

MTL4031 VIBRATION TRANSDUCER INTERFACE



The MTL4031 is for use with vibration sensors mounted in a hazardous area and connected into monitoring equipment for use with rotating machinery. The interface is compatible with both 3-wire eddy probes and high frequency accelerometers.

SPECIFICATION

See also common specification, cable parameters and approvals

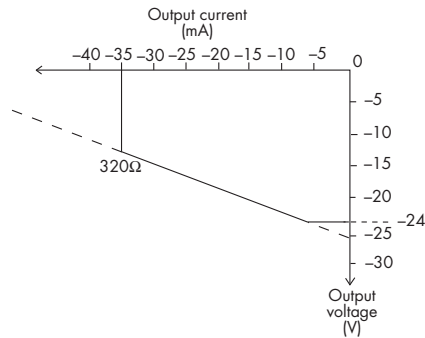
Number of channels

One

Location of signal source

Zone 0, IIC, T4-6 hazardous area if suitably certified
Div. 1, Group A, hazardous location

Transducer supply voltage (terminals 2 and 6)



Signal range (terminals 5 and 6, 7 and 8)

Minimum: -20V
Maximum: -0.5V
for dc transfer error $\leq \pm 100\text{mV}$

Signal input impedance (terminals 5 and 6)

10k Ω -1%, +2%

Signal output impedance (terminals 7 and 8)

<20 Ω

DC transfer accuracy at 20°C

< $\pm 100\text{mV}$

AC transfer accuracy at 20°C

0Hz to 1kHz: $\pm 1\%$
1kHz to 10kHz: -5% to +1%
10kHz to 20kHz: -10% to +1%

Temperature coefficient

50ppm/°C (10 to 65°C)
100ppm/°C (-20 to 10°C)

Voltage bandwidth

-3dB at 43kHz (typical)

Phase delay

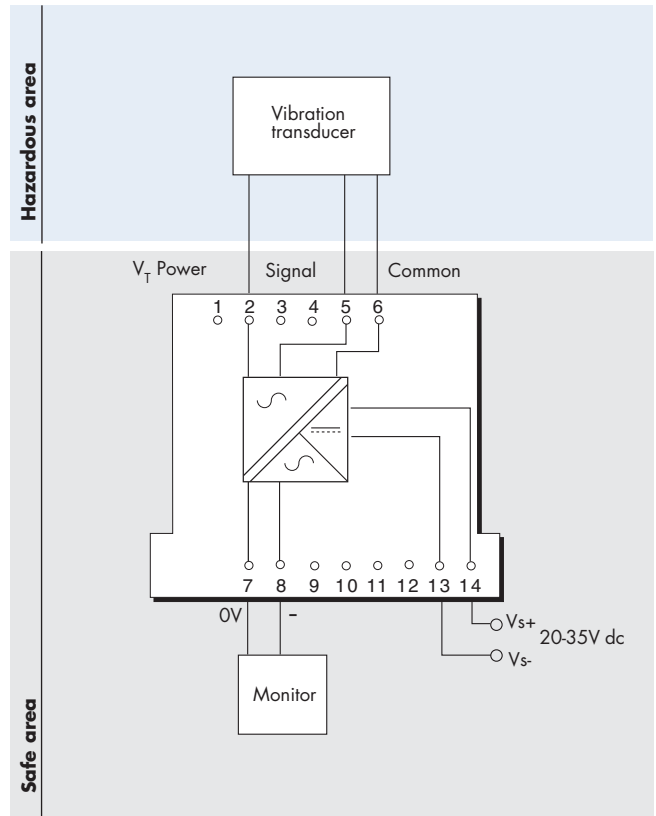
Less than 14 μs , equivalent to:
-1° at 200Hz
-3° at 600Hz
-5° at 1kHz
-50° at 10kHz
-100° at 20kHz

LED indicator

Green: one provided for power indication

Power requirement, V_s , with 22mA transducer load

80mA at 24V dc
88mA at 20V dc
63mA at 35V dc



Terminal	Function
2	Supply to hazardous area
5	Signal input
6	Common (0V)
7	Signal (0V)
8	Signal output -ve
13	Supply -ve
14	Supply +ve

Power dissipation within unit

<1.7W

Isolation

250V ac between input, power and output circuits

Safety description

Terminals 2 to 6

26.6V, 94mA, 0.66 Ω

Terminals 5 to 6

Non-energy-storing apparatus $\leq 1.2\text{V}$, $\leq 0.1\text{A}$, $\leq 20\mu\text{J}$, and $\leq 25\text{mW}$



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