

9600 4Ch Vibration Monitor (VM4/96)

Machine Protection and On Line CM System

Tavator Sepahan Condition Monitoring Systems



Description

VM4/96 vibration monitor is a 4 channel vibration monitor accepts ICP accelerometers, velocity and proximity sensor dynamic signals and condition those to acceleration, velocity and displacement values. VM4/96 displays values digitally and graphically and compare them to user defined alarm values, indicate alarm condition and provide alarm relay action signals. Main signals provided as buffered output for external analysis in two BNC output synchronously. 1 tacho input and output channel is provided as a requirements of a complete machine monitoring and diagnosis. 4 channel synchronous sampling ability provides data for complete on line condition monitoring in server computer vial LAN communication. Moragheb Server software receive data from VM4/96 and provide all recorder and diagnosis plots such as time signal, spectrum, orbit, waterfall, run up, cast down. Many of VM4/96 can be used in one chain and construct a large multichannel vibration analyzer. This monitor provides 4-20 mA current output signal for use in the DCS and recorders. ERROR indication can monitor VM4/96, sensors and connection faults. Full colored graphic display provides user friendly indication of all data needed by users.

Uses:

- Machinery protection by continues vibration and speed measurement and compare values against alarm set points and activate alarm relay.
- Machine on-line condition monitoring with server computer.
- Appropriate for any industrial machines such as Fan, Pump, Turbine, Compressor, Motor, Gearbox, ..

Specifications

Alarms	
Relay:	<ul style="list-style-type: none">• Alarm 1 – Alert• Alarm 2 – Danger
Relay Time Delay:	0.1, 0.2, 0.5, 0.8, 1.0, 2.0, 3.0, 5.0, 6.0, 8.0, 10.0, 20.0 Seconds
ERROR indication:	<ul style="list-style-type: none">• Sensor Fault• Sensor Connection Fault• Module Operation Fault
Voting:	<ul style="list-style-type: none">• Any combination of “AND” and “OR” operand for any of 4 channels.
Relay Action:	<ul style="list-style-type: none">• Normally Close• Normally Open
Alarm Hysteresis:	0.5% Full Scale

Display

Graphic type: LCD	<ul style="list-style-type: none"> • 480x272 TFT 16 Million color (Option: touch screen) 	Parameters:	<ul style="list-style-type: none"> • Large font digital (level) • bar graph (level, AI, Dan) • Machine, Point, FS Value
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Signal Processing

LLF:	<ul style="list-style-type: none"> • 1 Hz • 10 Hz 	ULF:	<ul style="list-style-type: none"> • 1 KHz • 10 KHz
Filter Order:	Order 8	Full Scale: RMS mm/s	<ul style="list-style-type: none"> • 5 • 20 • 50 • 100 • 200
Unit:	<ul style="list-style-type: none"> • mm/s • IPS (Inch/s) 		

I/O

Inputs		Outputs	
Accelerometer:	All standard ICP Accelerometers	BNC:	2 channel selectable buffered signal output and 1 tacho signal for use in portable vibration analyzer.
Velocity Sensor:	All standard velocity sensors.	Dynamic Out:	Dynamic signal outputs for On-Line CM.
Proximity:	All Positive and negative bios proximity sensors.	4-20 mA:	4 x vibration output for use in the DCS systems or recorders.
Speed Sensor:	Any proximity probe, Photoelectric and tacho sensors	Relay:	ALERT, DANGER, OK and ACK for alarm management system
		LAN:	Private LAN for data transfer to and from server computer.

General Specification at 25°C

Accuracy:	1% Full Scale	Power:	<ul style="list-style-type: none"> • +24 V DC • 50 Watt (Include Sensors)
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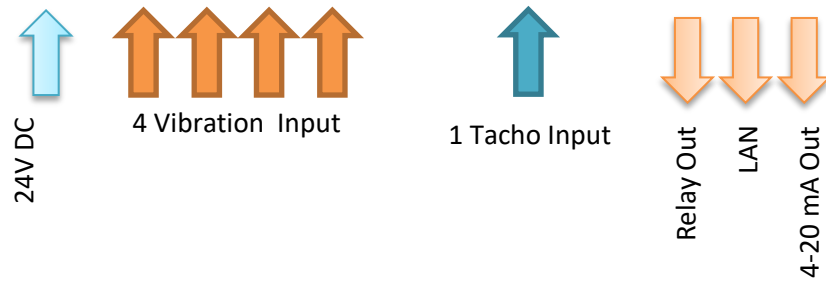
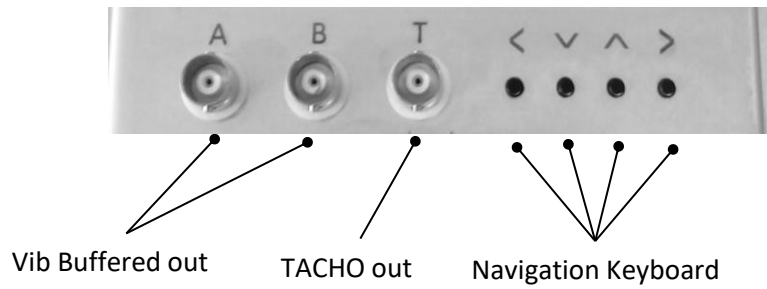
Physical

Dimension:	130 x 110 x 80 mm	Weight:	530 gram
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Environmental Limits

Operating Temperature:	-5°C to +65°C	Storage Temperature:	-40°C to +85°C
Operating Humidity:	5% to 95% Non-condensing relative humidity	Storage Humidity:	5% to 95% Non-condensing relative humidity
IP:	IP 65		

Drawings



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