

Process Meter K3MA-J

CSM_K3MA-J_DS_E_13_4

Highly Visible LCD Display with 2-color (Red and Green) LEDs



- Multi-range DC voltage/current input.
- Front-panel key operation for easy setting.
- Average processing function suppresses flicker.
- Scaling, front-panel forced-zero, zero-limit functions.
- Easy confirmation of max/min display.
- Short 80-mm depth (measured from edge of face plate).
- Finger protective cover (standard equipment) guards against electric shock.
- Water- and dust-proof NEMA TYPE 4X (IP66 equivalent) front panel.
- Recognized to U.S. and Canadian requirements under the Component Recognition Program of UL.
- CE marking.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Refer to *Safety Precautions for All Digital Panel Meters*.

Model Number Structure

Model Number Legend

K3MA-J-
1 2 3

1. Input Type

J: DC voltage/current

2. Comparative Output Model

None: No output

A2: 2 relay contact outputs (SPST-NO)

3. Supply Voltage

100-240VAC: 100 to 240 VAC

24VAC/VDC: 24 VAC/VDC

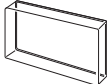
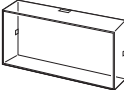
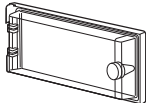
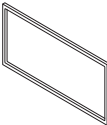
Ordering Information

List of Models

Input type	Supply voltage	Comparative Output Model	Model
DC voltage/current	100 to 240 VAC	None *	K3MA-J 100-240VAC
		2 relay contact outputs (SPST-NO)	K3MA-J-A2 100-240VAC
	24 VAC/VDC	None *	K3MA-J 24VAC/VDC
		2 relay contact outputs (SPST-NO)	K3MA-J-A2 24VAC/VDC

* Changing the display color based on comparison with a reference value is not possible.

■ Accessories (Order Separately)

Name	Shape	Model
Splash-proof Soft Cover		K32-49SC
Hard Cover		K32-49HC
Watertight Cover		Y92A-49N
Rubber Packing		K32-P1

Note: Rubber packing is provided with the Controller.

Specifications

■ Ratings

Model	K3MA-J 100-240VAC, K3MA-J-A2 100-240VAC	K3MA-J 24VAC/VDC, K3MA-J-A2 24VAC/VDC
Supply voltage	100 to 240 VAC	24 VAC/VDC
Operating voltage range	85% to 110% of the rated supply voltage	
Power consumption (under maximum load)	6 VA max.	4.5 VA max. (24 VAC) 4.5 W max. (24 VDC)
Insulation resistance	20 MΩ min. (at 500 VDC) between external terminal and case. Insulation provided between inputs, outputs, and power supply.	
Dielectric strength	2,000 VAC for 1 min between external terminal and case. Insulation provided between inputs, outputs, and power supply.	
Noise immunity	±1,500 V on power supply terminals in normal or common mode. ±1 μs, or 100 ns for square-wave noise with 1 ns.	±480 V on power supply terminals in normal mode. ±1,500 V in common mode. ±1 μs, or 100 ns for square-wave noise with 1 ns.
Vibration resistance	Vibration: 10 to 55 Hz, 0.35-mm half amplitude 5 min each in X, Y, and Z directions for 10 sweeps.	
Shock resistance	150 m/s ² (100 m/s ² for relay contact outputs) 3 times each on 3 axes, 6 directions.	
Ambient temperature	Operating: -10°C to 55°C (with no condensation or icing) Storage: -25°C to 65°C (with no condensation or icing)	
Ambient humidity	Operating: 25% to 85% (with no condensation)	
Approved safety standards	UL61010-1, CSA C22.2 No.61010-1-04, conforms to EN61010-1 (Pollution degree 2/overvoltage category II) Conforms to VDE0106/P100 (finger protection)	
EMC	(EMI) Emission Enclosure: Emission AC Mains: (EMS) Immunity ESD: Immunity RF-interference: Electrical Fast Transient Noise: Immunity Burst Noise: Immunity Surge: Immunity Conducted Disturbance: Immunity Voltage Dip/Interrupting:	EN61326-1 Industrial electromagnetic environment CISPR 11 Group 1 class A: CISRP16-1/-2 CISPR 11 Group 1 class A: CISRP16-1/-2 EN61326-1 Industrial electromagnetic environment EN61000-4-2: 4 kV contact discharge 8 kV air discharge EN61000-4-3: 10 V/m (amplitude-modulated, 80 MHz to 1 GHz) EN61000-4-4: 2 kV (power line) 1 kV line to line (I/O signal line) EN61000-4-5: 1 kV (power line) 2 kV line to ground (power line) EN61000-4-6: 3 V (0.15 to 80 MHz) EN61000-4-11: 0.5 cycle, 0, 180°, 100% (rated voltage)
Weight	Approx. 200 g	

■ Characteristics

Input signal	DC voltage/current (0 to 20 mA, 4 to 20 mA, 0 to 5 V, 1 to 5 V, ± 5 V, ± 10 V)
A/D conversion	Double integral method
Input impedance	Current input: Approx. 45 Ω , Voltage input: 1 M Ω min.
Sampling period	250 ms
Display refresh period	Sampling period (sampling times multiplied by number of measurements for averaging if average processing is selected.)
Max. displayed digits	5 digits (-19999 to 99999)
Display	7-segment digital display, Character height: 14.2 mm
Polarity display	"-" is displayed automatically with a negative input signal.
Zero display	Leading zeros are not displayed.
Scaling function	Programmable with front-panel key inputs (range of display: -19999 to 99999). The decimal point position can be set as desired.
Hold function	Max. hold (maximum value), Min. hold (minimum value)
Hysteresis setting	Programmable with front-panel key inputs (0001 to 9999).
Other functions	Forced-zero (with front-panel key) Zero-limit Scaling teach function Display color change (green (red), green, red (green), red) OUT type change (upper limit, lower limit, upper/lower limit) Average processing (simple average)
Output	Relays: 2 SPST-NO
Delay in comparative outputs	750 ms max.
Degree of protection	Front panel: NEMA TYPE 4X for indoor use (equivalent to IP66) Rear case: IEC standard IP20 Terminals: IEC standard IP00 + finger protection (VDE0106/100)
Memory protection	Non-volatile memory (EEPROM) (possible to rewrite 100,000 times) (with terminal cover attached)

■ Measuring Ranges

Process Voltage/Current Inputs

Input	Measuring range	Measuring accuracy	Input impedance	Displayable range
DC voltage	1.000 to 5.000 V	$\pm 0.1\%$ FS ± 1 digit max. (at 23 $\pm 3^\circ$ C)	1 M Ω min.	-19999 to 99999 (with scaling function)
	0.000 to 5.000 V			
	-5.000 to 5.000 V	$\pm 0.1\%$ FS ± 1 digit max. (at 23 $\pm 5^\circ$ C)		
	-10.00 to 10.00 V			
DC current	4.00 to 20.00 mA/ 0.00 to 20.00 mA	$\pm 0.1\%$ FS ± 1 digit max. (at 23 $\pm 3^\circ$ C)	45 Ω	

■ Input/Output Ratings

Relay Contact Output

Item	Resistive load ($\cos\phi = 1$)	Inductive load ($\cos\phi = 0.4$, L/R=7 ms)
Rated load (UL ratings)	5 A at 250 VAC, 5 A at 30 VDC	1.5 A at 250 VAC, 1.5 A at 30 VDC
Min. permissible load (P level, reference value)	10 mA at 5 VDC	
Mechanical life	5,000,000 times min.	
Electrical life	100,000 times min.	