

## Specifications

Model	VM-15K	VM-15U	VM-15B	<b>NEW</b> VM-16
Measurement item	Displacement Vibration	Velocity Vibration	Acceleration Vibration	Displacement Vibration Velocity Vibration Acceleration Vibration Thrust Position
Number of channels	4 ch			8 ch or 12ch
Measurement Range	100 to 300 $\mu\text{m}$ pk-pk or 5 to 10 mils pk-pk	When Displacement Range : 100 to 300 $\mu\text{m}$ pk-pk or 5 to 10 mils pk-pk When Velocity Range : 25 to 50 mm/s pk or 1 to 2 in/s	When Velocity Range : 25 to 50 mm/s pk or 1 to 2 in/s When Acceleration Range : 20 to 50 mm/s <sup>2</sup> pk or 2 to 5 G pk	Displacement Vibration : 100 to 300 $\mu\text{m}$ pk-pk or 5 to 10 mils pk-pk Velocity Vibration : 25 to 50 mm/s pk or 1 to 2 in/s Acceleration Vibration : 20 to 50 mm/s <sup>2</sup> pk or 2 to 5 G pk Thrust position : -1 to 0 to +1 mm or -40 to 0 to +40 mils
Input transducer	Displacement Transducer	Velocity Transducer	Acceleration Transducer	Displacement Transducer Velocity Transducer Acceleration Transducer
Frequency response	5 Hz to 4 kHz (-3dB) 2-pole band pass filter	10 Hz to 10 kHz (-3dB) 2-pole band pass filter		Disp. Vibration : 5 Hz to 4 kHz (-3dB), 2nd-Order band-pass Filter Vel. Vibration : 10 Hz to 10 kHz (-3dB), 2nd-Order band-pass Filter Acc. Vibration : 10 Hz to 10 kHz (-3dB), 2nd-Order band-pass Filter Thrust Position : 10 Hz to 10 kHz (-3dB), 2nd-Order band-pass Filter
Recorder output	4 to 20 mADC (Max.Load Resistance : 600 $\Omega$ ) or 1 to 5 VDC (Output Impedance : 250 $\Omega$ )			
Monitor output	Buffered output of input signal (from BNC connector)		Input signal is output via buffer amplifier. Output Impedance : Approx. 1k $\Omega$ (Max. 0.5mA)	
Alarm setting	0 to 100 % of measurement range, 1 Danger and 1 Alert setting for each channel.		<b>Vibration monitoring</b> 2 points (DANGER, ALERT), from 0 to 100 % of measurement range <b>Thrust position monitoring</b> 4 points (H-DANGER, H-ALERT, L-ALERT, L-DANGER), from 0 to 100 % of measurement range	
Alarm contact output	One each contact output for Danger, Alert and OK (OR logic of all channels)		3 each contact output for Danger, Alert and OK	
Display	3-digit of 7-segment LED display		LCD display	
I/O conversion accuracy	+/- 1.5% of F.S. at 100 Hz at 25 deg.C +/- 3.0% of F.S. at 100 Hz 0 to 50 deg.C		+/- 2.0% of F.S. at 100 Hz at 25 deg.C +/- 3.0% of F.S. at 100 Hz 0 to 50 deg.C	
Temperature	Operating temperature : 0 to 50 deg.C (32 to 122 deg.F) / Relative humidity : 20 to 90%RH (non condensing)			
Power supply voltage	85 to 264 VAC (50/60Hz)		85 to 264 VAC (50/60Hz) or 24VDC (10%)	
Weight	Approx. 3.5 kg		Approx. 7.0 kg	

### Outline Drawing

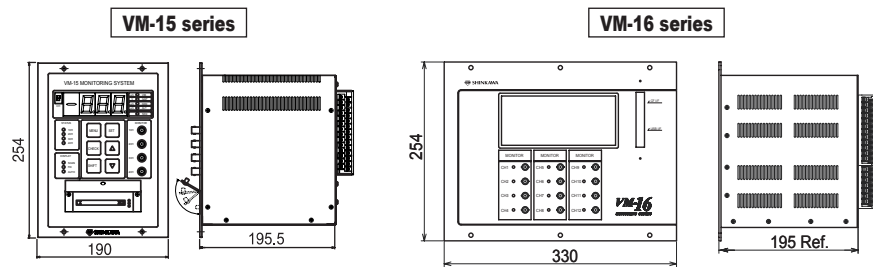
### CSA Approval Non-incendive

<b>VM-15 series</b> <b>VM-16 series</b>	CSA Class I Division II Group A, B, C, D
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\* Pending

Dimensions : mm

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\* Specifications, outline drawings and other written information can be changed without notice.

# MULTIPURPOSE VIBRATION MONITOR

## VM-15 & VM-16 SERIES

4CH MONITOR

8CH/12CH MONITOR



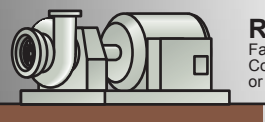
# Most suitable Vibration Monitor for General Purpose Rotating Machinery.

VM-15/VM-16 Series are vibration monitors to realize a high cost performance monitoring system for general-purpose machinery.

VM-15 series has 4 monitoring channels, and VM-16 series has 8 or 12 monitoring channels. these monitors are implemented in a small and light box. These are most suitable Multi-purpose vibration monitor for rotating machinery as Fans, Blowers, Pumps, Cooling towers, Compressors and Turbines.



## System Configuration







**Rotating machinery**  
Fans, Blowers, Pumps  
Cooling towers, Compressors  
or Turbines

VM-15 can accept 4 input signals of displacement vibration, Velocity vibration or Acceleration vibration.

VM-16 can accept 8 or 12 input signals of displacement vibration, Velocity vibration, Acceleration vibration and Thrust position.

VM-16 can accept all kinds of these input signals in a same box.



Displacement Vibration 100 to 300 $\mu\text{m}$ pk-pk	Velocity Vibration 100 to 300 $\mu\text{m/s}$ pk-pk or 25 to 50mm/s pk	Accelerate Vibration 25 to 50mm/s <sup>2</sup> pk or 20 to 50m/s <sup>2</sup> pk	Thrust Position -1 to 0 to +1mm	Features
 <b>VM-15K</b>	 <b>VM-15U</b>	 <b>VM-15B</b>	<b>none</b>	<b>4 channels Input</b> <b>Small and Light</b> <b>CF memory Options</b>
 <b>VM-16</b>				<b>8 or 12 channels Input</b> <b>Mixed Signal Inputs</b> <b>Data memory with USB</b> <b>CF memory Options</b>

\* All kinds of inputs and monitoring parameters (Displacement Vibration, Velocity Vibration, Accelerate Vibration, Thrust position) can be assigned to any channel by user.

## High cost performance

VM-15 and VM-16 are designed for continuous vibration monitoring of general purpose rotating machinery.

To package all necessary functions for vibration monitoring and multi-channel processing circuits into one small box, VM-15/VM-16 was able to achieve cost reduction with keeping the functions, and realize high cost performance of the monitoring system.

## Display

### VM-15 series

VM-15 has a large LED digital display and alarm status LED lamps. To indicate the measured vibration value, you can select the display mode from SCAN, FIX and AUTO with easy operation on the front panel. The common danger or alert relay output would be activated when the alarm occurred, and you can recognize which channel is alarming with status lamps on the front panel.



#### Display Mode

- SCAN : Indicated channel is changed by rotation every 5 seconds.
- FIX : Selected channel is indicated.
- AUTO : Highest value channel is indicated.

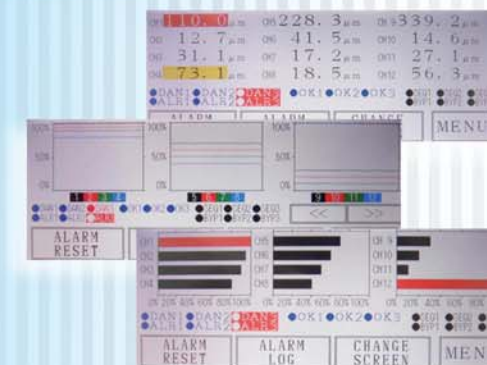
#### Status Lamps

- OK
- Not-OK (blinking)
- Alert (blinking)
- Danger

### VM-16 series

VM-16 has a backlight color LCD display to indicate all information such as measured value, trend data, alarm status, alarm set value and channel set configuration. The indication is not only digital but also bar graphs, different color with alarm status and virtual lamps.

The LCD display is also a touch panel, and you can select the display mode from many choices with easy operation on the touch panel.



## Easy access

You can change the display by operating the membrane keypad on the front panel of the VM-15, and the touch panel of the LCD display on the front panel of the VM-16 monitor.



## CF memory option

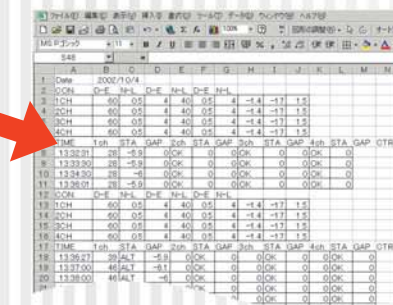


To implement a memory card option, VM-15/VM-16 can store the trend data with a removable memory card (CompactFlash) and it can allow you to store and manage the data with your computer.

```

Date: 2002/10/04
CON-D-E-N-L-D-E-N-L-D-E-N-L
1CH:60.0,5.4,40.0,5.4,-1.4,-17.0,1.5
2CH:60.0,5.4,40.0,5.4,-1.4,-17.0,1.5
3CH:60.0,5.4,40.0,5.4,-1.4,-17.0,1.5
4CH:60.0,5.4,40.0,5.4,-1.4,-17.0,1.5
TIME:1ch,STA,GAP,2ch,STA,GAP,3ch,STA,GAP,4ch,STA,GAP,CTR
13:32:31.28,-5.9,0,OK,0,0,OK,0,0,OK,0,0
13:33:30.28,-5.9,0,OK,0,0,OK,0,0,OK,0,0
13:34:30.28,-6.0,0,OK,0,0,OK,0,0,OK,0,0
13:36:01.28,-5.9,0,OK,0,0,OK,0,0,OK,0,0
CON-D-E-N-L-D-E-N-L-D-E-N-L
1CH:60.0,5.4,40.0,5.4,-1.4,-17.0,1.5
2CH:60.0,5.4,40.0,5.4,-1.4,-17.0,1.5
    
```

Raw text data



Can be converted to Microsoft Excel data

## Approval

VM-15 can be applied for the certificate of CSA Class I Division II Group A, B, C, D (non-incendive). (Pending on VM-16)