VibTrans - Dual Channel
Digital Vibration Monitor and Transmitter
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.

VibTrans
- Dual Channel

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

Example 1: Horizontal Pump Coupled with Motor

Example 2: Blower and Fans

Example 3: Coal Crusher

Control Room

Wall mounted panel to house VibTrans

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

Signal cable

Field

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

10 m SS conduit cable with sensor

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

Example 1: Cooling Tower Fan

Example 2: HT Motors

Example 3: Vertical Pump

10 m SS conduit cable with sensor

Field Mounted VibTrans

4-20mADC output per channel
Relay output per channel
Modbus/isolated output - as optional
## Technical Specifications

### Parameters measured

<table>
<thead>
<tr>
<th>I Velocity</th>
<th>II Displacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values measured</td>
<td>: Peak or RMS value</td>
</tr>
<tr>
<td>Units</td>
<td>: mm/sec or in/sec (*1 factory set)</td>
</tr>
<tr>
<td>Range</td>
<td>: Please refer ordering info. table below</td>
</tr>
</tbody>
</table>

| Units | : Microns or mils (*1 factory set) |
| Range | : Please refer ordering info. table below |

### I Accelerometer | II Velocity sensor

- 100mv/g
- 4 mv/mm/sec

### Frequency ranges | Display

- 5 seven-segment displays
- Right most 3 digits for numerical value
- All 5 digits to indicate message strings

### Measured parameters | Indicators

- Velocity / displacement (*1 factory set)
- 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)

### Key pad | Output

- 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

### Output | Communication port (optional)

- 4-20 mA – for each channel
- Buffered output for Ch1 and Ch2 on rear terminal blocks
- Relay contact - 2 nos for alert and danger
- Relay contact details - 1A, 240VAC / 220VDC
- On display Modbus/RTU with RS485
- Modbus over RS485
- Modes: RTU and ASCII (*1 factory set)

### Monitor accuracy | Operating conditions

- ±2% of FSD
- 0 to 70ºC upto 95% humidity (non condensing)

### Operating voltage

- 230V/115V ±10% @ 50Hz

### Mounting and dimensional details

| I Panel mounted | II Field 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 |
| Enclosure size | : 330 (H) x 165 (W) x 95 (D) |
| Protection | : Aluminium die-cast with IP65 keypad |
| Compliance test | : IP65 |
| Cable entry | : 7 nos PG9 suitable for 4 to 8 mm OD cable |
| 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. | |

### Ordering Information

<table>
<thead>
<tr>
<th>Order</th>
<th>Power supply</th>
<th>Isolated output</th>
<th>Modbus output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single channel</td>
<td>0 110VAC</td>
<td>1 Required</td>
<td>1 Required</td>
</tr>
<tr>
<td>Dual channel</td>
<td>0 250VAC</td>
<td>0 Required</td>
<td>0 Required</td>
</tr>
<tr>
<td>FM Vib Trans</td>
<td>0 Customised</td>
<td>0 Customised</td>
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</tr>
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### Input sensors options

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### Input type | Measured parameter

| A Acceleration | V Velocity |
| IVI Acceleration | V Velocity |
| D Displacement | 0 mm/sec | 1 inch/sec |
| 0 microns | 1 mils |

### Measured parameters | Measured parameter

| Measured parameter | Measured parameter |
| V Velocity | D Displacement |
| 0 0.1-10 | 1 0.25-25 |
| 2 0.5-50 | 9 Customised |

### Parameters measured

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### Applications

#### Power
- Induced draft fans
- Forced draft fans
- Primary air fans
- Coal mills
- Coal crushers
- Condensate extraction pump
- Cooling water pump
- Boiler feed pump
- Auxiliary 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

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