

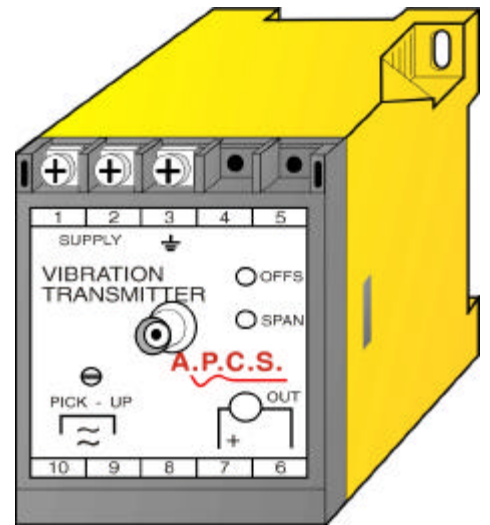
VIBRATION TRANSMITTER (v3) VBT144

DESCRIPTION


The VIBRATION TRANSMITTER VBT144 is a member of the A.P.C.S. 4-wire transmitter family, designed for low level AC voltage inputs as produced by swing-coil velocity transducers, piezoelectric accelerometer and eddy current displacement probe. This input configuration renders the VBT144 suitable for use with all applications where vibration of vibrating feeders or vibrating machinery is being measured for indication, control or monitoring purposes. The input circuit of the VBT144 responds to the amplitude of the incoming signal and produces an output signal which is converted to an equivalent linear DC process signal such as 4 - 20mA. The raw sensor signal has a buffered output, which is available at the BNC connection on the front. It can be made to respond to: zero to peak, peak to peak or r.m.s. average normalised.

The output signal level is indicated by a L.E.D. on front giving a clear indication of module function and presence of signal, as well as output loop closed for current output models. RF and power transients protection are also standard as with all A.P.C.S. modules.

Various power supply choices are available ranging from 240Vac down to 8Vdc, all provide power isolation.

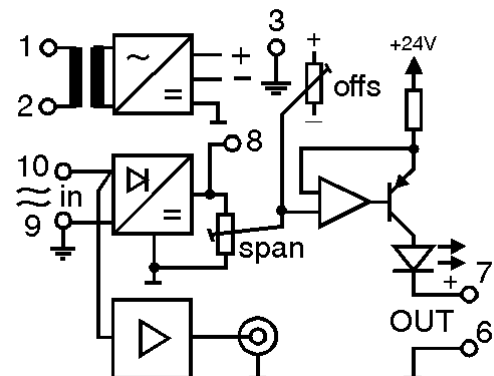


General Specifications

Size:	52 W x 70 H x 110 D (mm).
Mounting:	DIN-Rail, gear plate.
Housing material:	Polycarbonate.
Termination:	Screw terminals on front.
Protection class:	IP40 (IP65 Enclosure opt.)
Weight:	0.300 kg.
Calibration accuracy:	0.5% of span.
Front 'OFFS' adjust:	±20% typical.
Front 'SPAN' adjust:	±20% typical.
Combined linearity and drift error:	0.5% of span.
Input range:	See "Input" overleaf.
Ambient temperature operating range:	-10...+60°C.
Temperature effect:	0.02% per °C.
Input/output isolation:	None.
Auxiliary supply isolation:	2kV (AC models).
Overload continuous:	20 times rated input.
Output loop drive:	1mA into 18k Ω. 10mA into 1.8k Ω. 20mA into 0 - 900 Ω. 50mA into 0 - 360 Ω.
Output load change effect:	less than 0.2% up to max. load.
Output ripple:	less than 0.2%.
Piezoelectric accelerometer drive:	4±1mA dc (20V max.)
Displacement probe drive:	-24Vdc (20mA max)
Power requirements:	ac supply 4W, dc supply 3W.
Power supply isolation:	2kV r.m.s.
Electromagnetic compatibility:	Complies with AS/NZS 4251.1 (EN 50081.1) 

For input / output combinations refer to TYPE NO. DESIGNATION overleaf.

Block Diagram



TYPE NO. DESIGNATION

VBT144 - X XX X X X X

Power Supply:

- | | |
|-------------------------|------------------------------|
| 1 = 240V, 50/60Hz ±10%. | *) 6 = 8 - 60Vdc Isolated. |
| 2 = 120V, 50/60Hz ±10%. | *) 7 = 48Vdc (use '6'). |
| 3 = 24V, 50/60Hz ±10%. | *) 8 = 60 - 240Vdc Isolated. |
| *) 5 = 12Vdc (use '6'). | *) 9 = Other (Specify). |

Input:

- | Swing coil
(velocity) | Piezo
(acceleration) | Eddy Current
(displacement) |
|--------------------------|---------------------------|--------------------------------|
| 01 = 0 - 10mV r.m.s. | 11 = 0 - 100mV peak (1G). | *) 29 = Other (Specify). |
| 02 = 0 - 20mV r.m.s. | 12 = 0 - 200mV peak (2G). | |
| 03 = 0 - 50mV r.m.s. | 13 = 0 - 500mV peak (5G). | |
| 04 = 0 - 100mV r.m.s. | 14 = 0 - 1V peak (10G). | |
| 05 = 0 - 500mV r.m.s. | 15 = 0 - 2V peak (20G). | |
| 06 = 0 - 1V r.m.s. | 16 = 0 - 5V peak (50G). | |
| 07 = 0 - 2V r.m.s. | | |
| 08 = 0 - 5V r.m.s. | | |
| *) 09 = Other (Specify). | *) 19 = Other (Specify). | |

Output:

- | | |
|---------------------------|----------------------------|
| 1 = 0 - 5V (50k Ω min). | 6 = 10 - 50mA (360 Ω max). |
| 2 = 0 - 10V (100k Ω min). | 7 = 0 - 10mA (1.8k Ω max). |
| 3 = 0 - 20mA (900 Ω max). | 8 = 1 - 5V (50k Ω min). |
| 4 = 4 - 20mA (900 Ω max). | *) 9 = Other (Specify). |
| 5 = 0 - 50mA (360 Ω max). | |

Mode of Response:

- | | |
|------------------|--|
| 1 = Peak. | 3 = Average response (r.m.s. normalised) |
| 2 = Peak - Peak. | *) 9 = Other (Specify). |

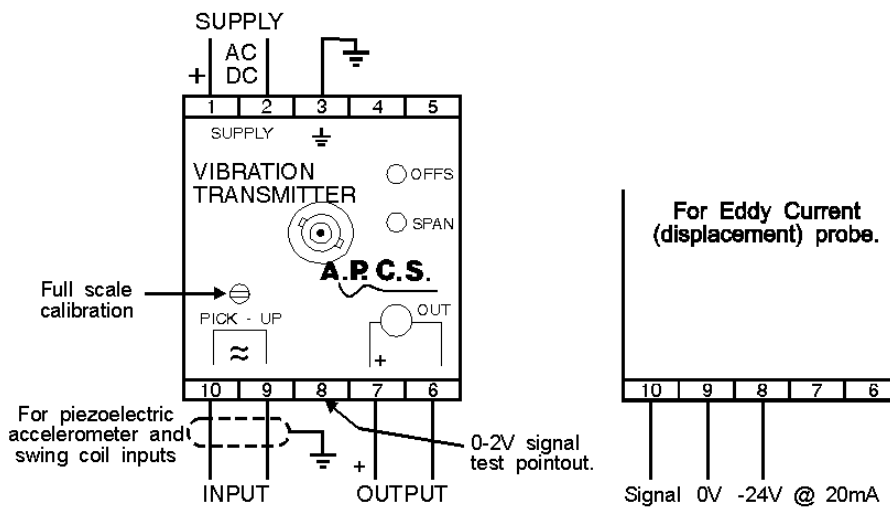
Action:

- | | |
|-------------|--------------|
| 1 = Direct. | 2 = Reverse. |
|-------------|--------------|

Options:

- 0 = None.
 *) 3 = Customised filtering (high pass and/or low pass).
 *) 9 = Other (Specify).

Connection Diagram



*) Price Extra.

In the interest of development and improvement, A.P.C.S. Pty. Ltd. reserve the right to amend, without notice, details contained in this publication. A.P.C.S. PTY. LTD. will accept no legal liability for any errors, omissions or amendments.