# VIBRATION TRANSMITTER <br> <br> TR-27 

 <br> <br> TR-27}

## CERTIFIED ACCORDING TO ATEX 94/9/CE DIRECTIVE CERTIFIED IECEx

## 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 $4 \div 20 \mathrm{~mA}$ ) to an acquisition system (PLC or DCS).
The transmitter is certified for application in classified area as:

## 《xx II 1 G Ex ia IIC T6, T5, T4 Ga (ATEX)

Ex ia IIC T6, T5, T4 Ga (IECEx)
The transmitter is certificate SIL 2 for functional safety

## GENERAL DESCRIPTION

The transmitter, secured directly on machinery, generates an electric
signal $(4 \div 20 \mathrm{~mA})$ 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
Power supply
External connections

Environmental

## Measure type

Dynamic field
Transverse sensitivity Linearity

Dynamic performances

## Insulation

Application axis

Standard machine connection thread

## Maintenance

Electrical connections

Parameters to be defined when ordering

## Mounting torque

Certification available

- AISI 316L stainless steel integrated transmitter body
- $24 \mathrm{Vdc}(10 \div 35 \mathrm{Vdc}$ ) current loop $4 \div 20 \mathrm{~mA}$ (2 wires)
- Maximum load - see Figure 1
- Standard: PVC shielded cable with nickel-plated brass cable gland
- Special: EFTE shielded and armoured cable, with AISI 316L steel cable gland
- Transmitter $-60^{\circ} \mathrm{C} \div+120^{\circ} \mathrm{C}$
- IP 68 (submersible depth 70 mt)
- Standard cable: $-20^{\circ} \mathrm{C} \div+80^{\circ} \mathrm{C}$
- Special cable: $-60^{\circ} \mathrm{C} \div+150^{\circ} \mathrm{C}$ - resistance UV
- Omnidirectional seismic (absolute vibration)
- $\pm 18 \mathrm{~g}$
- $<5 \%$
- $\pm 2 \%-75 \mathrm{~Hz}$
- $\pm 3 \%$ / $10 \mathrm{~Hz}-1 \mathrm{kHz}$ - see Figure 2
- $-3 \mathrm{db} / 1,5 \mathrm{~Hz}-2 \mathrm{kHz}$
- $\geq 10^{8} \Omega$ between signal and case
- Any
- M8x1,25
- $1 / 4$ "-18NPT
- $1 / 4^{\prime \prime}-28 U N F$
- M6x1
- No maintenance is needed
- Bipolar shielded cable, conductors typical section $2 \times 1 \mathrm{~mm}^{2}$
- Measuring field - Machine connection thread
- Version - Cable length
- Certification
- $5 \div 10 \mathrm{~N}-\mathrm{m}$
- Ex Il 1 G Ex ia IIC T6, T5, T4 Ga (ATEX)
- Ex ia IIC T6, T5, T4 Ga (IECEx)

Figure 1
Maximum load on current loop


Figure 2
Frequency response [db]


## ORDER INFORMATION

|  |
| :---: |
|  |  |

A: MEASURING FIELD

| 0 | $0 \div 10 \mathrm{~mm} / \mathrm{s} \mathrm{RMS}$ |
| :--- | :--- |
| 1 | $0 \div 20 \mathrm{~mm} / \mathrm{s} \mathrm{RMS}$ |
| 2 | $0 \div 50 \mathrm{~mm} / \mathrm{s} \mathrm{RMS}$ |
| 3 | $0 \div 100 \mathrm{~mm} / \mathrm{s} \mathrm{RMS}$ |
| 4 | $0 \div 1 \mathrm{~g} \mathrm{RMS}$ |
| 5 | $0 \div 5 \mathrm{~g} \mathrm{RMS}$ |
| 6 | $0 \div 10 \mathrm{~g} \mathrm{RMS}$ |
| 7 | $0 \div 25,4 \mathrm{~mm} / \mathrm{s}(0 \div 1 \mathrm{in} / \mathrm{s}) \mathrm{RMS}$ |
| 8 | $0 \div 12,7 \mathrm{~mm} / \mathrm{s}(0 \div 0,5 \mathrm{in} / \mathrm{s}) \mathrm{RMS}$ |
| S | special to be defined |

B: MACHINE CONNECTION THREAD

| 0 | M $8 \times 1,25$ |
| :--- | :--- |
| 1 | $1 / 4^{\prime \prime}-18 N P T$ |
| 2 | $1 / 4^{\prime \prime}-28$ UNF |
| 3 | M6x1 (only for non certificate version) |

## C: VERSION

$\qquad$
1 Special
D: CABLE LENGTH
XX length in meters

E: CERTIFICATIONS
0 standard

8 Ex II 1 G Ex ia IIC T6, T5, T4 Ga (ATEX) (only for special version) B Ex ia IIC T6, T5, T4 Ga (IECEx) (only for special version)

## PURCHASE ORDER EXAMPLE:

## TR - 27 / 1 / 0 / 1 / 05 / 8

$1=$ Measuring field $0 \div 20 \mathrm{~mm} / \mathrm{S}$ RMS
$0=$ Machine connection thread M8x1,25
$1=$ Special version
$05=$ Cable length 5 meters
$8=$ ATEX certification


B ALANCING MACHINES

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