

Description

The hermetic sealed 4-20 mA loop powered industrial accelerometer model 127 is design to monitor the vibration in harsh industrial environment.

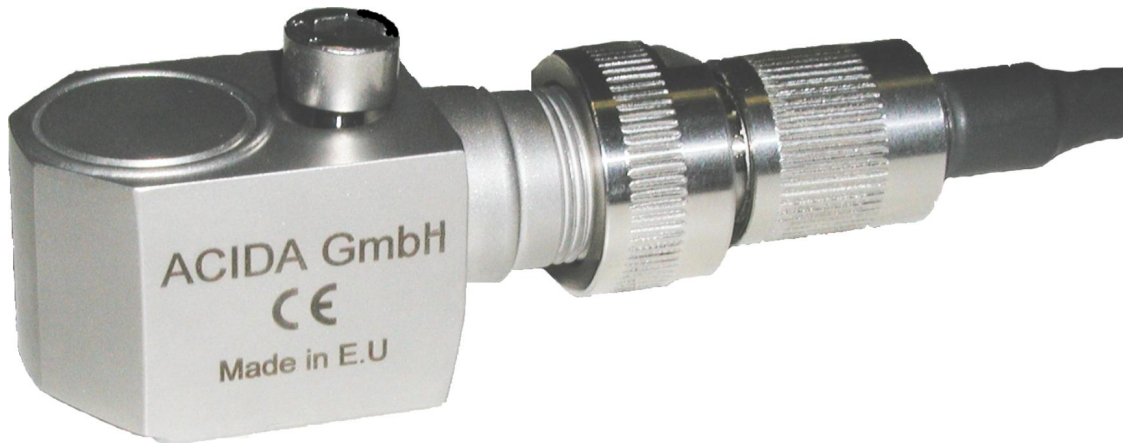
It uses the industry standard 4-20mA Loop that interfaces directly with PLC, DCS and 4-20mA monitor.

Large choice of output (velocity, acceleration, RMS, equivalent Peak) and frequency range will help to fit almost every customer requirements.

Their compact size allows for installation in tight places. The dynamic signal output (acceleration or velocity) can allow spectral vibration measurements.

Typical applications

Vibrations measurement in the rugged environments of industrial machinery monitoring. It allows continuous trending of overall machine vibration.



pic. 1 *picture similar to figure AC 103*

Technical Specifications

Sensitivity:

No vibration: 4mA

Full scale:

AC127.01-VR10 20mA +/-2% = 10mm/s

AC127.01-VR20 20mA +/-2% = 20mm/s

Repeatability: 2%

Frequency range: (+/- 10%):

AC127.01-VR10 , AC127.01-VR10 3 ... 1.000 Hz

Resonance frequency (mounted):

AC127.01-VR10 , AC127.01-VR10 25kHz nom.

Cross sensitivity (20Hz, 5g):

AC127.01-VR10 , AC127.01-VR10 < 5% max.

Linearity:

+/-1% max.

Starting time, 4-20mA current loop:

< 15s

Option: Dynamic output acceleration (DA)

- Sensitivity: 100mV/g +/-30%

- Usable dynamic range: +/- 25g

- Power supply: carried out 4-20mA current loop

- Frequency range: 3 bis 9.000Hz +/-10%

1 bis 14.000Hz, +/-3dB

Electrical specifications:

Isolated from machine ground Yes

Internal shielding Yes

Isolation (box/shield: -55°C bis +120°C): 100MQ min.

Capacity regarding earth: 70pF nom.

max. loop resistance: $R1 \max = (VDC_{power} - 10V) / 20mA$

min. power dissipation R1: $P_{tot \min} = 0,0004 \times R1$

Power supply for 2-wire loop: +10 bis +30VDC

Protection against overvoltage and reverse polarity: yes

Continuous operating temperature:

max. current loop = 10mA -55 bis +120°C

max. current loop = 20mA -55 bis +90°C

Acceleration boundary value (shock): 2.500g top

Acceleration boundary value (continuous): 250g top

ESD protection (electrostatic discharge): > 40V

Safety: EN 61010-1 & IEC 1010-1

EMV-Emission: EN 50081-1, EN 50081-2

EMV-Immunity (1): EN 50082-1, EN 50082-2

Box dimensions: see pic. 2 for 4pin M12

Box material: AISI 316L, DIN 1.4435 (stainless steel)

Weight: 155g nom.

Cable connection (laterally plug):

4-Pin-M12 M12 insulated glass, IEC 60947-5-2

Protection: IP67 (only for cable design B = 2 und 3)

Screw mounting torque: M6x1 – 2,4 Nm

Equipment (included):

Calibration protocol (current output by 160Hz), dynamic output

Mounting bolts M6-inside hexagonal screw(ISO 4762)

Equipment (not supplied):

Cable Set with 4-pin M12 plug AC10.01-A1-E01-31-length

(1) EMV-Immunity is only guaranteed, when used in this product data sheet listed accessories !

Ordering information Model AC127.01

To order, specify model number, options, accessories and suffix:

AC127.01 – AAAA – B – Options - Equipment

AAAA – measurement (full scale: 20mA)

- VR10: Speed RMS 10mm/s(3Hz bis 1000Hz, +/-10%)
VR11: Speed RMS 0.5ips (3Hz bis 1000Hz, +/-10%)
VR20: Speed RMS 20mm/s (3Hz bis 1000Hz, +/-10%)
VR21: Speed RMS 1.0ips (3Hz bis 1000Hz, +/-10%)
VR51: Speed RMS 2.0ips (3Hz bis 1000Hz, +/-10%)

B – Plug-Version

- 2: 4pin M12 plug, glass insulated, lateral connection

Options:

- DA : Dynamic output- acceleration
Sensitivity: 100mV/g, +/-10%
X1 : ATEX-registration (since March 2009)

Equipment:

- M6 : M6x1 – allen-fixing screw; can not be lost

Ordering information cable-set Model AC10.01

Please choose cable set specification according to following scheme:

AC10.01 – AA – BBB – CC - DD

AA –Cable Version

- A1: Cable bare, open wire ends

BBB – Plug Version

- E01: 4pin M12 plug, straight, welded wire, IP67, pic. 3
E31: 4pin M12 plug, 90°-angle, welded wire, IP67, pic. 3
E61: 4pin M12 plug, straight, field mountable, IP64, pic. 4
E81: 4pin M12 plug, 90°-angle, field mountable, IP64, pic. 4

CC –Cable-Material

- 31: Polyurethan, PU – isolated cable (90°C)

DD – Cable-Length in Meter

- 10: Length = 10m
15: Length = 15m or specify length!

Apply for this datasheet our general business conditions:

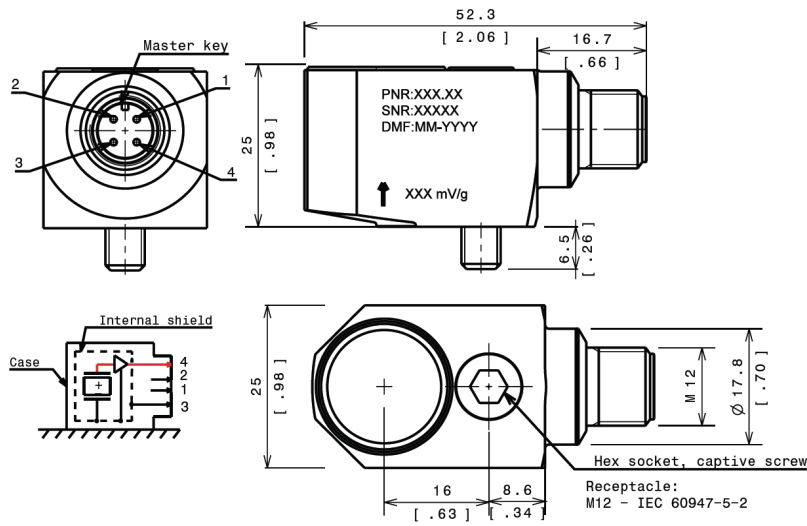
- General conditions for industrial applications
- General conditions for service and delivery
- Hourly- and daily rates

The general conditions and other documents can be downloaded from our website: www.acida.net.

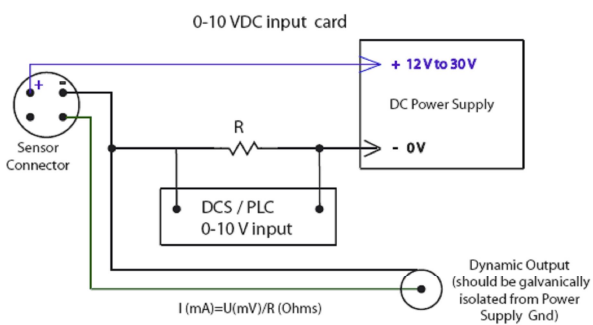
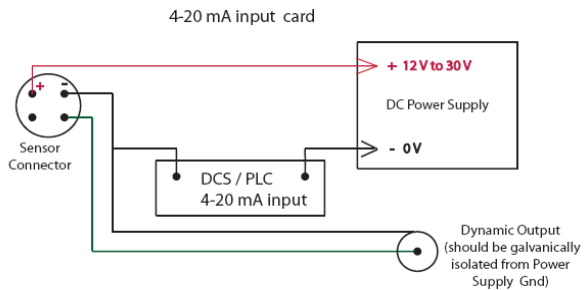
More information: info@acida.net.

Technical data and images can be modified at any time.

Dimensions

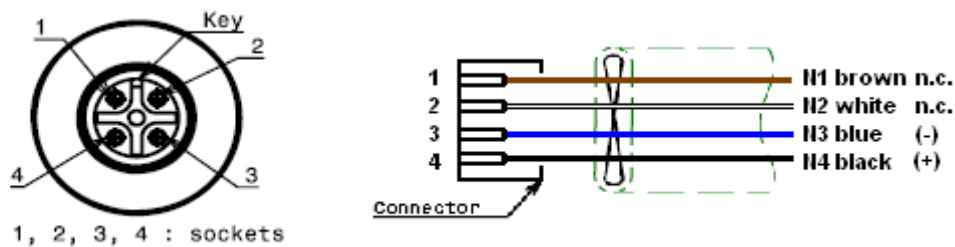


Model Number	Pin 1	Pin 2	Pin 3	Pin 4
Standard, no option	(+)	(-)	NC	NC
DA / DV Option	(+)	(-)	NC	DA/DV



pic. 2 Dimensions & electrical connection of the sensor model B = 2 (4-Pin M12-plug)

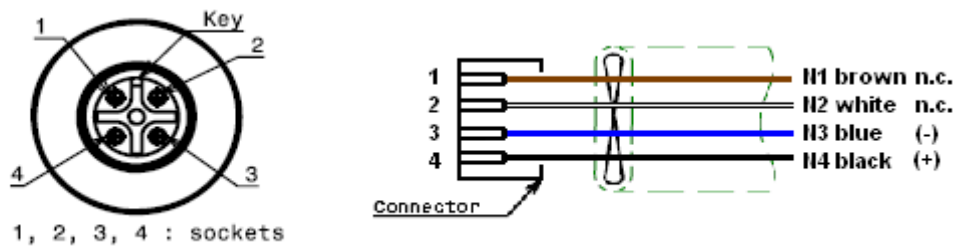
Plug- and Cable-Versions, Model AC10.01



pic. 3 Cable Set-1 and -2 with M12 plug made off PU by IEC 60947-5-2,
max. operating temperature: +90°C

Cable: twisted pair,
low-cost with good oil and fluid resistance;
material: PU, bore: 4.9 mm

M12 plug: material: PA, self-extinguishing box, 4-Pin, gold-plated contacts,
protection: IP 67; PU-seal to the cable
available as straight (E01) and angled (E31) version.



pic. 4 Cable Set-3 and -4 with M12-plug made of PU by IEC 60947-5-2,
max. operating temperature: +90°C

Cable: installed on site (unsealed), twisted pair,
low-cost with good oil and fluid resistance;
material: PU, bore: 4.9mm

M12-plug: material: PA, self-extinguishing box, 4-Pin, contacts mit CuSn-coating,
protection: IP 67; union nut made of stainless steel AISI 316L,
available as straight (E61) and angled (E81) version.