

# MTL5533

## VIBRATION TRANSDUCER INTERFACE

2-channel

The MTL5533 repeats signals from vibration sensors in a hazardous area, providing outputs for a monitoring system in the safe area. The interface is compatible with 3-wire eddy-current probes and accelerometers or 2-wire current sensors, the selection is made by switches on the side of the module.

### SPECIFICATION

See also common specification

#### Number of channels

Two

#### Sensor type

2- or 3-wire vibration transducer

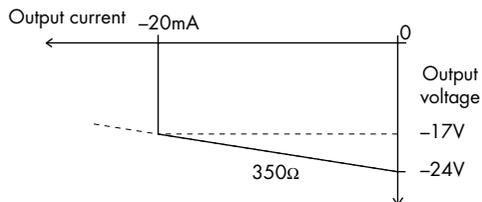
#### Location of signal source

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

#### Hazardous-area input

Input impedance  
(terminals 2 & 3, 5 & 6): 10k $\Omega$

#### Transducer supply voltage, 3-wire (terminals 3 & 1 and 6 & 4)



#### Transducer supply current, 2-wire

3.3mA (nom.) for 2-wire sensors, user selectable by switch

#### Signal range

Minimum -20V, maximum -0.5V

#### DC transfer accuracy at 20°C

< $\pm$ 50mV

#### 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

$\pm$ 50ppm/ $^{\circ}$ C (10 to 65 $^{\circ}$ C)  
 $\pm$ 100ppm/ $^{\circ}$ C (-20 to 10 $^{\circ}$ C)

#### Voltage bandwidth

-3dB at 47kHz (typical)

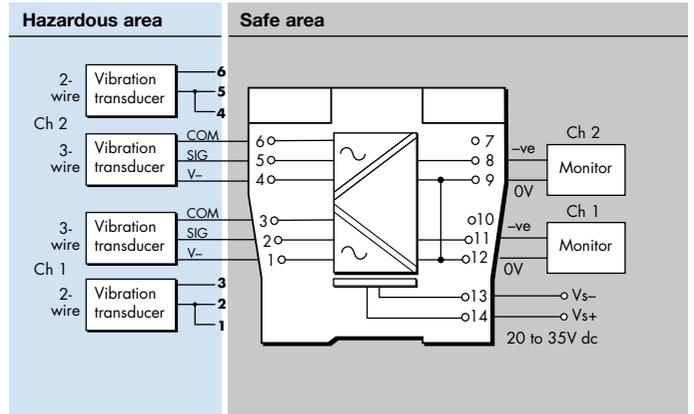
#### Phase response

<14 $\mu$ s, equivalent to:  
-1 $^{\circ}$  at 200Hz  
-3 $^{\circ}$  at 600Hz  
-5 $^{\circ}$  at 1kHz  
-50 $^{\circ}$  at 10kHz  
-100 $^{\circ}$  at 20kHz

#### Safe-area output impedance

<20 $\Omega$

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#### LED indicator

Green: power indication

#### Supply voltage

20 to 35V dc

#### Maximum current consumption (10mA transducer load/ch)

130mA at 24V

#### Maximum power dissipation within unit

2.7W \*

#### Safety description

##### Terminals 3 to 1 and 6 to 4

$U_o=26.6V$   $I_o=94mA$   $P_o=0.66W$   $U_m=253V$  rms or dc

##### Terminals 3 to 2 and 6 to 5

Non-energy-storing apparatus  $\leq 1.5V$ ,  $\leq 0.1A$  and  $\leq 25mW$

#### Note -

Refer to the Instruction Manual for recommendations on mounting of these modules.

A minimum spacing of 10mm must be applied between these and any other modules on the DIN-rail.

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.



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