

VM-5 SERIES MONITOR  
SPECIFICATIONS

MODEL VM-5C ECCENTRICITY MONITOR



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

VM-5C-□□□□□□

Monitor range pk-pk	Monitor range direct	Input signal (Rotor pulse:CH1)	Input signal (Ecc:CH2)	Direct Eccentricity polarity*2	Measurement range*3	Recorder output
1 0 to 100μm pk-pk	-50 to 0 to +50μm	1 VK-202A,VK-202P*1	1 VK-202A,VK-202P,FK-202F	1 Direct	1 1 to approx.300rpm	0 4 to 20mADC
2 0 to 200μm pk-pk	-100 to 0 to +100μm	2 RD,FK Series	2 VK-302P,FK-302F	2 Reverse	2 1 to approx.600rpm	1 1 to 5VDC
3 0 to 250μm pk-pk	-125 to 0 to +125μm	3 MS Series	3 VK-452A,FK-452F	Note) *3 The measurement range for direct eccentricity is less than 12rpm. VC Direct eccentricity polarity		
4 0 to 500μm pk-pk	-250 to 0 to +250μm	4 or more pulses per revolution with even duty	4 VK-602P,FK-602F			
5 0 to 1000μm pk-pk	-500 to 0 to +500μm		5 VC Series(Voltage output only)			
6 0 to 5mils pk-pk	-2.5 to 0 to +2.5mils					
7 0 to 10mils pk-pk	-5 to 0 to +5mils					
8 0 to 20mils pk-pk	-10 to 0 to +10mils					
A 0 to 30mils pk-pk	-15 to 0 to +15mils					
B 0 to 50mils pk-pk	-25 to 0 to +25mils					

Note) \*1 VK transducer can not detect the wire break in the sensor system, so RD tachometer which can detect the wire break shall be recommended.

Polarity	Indication and rec. output	
	Toward sensor	Away from sensor
Direct	Increase	Decrease
Reverse	Decrease	Increase

Polarity	Indication and rec. output	
	Toward sensor	Away from sensor
Direct	Decrease	Increase
Reverse	Increase	Decrease

Hysteresis set value (shaped waveform circuit)	Alarm reset (DANGER)	Alarm reset (ALERT)	Alarm reset (OK)	Relay mode (DANGER)	Relay mode (ALERT)	Relay mode (OK)	First out*4	Phase marker input
0 1.0V	0 AUTO-RESET	0 AUTO-RESET	0 AUTO-RESET	0 NORMALLY DE-ENERGIZED	0 NORMALLY DE-ENERGIZED	0 NORMALLY DE-ENERGIZED	0 OFF	0 CH1(VM-5C)
1 0.1V	1 SELF-HOLD	1 SELF-HOLD	1 SELF-HOLD	1 NORMALLY ENERGIZED	1 NORMALLY ENERGIZED	1 NORMALLY ENERGIZED	1 ON	1 CH1(VM-5P)
2 0.2V								
3 0.5V								

/(IS □ or RE □)/5G □ /TRP/EX □

Isolate output	Recorder option output	Input power supply requirements*5	Tropical spec.	Sensitivity correction
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		2 FM
2 0 to -10VDC	4 0 to -5VDC	2 110VDC		4 CSA
3 0 to 10VDC	5 0 to 5VDC			5 ATEX
4 0 to -5VDC				
5 0 to 5VDC				

Note) \*4 It is necessary to set all monitor units in the same rack in first out function ON when it is used first out function.

\*5 The product that the power supply voltage specification is 0 or 2 does not conform to CE.

Note) Input abnormal alarm is not applicable in case of VC input signal. Short circuit is not detectable in case of MS input signal.

When recorder output code 2 is selected, specify this option code.

Ordering Information

Standard Specifications

ALARM SET VALUE	DANGER1 : _____ ALERT1 : _____ H-DANGER2 : _____ H-ALERT2 : _____ L-ALERT2 : _____ L-DANGER2 : _____ DANGER1,ALERT1 : For eccentricity pk-pk DANGER2,ALERT2 : For direct Unless specified otherwise, preset to : DANGER1 : 100% of monitor range ALERT1 : 90% of monitor range H-DANGER2 : Invalid H-ALERT2 : Invalid L-ALERT2 : Invalid L-DANGER2 : Invalid	MEASURED 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.
NO. OF INPUT P/R	Can be specified from 1 to 120 pulse. Pulses/rev. : _____	ALAMR INDICATOR	DANGER : (red LED) ALERT : (yellow LED)
DIMENSION OF TARGET (Model VK,RD,FK)	 Note) To detect a projection (gear), provide surface A of the projection with a concentric curve. Do not make it flat.	ABNOR. ALAMR INDICATOR	OK : (green LED)
	Input	BYPASS INDICATOR	BYPASS : (red LED)
	VK-202A RD-05A FK-202F	TRANSDUCER INPUT	VK-202A,VK-202P,FK-202F, VK-302P,FK-302F, VK-452A,FK-452F, VK-602P,FK-602F (only eccentricity), VC Series(only eccentricity), RD-05A(only phase marker),MS Series(only phase marker) Number of input points : 2 points(phase marker,eccentricity)
	A ≥6	INPUT IMPEDANCE	Approx.50kΩ
	B ≥7	MIN. PULSE WIDTH	Approx.50 μsec
	C ≥2.5	NO. OF INPUT PULSE	1 to 120 pulse
	D ≥16	TRIGGER MODE	AUTO, MANUAL (selectable) In case of auto trigger mode, input pulse duty ratio should be between 10 and 90% and input pulse frequency should be 1Hz and over. It depends on the target.
	Set gap [recommended](mm)	EXTERNAL CONTACT INPUT (FROM REAR PANEL)	Contact type : Dry contact Contact for external reset
	1.0 to 1.5	BAR GRAPH METER	Recorder output conversion accuracy ± 2.5% of F.S.
	2.5 to 3.5	ZERO SHIFT	0 to 100% of monitor range
	1.0 to 1.5	DIGITAL METER	Recorder output conversion accuracy ± 1.0% of F.S.
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 %.	RECORDER OUTPUT CONVERSION ACCURACY	± 1.0% of F.S. at 25°C ± 2.0% of F.S. at 0 to 65°C
Standard Specifications		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(eccentricity pk-pk,direct)
ALARM SET POINT	Eccentricity pk-pk : 2 points (DANGER1,ALERT1) Direct : 4 points (H-DANGER2,H-ALERT2,L-ALERT2,L-DANGER2)	MONITOR/PULSE OUTPUT (FROM FRONT,REAR PANEL)	Monitor output/Pulse output, selectable (preset to CH1 : Pulse output, CH2 : Monitor output) Monitor output : Input signal is output via a buffer amplifier. Signal level : -0.8 to -22VDC (VK,RD), ± 15V (MS), 0 to 5VDC(VC) Pulse output : Shaped pulse signal is output via a buffer amplifier. Signal level : -1 to +1V(P <sub>L</sub> ), 4 to 6V(P <sub>H</sub> ) Output impedance : Approx.100Ω (load resistance 50kΩ or more)
ALARM SET RANGE	0 to 110% of monitor range (eccentricity pk-pk) -10 to +110% of monitor range (direct)	TEMPERATURE RANGE	Operating temperature : 0 to 65°C (32 to 149°F REF.) Storage temperature : -30 to +85°C (-22 to +185°F REF.) Relative humidity : 20 to 95%RH (noncondensing)
ALARM SET ACCURACY	±1.0% of F.S. or less	MATERIAL AND FINISH	Face plate : Aluminum Munsell N-4.0 (equiv.)
ALARM SET REPEATABILITY	±0.1% of F.S. or less	MASS	Monitor :max.0.7kg (including single unit instrument rack : max.2.5kg)
ALARM OUTPUT	5 points (DANGER1,ALERT1,DANGER2,ALERT2,OK) or 6 points (DANGER1,ALERT1,DANGER2,ALERT2,OK1,OK2) (H,L are OR output)		