from Meggitt's vibro-meter® product line. It is designed for operation with the signal conditioners, charge amplifiers and electronics (attached or integrated) used by various vibro-meter® measurement chains and/or sensors.



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DESCRIPTION *(continued)*

Compatible devices include the IPC707 signal conditioners (charge amplifiers) used by CAxxx piezoelectric accelerometers and CPxxx dynamic pressure sensors (and older IPC704 signal conditioners too), the IQS9xx signal conditioners used by TQ9xx proximity sensors (and older IQS4xx signal conditioners too), the attached or integrated electronics used by CExxx piezoelectric accelerometers, and the integrated electronics used by the VE210 velocity sensor. The GSI127 is also compatible with industry standard IEPE (integrated electronics piezo electric) vibration sensors, that is, the integrated electronics used by constant-current voltage-output sensors such as the CE620 and PV660 (and older CE680, CE110I and PV102 sensors too).

The GSI127 galvanic separation unit is a versatile unit that can be used for the transmission of high-frequency AC signals over long distances in measurement chains using current-signal transmission or as a safety barrier unit in measurement chains using voltage-signal transmission. More generally, it may be used to supply any electronic system (sensor side) having a consumption of up to 22 mA.

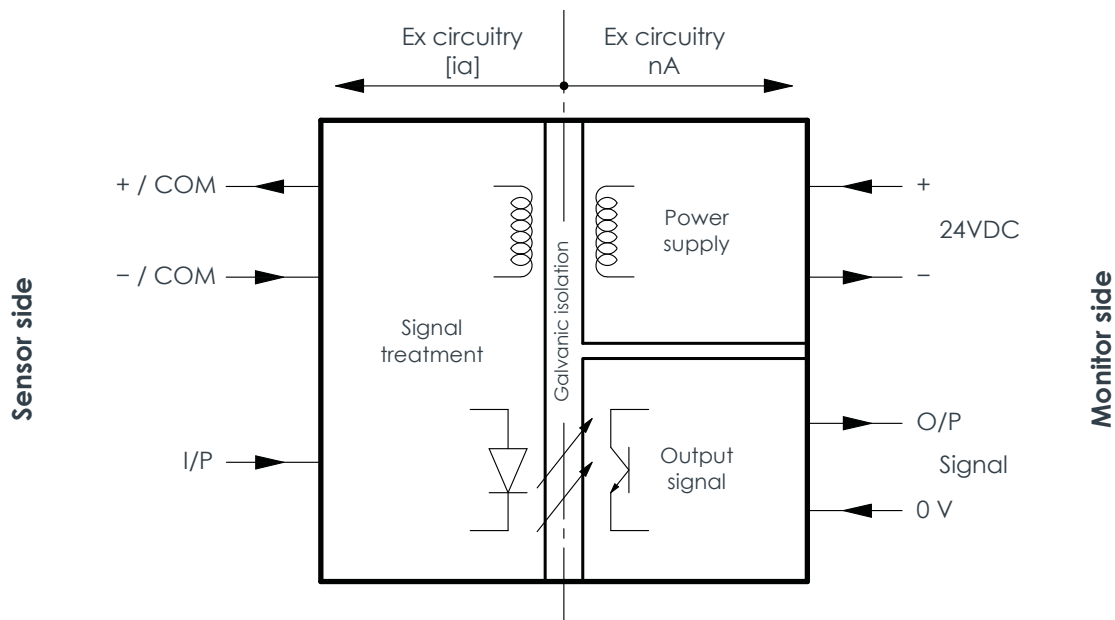
The GSI127 also rejects a large amount of the frame voltage that can introduce noise into a measurement chain. (Frame voltage is the ground noise and AC noise pickup that can occur between the sensor case (sensor ground) and the monitoring system (electronic ground)). In addition, its redesigned internal power supply results in a floating output signal, eliminating the need for an additional external power supply such as an APF19x.

The GSI127 is certified to be installed in an Ex Zone 2 (nA) when supplying measurement chains installed in Ex environments up to Zone 0 ([ia]). The unit also eliminates the need for additional external Zener barriers in intrinsic safety (Ex i) applications.

The GSI127 housing features removable screw-terminal connectors that can be unplugged from the main body of the housing to simplify installation and mounting. It also features a DIN-rail mounting adaptor that allows it to be mounted directly on a DIN rail.

For specific applications, contact your local Meggitt representative.

BLOCK DIAGRAM



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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 dB μ V/m (quasi-peak) from 30 to 230 MHz.
<67 dB μ V/m (quasi-peak) from 230 to 1000 MHz.

Electrostatic discharge

(according to IEC 61000-4-2)

: Performance criteria B

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Website: www.plcprotech.com
Email: sales@plcprotech.com
Phone: +86 180 4631 7198

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