

VM-5 SERIES MONITOR
SPECIFICATIONS

MODEL VM-5M DUAL PATH MONITOR



Model Code / Additional Spec. Code (No entry if additional spec. code is not specified.)

VM-5M- [] [] [] [] [] [] [] []

Monitor range*1 PATH A		Monitor range*1 PATH B		Input signal	Low cut-off frequency*3 PATH A		Low cut-off frequency*3 PATH B		High cut-off frequency*3 PATH A		High cut-off frequency*3 PATH B		
1	0 to 20m/s ² pk	J	0 to 10mm/s pk	1	CV-85*6	1	10Hz or less	1	10Hz or less	1	100Hz	1	100Hz
2	0 to 50m/s ² pk	K	0 to 20mm/s pk	2	CV-86	2	20Hz	2	20Hz	2	200Hz	2	200Hz
3	0 to 100m/s ² pk	L	0 to 50mm/s pk	3	CV-87*6	3	50Hz	3	50Hz	3	500Hz	3	500Hz
4	0 to 200m/s ² pk	M	0 to 10mm/s rms*2	4	CA Series	4	100Hz	4	100Hz	4	1kHz	4	1kHz
5	0 to 20m/s ² rms*2	N	0 to 20mm/s rms*2	5		5	200Hz	5	200Hz	5	2kHz	5	2kHz
6	0 to 50m/s ² rms*2	P	0 to 50mm/s rms*2	6		6	500Hz	6	500Hz	6	5kHz	6	5kHz
7	0 to 100m/s ² rms*2	Q	0 to 0.5in/s pk	7		7	1kHz	7	1kHz	7	10kHz	7	10kHz
8	0 to 200m/s ² rms*2	R	0 to 1in/s pk	8		8	9.5Hz Seismic filter*4	8	9.5Hz Seismic filter*4	8	20kHz	8	20kHz
A	0 to 2g pk	S	0 to 2in/s pk	A		A	14Hz Seismic filter*4	A	14Hz Seismic filter*4				
B	0 to 5g pk	T	0 to 0.5in/s rms*2	B		B	15Hz Seismic filter*4	B	15Hz Seismic filter*4				
C	0 to 10g pk	U	0 to 1in/s rms*2	C		C	40Hz(36dB/oct) Pipe filter*4	C	40Hz(36dB/oct) Pipe filter*4				
D	0 to 20g pk	V	0 to 2in/s rms*2	D		D	60Hz(36dB/oct) Pipe filter*4	D	60Hz(36dB/oct) Pipe filter*4				
E	0 to 2g rms*2			E									
F	0 to 5g rms*2			F									
G	0 to 10g rms*2			G									
H	0 to 20g rms*2			H									

Note) *1 Selection of monitor range
Input signal is CV Series : PATH A velocity, PATH B displacement
Input signal is CA Series : PATH A acceleration, PATH B velocity

*2 Rectification circuit (option) required for this rms range.

*3 Select so that [high cut-off frequency] ≥ [Low cut-off frequency] × 10
When using Path B indication and output, the monitor also picks up low-frequency vibrations from the surroundings, such as transmitted by the piping and foundation, so that the indication and output values may be greater than the vibrations produced by the monitored object itself. This should be taken into account when selecting a low cut-off frequency.
The use of seismic and pipe filters is recommended where low-frequency ambient vibration are especially strong.

*4 A filter card (option) is required for use of seismic and pipe filters.
The seismic filter can be turned ON/OFF (IN/OUT) by an external contact signal. (Preset to OFF(OUT)) At seismic filter is OFF (OUT), the low cut-off frequency is 2Hz. The pipe filter is normally ON (IN) ; it cannot be set to OFF (OUT).

Rectification PATH A		Rectification PATH B		Recorder output	Alarm reset (DANGER)	Alarm reset (ALERT)	Alarm reset (OK)
0	Average Value	Average Value	Average Value	0	4 to 20mADC	0	AUTO-RESET
1	pk-pk	pk-pk	pk-pk	1	1 to 5VDC	1	SELF-HOLD
2	rms	rms	rms	2	Output card option		
A	rms	Average Value					
B	rms	pk-pk					
C	Average Value	rms					
D	pk-pk	rms					

(Code 2, A to D : additional spec./RMS)

Relay mode (DANGER)	Relay mode (ALERT)	Relay mode (OK)	Alarm delay time (DANGER)	Alarm delay time (ALERT)	Alarm output type	First out*5									
0	NORMALLY DE-ENERGIZED	0	NORMALLY DE-ENERGIZED	0	NORMALLY DE-ENERGIZED	0	3 sec.	0	3 sec.	1	PATH A : 2 points (DANGER1,ALERT1) PATH B : 2 points (DANGER2,ALERT2)	0	OFF		
1	NORMALLY ENERGIZED	1	NORMALLY ENERGIZED	1	1 sec.	1	1 sec.	2	6 sec.	2	6 sec.	2	PATH A : 4 points (DANGER1,DANGER2,ALERT1,ALERT2) PATH B : None	1	ON
					3	None	3	None							

/RMS/(IS [] or RE [])/5G [] /TRP/EX []

rms. rectification	Isolate output	Recorder option output	Input power supply requirements*7	Tropical	Sensitivity correction			
When rectification code 2, A to D is selected, specify this option code.	0	4 to 20mADC	2	0 to -10VDC	0	85 to 264VAC	1	TIIS(IEC)
	1	1 to 5VDC	3	0 to 10VDC	1	24VDC	7	NEPSI
	2	0 to -10VDC	4	0 to -5VDC	2	110VDC	8	KTL
	3	0 to 10VDC	5	0 to 5VDC				
	4	0 to -5VDC						
	5	0 to 5VDC						

Note) *5 It is necessary to set all monitor units in the same rack in first out function ON when it is used first out function.
*6 Short circuit is not detectable in case of CV-85,CV-87 input signal.
*7 The product that the power supply voltage specification is 0 or 2 does not conform to CE.

Ordering Information		Standard Specifications	
ALARM SET VALUE	DANGER1 : _____ ALERT1 : _____ DANGER2 : _____ ALERT2 : _____ * DANGER1,ALERT1 : For PATH A * DANGER2,ALERT2 : For PATH B Unless specified otherwise, preset to : DANGER : 100% of monitor range ALERT : 90% of monitor range	ALARM INDICATOR	DANGER : (red LED) ALERT : (yellow LED) OK : (green LED)
SEQUENCE SET VALUE (to increase alarm set value during operation of the sequence circuit)	: _____ ×1.0 to 10.0 (×0.1 step) Preset to ×1.0 unless specified otherwise. CAUTION : Set the alarm set value so that its designated multiple is within 110% of the measurement range during operation of the sequence circuit. If set to more than 110%, alarm may not be output.	ABNOR. ALARM INDICATOR	OK : (green LED)
SUPPRESSION FUNCTION SET VALUE	: _____ 0.0 to 10.0 % of monitor range (0.1 % step) Preset to 2.0 % unless specified otherwise. CAUTION : When the measurement value is not more than suppression function set value, indication and recorder output value shall be as 0 %.	BYPASS INDICATOR	BYPASS : (red LED)
ALARM SET POINT	4 points(DANGER1,ALERT1,DANGER2,ALERT2)	TRANSUDUCER INPUT	CA Series, CV Series Number of input points : 1 point
ALARM SET RANGE	0 to 110% of monitor range	INPUT IMPEDANCE	Approx.10kΩ (CV-851 input) Approx.50kΩ (CV-852, CV-86, CV-87, CA input)
ALARM SET ACCURACY	±1.0% of F.S. or less	EXTERNAL CONTACT INPUT (FROM REAR PANEL)	Contact type: Dry contact Contact for external reset Contact for sequence
ALARM SET REPEATABILITY	±0.1% of F.S. or less	BAR GRAPH METER	Recorder output conversion accuracy ±2.5% of F.S.
ALARM OUTPUT	5 points (DANGER1,ALERT1,DANGER2,ALERT2,OK) or 6 points (DANGER1,ALERT1,DANGER2,ALERT2,OK1,OK2)	DIGITAL METER	Recorder output conversion accuracy ±1.0% of F.S.
MEASURED VIBRATION VALUE	LCD digital meter with 5 digits (7 segments, with back light) LCD bar graph meter (40 segments, with back light) * Measurement value and alarm set value are indicated on the digital meter and bar graph meter simultaneously.	RECORDER OUTPUT CONVERSION ACCURACY	±0.5% of F.S. at calibration frequency at 25°C ±2.0% of F.S. at calibration frequency at 0 to 65°C (the calibration frequency is determined by the cut-off frequency range.)
		RECORDER OUTPUT (FROM REAR PANEL)	Voltage or current output proportional to monitor range 1 to 5VDC (output impedance : 250Ω) 4 to 20mADC (max.load resistance : 500Ω) 0 to -10VDC*0 to 10VDC*0 to -5VDC*0 to 5VDC* (output impedance : 100Ω) (option) Number of output points : 2 points (PATH A, PATH B)
		MONITOR OUTPUT (FROM FRONT, REAR PANEL)	Input signal is output via a buffer amplifier. Signal level : ±15V(CV-85,CV-87 input) : 0.8 to 22VDC(CV-86, CA input) Output impedance : 100Ω (load resistance 50kΩ or more)
		TEMPERATURE RANGE	Operating temperature : 0 to 65°C(32 to 149°F) Storage temperature : -30 to +85°C (-22 to +185°F) Relative humidity : 20 to 95%RH(noncondensing)
		MATERIAL AND FINISH MASS	Faceplate : Aluminum Munsell N-4.0 (equiv.) Monitor : max.0.7kg (including single unit instrument rack : max.2.5kg)