

## VIBRATION TRANSMITTER

# TR-27



### FUNCTION

The integrated transmitter TR-27 measures the absolute vibrations of any rotating machine support and it is able to interface directly in 2 wires technique (current loop  $4 \div 20$  mA) to an acquisition system (PLC or DCS).

### GENERAL DESCRIPTION

The transmitter, secured directly on machinery, generates an electric signal ( $4 \div 20$  mA) which is proportional respectively to vibration velocity or acceleration. The transmitter is made of an AISI 316L steel body with machine connection thread; the connection to the acquisition system is effected by means of an integral cable.

It is available both a standard version (PVC shielded cable and nickel-plated brass cable gland) and a special version for aggressive environment (EFTE shielded armoured cable and AISI 316L steel cable gland).

**NOTE:** The transmitter is available in different configuration versions and does not need any set-up or maintenance.

### TECHNICAL CHARACTERISTICS

Composition	<ul style="list-style-type: none"> <li>AISI 316L stainless steel integrated transmitter body</li> </ul>
POWER SUPPLY	<ul style="list-style-type: none"> <li>24 Vdc (<math>10 \div 35</math> Vdc) current loop <math>4 \div 20</math> mA (2 wires)</li> <li>Maximum load – see Figure 1</li> </ul>
External connections	<ul style="list-style-type: none"> <li>Standard: PVC shielded cable with nickel-plated brass cable gland</li> <li>Special: EFTE shielded and armoured cable, with AISI 316L steel cable gland</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>Transmitter - <math>50^{\circ}\text{C} \div + 120^{\circ}\text{C}</math></li> <li>IP 68</li> <li>Standard cable: <math>-20^{\circ}\text{C} \div + 80^{\circ}\text{C}</math></li> <li>Special cable: <math>-50^{\circ}\text{C} \div + 150^{\circ}\text{C}</math> - resistance UV</li> </ul>
Measure type	<ul style="list-style-type: none"> <li>Omnidirectional seismic (absolute vibration)</li> </ul>
Dynamic field	<ul style="list-style-type: none"> <li><math>\pm 18</math> g</li> </ul>
Transverse sensitivity	<ul style="list-style-type: none"> <li><math>&lt; 5\%</math></li> </ul>
Linearity	<ul style="list-style-type: none"> <li><math>\pm 2\%</math> - 75 Hz</li> </ul>
Dynamic performances	<ul style="list-style-type: none"> <li><math>\pm 3\%</math> / 10Hz-1kHz - see Figure 2</li> <li>-3db / 1,5Hz - 2kHz</li> </ul>
Insulation	<ul style="list-style-type: none"> <li><math>\geq 10^8 \Omega</math> between signal and case</li> </ul>
Application axis	<ul style="list-style-type: none"> <li>Any</li> </ul>
Standard machine connection thread	<ul style="list-style-type: none"> <li>M8x1,25</li> <li>1/4"-18NPT</li> <li>1/4"-28UNF</li> </ul>
Maintenance	<ul style="list-style-type: none"> <li>No maintenance is needed</li> </ul>
Electrical connections	<ul style="list-style-type: none"> <li>Bipolar shielded cable, conductors typical section <math>2 \times 1 \text{ mm}^2</math></li> </ul>
Parameters to be defined when ordering	<ul style="list-style-type: none"> <li>Measuring field</li> <li>Fixing thread</li> <li>Version</li> <li>Cable length</li> </ul>
Mounting torque	<ul style="list-style-type: none"> <li><math>5 \div 10</math> N-m</li> </ul>



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Figure 1  
Maximum load on current loop

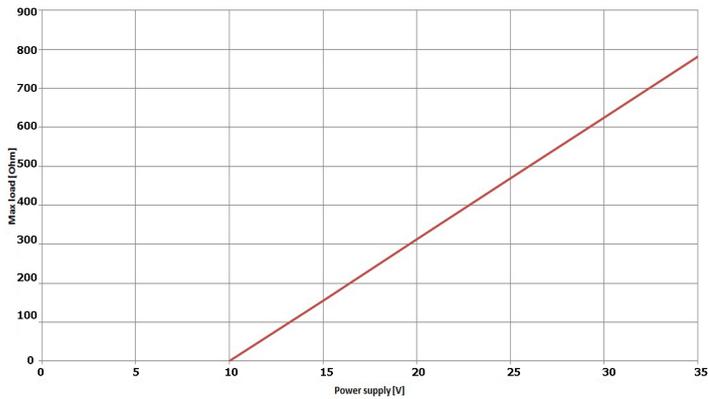
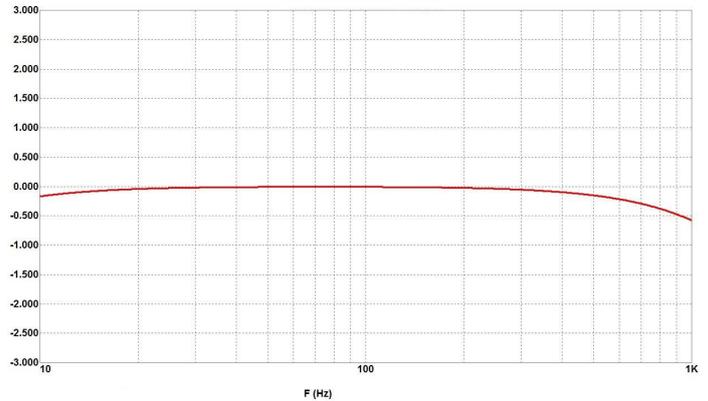


Figure 2  
Frequency response [db]



## ORDER INFORMATION

TR - 27 /  /  /  /

### A: MEASURING FIELD

0	0 ÷ 10 mm/s RMS
1	0 ÷ 20 mm/s RMS
2	0 ÷ 50 mm/s RMS
3	0 ÷ 100 mm/s RMS
4	0 ÷ 1 g RMS
5	0 ÷ 5 g RMS
6	0 ÷ 10 g RMS
S	special to be defined

### B: MACHINE CONNECTION THREAD

0	M8x1,25
1	1/4" - 18NPT
2	1/4" - 28UNF

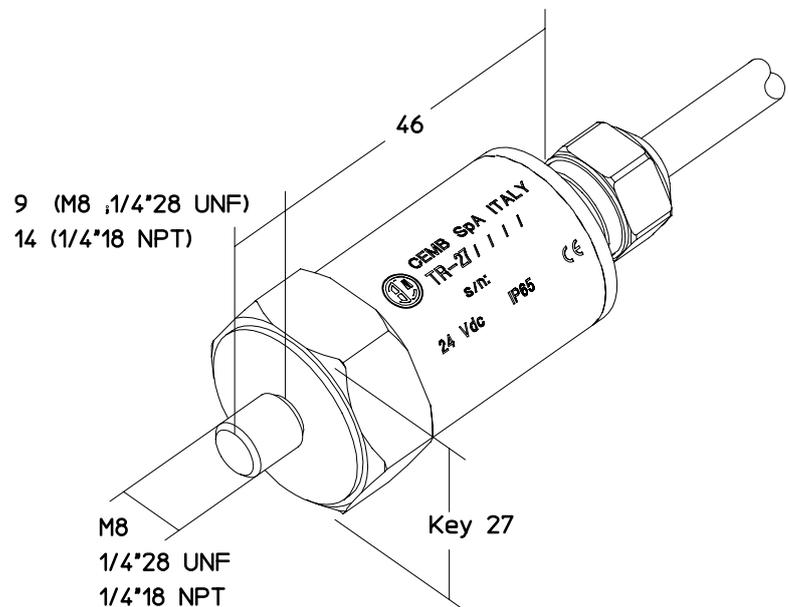
### C: VERSION

0	Standard
1	Special

### D: CABLE LENGTH

XX	length in meters (step 5)
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## Dimensions



M8  
1/4\*28 UNF  
1/4\*18 NPT

### PURCHASE ORDER EXAMPLE:

TR - 27 / 1 / 0 / 1 / 05

- 1= Measuring field 0÷20 mm/S RMS
- 0= Machine connection thread M8x1,25
- 1= Special version
- 05= Cable length 5 meters



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