

VibTrans - Dual Channel

Digital Vibration Monitor and Transmitter



VibTrans - Dual Channel

VibTrans, is the latest technology for maintaining safety in large industrial rotating machines. Until now, plant maintenance was performed according to the Time Based Maintenance system (TBM), that is, preventive maintenance. The schedule was set up, based on OEM manuals, or time- based on MTBF or analysing data based on past failures.

However, based on examinations after shutdown for replacements, we see that we can extend their life if we monitor machines online in a cost effective way. VibTrans is a simple, cost effective solution to protect machines by giving on-line information which you will be able to connect to the PLC or DCS of a plant and take a shut down whenever required through proper planning.

Need for Vibration Monitoring

Rotating machinery is the heart of any plant. It is very essential to run a machine at high efficiency without any trouble. The deterioration in the efficiency of rotating machines cannot be predicted, but with the help of the online vibration monitoring and analysis system, this can be properly judged. Vibration monitoring is the easiest way to keep machines healthy and efficient in the long run. This reduces the overall operating cost as well as the down time period, increases plant availability and efficiency of rotating machines. To cope with global competition and pressure, every plant wishes a maximum uptime, hence maintenance planners are moving from active maintenance to proactive maintenance.

Features

Microprocessor based digital vibration monitor

Dual channel monitor accepts input from acceleration / velocity sensor

4-20 mA and 02 relay outputs per channel

Communication with DCS via MODBUS – RS 485

Panel / Field mount option available

VibTrans monitor can take data from accelerometer (with sensitivity of 100mv/g), velocity sensor (with sensitivity of 4mv/mm/sec and give a digital display in the form of velocity or displacement. It also gives 4-20mA , buffer and relay outputs.

It's a perfect solution for your industry to keep your machine running.

VibTrans is the right size, right price, right quality product with all the features for your vibration monitoring need

Benefits

Improve plant maintenance and profit

Enhance safety of machines and people

Increase the life span of machines

Reduce inventory cost

Reduce manpower cost to get data at regular intervals

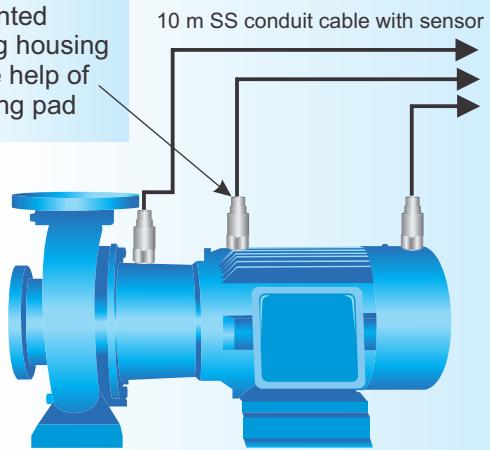
Reduce energy cost

Layout for Panel Mount VibTrans

Field

Example 1 : Horizontal Pump Coupled with Motor

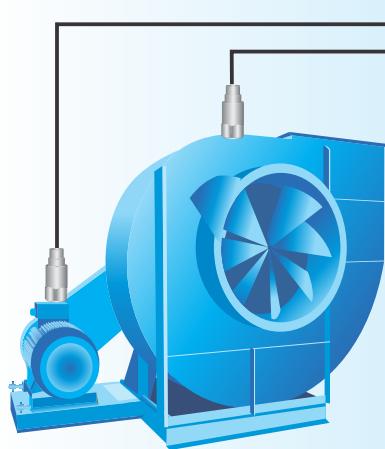
Piezo-velocity
sensor/accelerometer
mounted
on bearing housing
with the help of
mounting pad



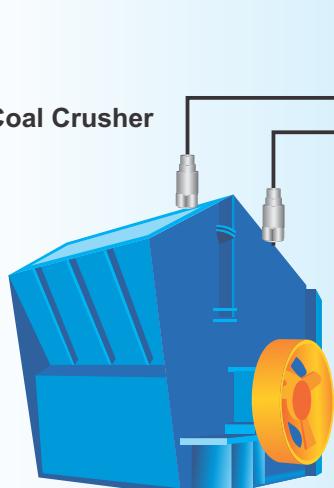
Control Room

Wall mounted panel
to house VibTrans

Example 2 : Blower and Fans



Example 3 : Coal Crusher

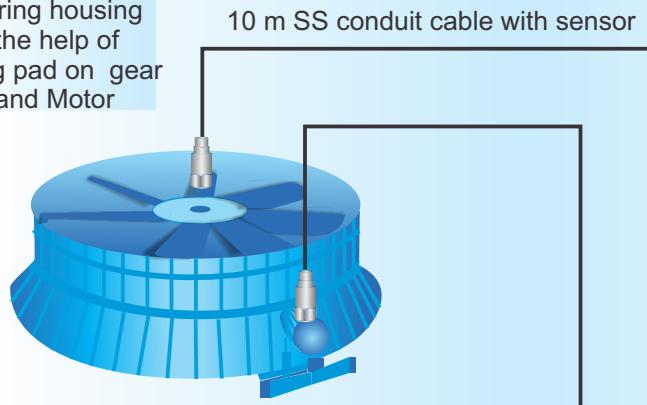


- 4-20mA DC output per channel
- Relay output per channel
- Modbus / isolated output - as optional

Layout for Field Mount VibTrans

Example 1 : Cooling Tower Fan

Piezo-velocity
sensor/accelerometer
mounted
on bearing housing
with the help of
mounting pad on gear
box and Motor



Field Mounted VibTrans

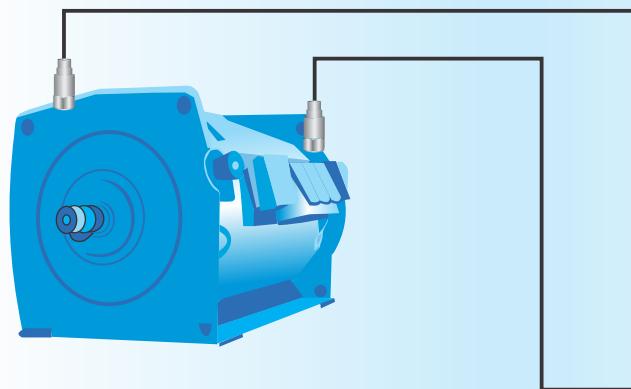


4-20mADC
output
per channel

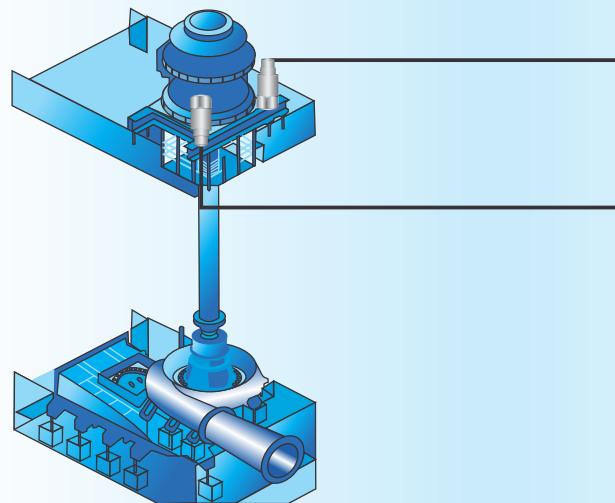
Relay output
per channel

Modbus /
isolated
output -
as optional

Example 2 : HT Motors



Example 3 : Vertical Pump



Technical Specifications

| | | | |
|----------------------------------|-----|-------------------------------|---|
| Parameters measured | I | Velocity | |
| | | Values measured | : Peak or RMS value |
| | | Units | : mm/sec or in/sec (*1 factory set) |
| | | Range | : Please refer ordering info. table below |
| Input sensors options | II | Displacement | |
| | | Values measured | : Peak to peak |
| | | Units | : Microns or mils (*1 factory set) |
| | | Range | : Please refer ordering info. table below |
| Electrical specifications | I | Accelerometer | : 100mv/g |
| | II | Velocity sensor | : 4 mv/mm/sec |
| | I | Frequency ranges | : Factory preset ($\pm 3\text{dB}$) |
| | II | Display | <p>Output display : 5 seven-segment displays Right most 3 digits for numerical value All 5 digits to indicate message strings</p> <p>Measured parameters : Velocity / displacement (*1 factory set) Please refer ordering info. table below</p> <p>Indicators : 1 Bi colour LED Pk/RMS/Pk-Pk, Ch1 - Safe/alert/danger, Ch2 - Safe/alert/danger 1 Bi colour LED - Velocity/displacement, in/sec/mils, mm/sec/micron (*1 factory set)</p> |
| Mounting and dimensional details | III | Key pad | <p>Keypad with integrated LEDs 4 tactile keys LEDs for channel selected for display i.e. velocity for displacement Units : mm/sec or in/sec, microns or mills Channel status</p> |
| | IV | Output | : 4-20 mA – for each channel |
| | | Through rear panel terminals | : Buffered output for Ch1 and Ch2 on rear terminal blocks |
| | | Relay output | <p>: Relay contact - 2 nos for alert and danger Relay contact details - 1A, 240VAC / 220VDC</p> <p>Sensor failure : On display Modbus/RTU with RS485</p> |
| | | Communication port (optional) | <p>Modbus over RS485 Modes: RTU and ASCII (*1 factory set)</p> |
| | V | Monitor accuracy | : $\pm 2\%$ of FSD |
| | VI | Operating voltage | : 230V/115V $\pm 10\%$ @ 50Hz |
| | VII | Operating conditions | <p>Temperature range : 0 to 70°C upto 95% humidity (non condensing)</p> |
| | I | Panel mounted | : Size: 144(H) x 72(W) x 180(D) mm |
| | | Front bezel | : 144 (H) X 72 (W) mm |
| | | Cutout | : 138 (H) X 68 (W) mm |
| | II | Field mounted: | |
| | | Enclosure size | : 330 (H) x 165 (W) x 95 (D) |
| | | Construction | : Aluminium die-cast with IP65 keypad |
| | | Protection | : IP65 |
| | | Cable entry | : 7 nos PG9 suitable for 4 to 8 mm OD cable |
| | | Compliance test | <p>: EMC - EN 61000 EMI - EN 61000 Bump: IEC-60068-2-29 (Annexure-II) Vibration: IEC-60068-2-6 (Annexure-I) Ingress protection TUV India approved.</p> |

Ordering Information

Applications



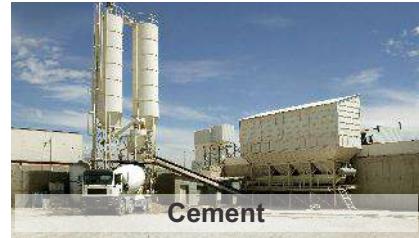
Power

- Induced draft fans
- Forced draft fans
- Primary air fans
- Coal mills
- Coal crushers
- Condensate extraction pump
- Cooling water pump
- Boiler feed pump
- Auxillary cooling water pump
- Raw water pump
- Make up water pump



Steel

- Fans and blowers
- HT motors
- Gear boxes
- Utility area - various HT Motors and pumps



Cement

- Fans
- Crushers
- Kiln
- Vertical raw mill
- Ball mill
- Motors
- Gear boxes
- Utility area - various HT motors and pumps



Infrastructure

- Fans
- Blowers in various IT malls
- Shopping complexes
- Water treatment and lift Irrigation pumps



Paper

- Pumps
- Motors
- Gear boxes
- Paper rollers
- Paper machines



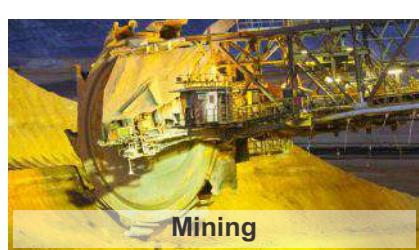
Dairy / Food / Beverages

- Mixers
- Centrifuges
- Pumps
- Motors
- Air compressors
- Fans
- Conveyors



Textile

- Pumps
- Fans and motors
- Utility area - various HT Motors and gear boxes



Mining

- Pumps
- Crushers
- Conveyors
- Motors
- Gear boxes



Pharma

- Fans and motors assembly in Air handling units
- Centrifuges
- Conveyors



Forbes Marshall
Krohne Marshall
Forbes Marshall Arca
Codel International
Forbes Solar
Forbes Vyncke
Forbes Marshall Steam Systems

Opp 106th Milestone
Bombay Poona Road
Kasarwadi, Pune - 411 034. INDIA
Tel : 91(0)20-27145595, 39858555
Fax : 91(0)20-27147413

Email : mvyas@forbesmarshall.com, ccmidc@forbesmarshall.com

© All rights reserved. Any reproduction or distribution in part or as a whole without written permission of Forbes Marshall Pvt Ltd, its associate companies or its subsidiaries ("FM Group") is prohibited.
Information, designs or specifications in this document are subject to change without notice. Responsibility for suitability, selection, installation, use, operation or maintenance of the product(s) rests solely with the purchaser and/or user. The contents of this document are presented for informational purposes only. FM Group disclaims liabilities or losses that may be incurred as a consequence of the use of this information.

B-85, Phase II, Chakan Indl Area
Sawardari, Chakan, Tal. Khed
Dist. Pune - 410 501. INDIA
Tel : 91(0)2135-393400

A-34/35, MIDC H Block
Pimpri, Pune - 411 018. INDIA.
Tel : 91(0)20-27442020, 39851199
Fax : 91(0)20-27442040
CIN No.: U28996PN1985PTC037806
www.forbesmarshall.com