Two-colour display panel indicators

K3MA SERIES

for clear and precise readout

Advanced Industrial Automation

OMRON

Omron's new generation of digital panel indicators brings quality, reliability and a professional look and feel to your application. These new digital panel indicators are top-quality products that offer excellent value for money, and have been designed with added-value features that users will find very attractive.

Professional, reliable indicators, whatever the application

Each digital panel indicator features a crystal-clear display for excellent read-out of values, and a dust- and waterproof front casing (IP66) that guarantees top performance under adverse conditions. The three models in this range are designed to give precise, reliable information on processes, temperature and rate/frequency applications. And each model has a clean, label-free front, making it attractive to end-users and OEMs who want to add a professional touch to their own systems.

Omron's digital panel indicators – the family

Three types of digital panel indicators in the K3MA series cover a wide range of applications. Each indicator accepts a wide range of power supplies, and indicator versions are available with or without control functionality.

Each indicator is compact, with a depth of just 80mm from the edge of the faceplate to the rear. All models conform to U.S. and Canadian requirements under the Component Recognition Program of UL with CE marking. In addition, self-adhesive labels containing a wide range of engineering units are included with each indicator.

K3MA-J

This indicator accepts all standard process signals, including input currents (0 to 20mA; 4 to 20mA) and input voltages (from 0 to 5V; 1 to 5V; ±5V and ±10V), and converts these inputs into whichever process value is required.

K3MA-L

This indicator handles multiple inputs, including two types of platinum-resistance thermometers and ten types of thermocouples, to provide precise temperature read-outs. It also features a temperature input shift, which is equivalent to the setting value supporting all points within the sensor measurement range (from –1999 to 9999).

K3MA-F

This indicator accepts various input devices (which can be connected as standard contact NPN, PNP or voltage pulse inputs), and provides accurate data for frequency/rate measurements. This indicator has a sensor power supply as standard.

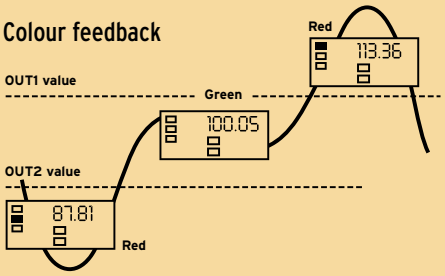
General specifications of the K3MA family

Type	K3MA-J Process Indicator	K3MA-L Temperature Indicator	K3MA-F Frequency / Rate Indicator
Input	Process current: 0 to 20 mA; 4 to 20 mA Process voltage: 0 to 5 V; 1 to 5 V; ±5 V; ±10 V	Platinum resistance thermometer: Pt100, JPt100 Thermocouple: K, J, T, E, L, U, N, R, S, B	No-voltage contact: 30 Hz max. with ON/OFF pulse width 15 ms min. Open collector/Voltage pulse: 5 kHz max. with ON/OFF pulse width of 90 µs min.
Display	7-segment digital display, character height 14.2 mm		
Max. displayed digits	-19999 to 99999	-1999 to 9999	-19999 to 99999
Sampling period	250 ms	500 ms	----------
Measuring accuracy	±0.1% FS ± 1 digit max. at 23 ±3°C (0-20 mA, 4-20 mA, 0-5 V, 1-5V) ±0.1% FS ± 1 digit max. at 23 ±5°C (±5 V, ±10V)	±0.5% of indicated value or ±1°C, whichever is larger ±1 digit max. *	±0.1% FS ±1 digit at 23 ±5°C
Sensor power supply	----------	----------	40 mA at 12 VDC
Output relay + rating resistance load (separate model)	2 SPST-NO 5 A at 250 VAC, 5 A at 30 VDC	1 SPDT 5 A at 250 VAC, 5 A at 30 VDC	2 SPST-NO 5 A at 250 VAC, 5 A at 30 VDC
Housing specifications	Dimensions: 48 (H) x 96 (W) x 80 (D) mm. (1/8 DIN), Front panel protection: NEMA4X for indoor use / IP66 Rear case: IEC standard IP20, Terminals: IEC standard IP00 + finger protection (VDE0106/100)		
Supply voltage	100 to 240 VAC (50/60 Hz); 24 VAC (50/60 Hz)/VDC		
Hold function	Max. hold (maximum value), Min. hold (minimum value)		
Additional features	Programmable colour display, Average processing, Switching of comparative outputs, Hysteresis (programmable from 0001 to 9999), Key protect, Parameter initialisation		
	Scaling function, Teaching, Forced-zero function, Zero-limit function	Temperature input shift	Scaling function, Teaching, Auto-zero time, Start-up compensation time
Approved safety standard	UL3121, conforms to EN61010-1 (Pollution degree 2/overvoltage category II), Conforms to VDE0106/P100 (finger protection)		
Additional information	Datasheet: N108-E1-01	Datasheet: N109-E1-01	Datasheet: N107-E1-01
	Operation manual: N106-E1-01		
Download from web	www.eu.omron.com select Products & Services and then Product Selector		
Best choice **With output control**	K3MA-J-A2 100 –240 VAC K3MA-J-A2 24 VAC/VDC	K3MA-L-C 100 –240 VAC K3MA-L-C 24 VAC/VDC	K3MA-F-A2 100 –240 VAC K3MA-F-A2 24 VAC/VDC

* K: -200 to 1300 °C: ±2°C ±1 digit max. T, N.: -100°C max.: ±2°C ±1 digit max. U, L.: ±2°C ±1 digit max. B: 400°C max.: Accuracy is not specified. R, S: 200°C max: ±3°C ±1 digit max.

Features at a glance!

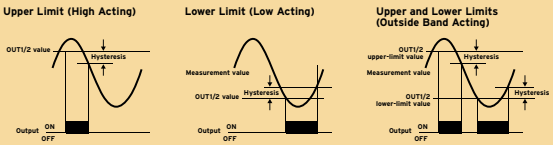
Colour feedback



You can choose to have the display value in Red or Green. Both colours are available in one model. With these colours you can give an intuitive feedback of your process (applies only to models with outputs).

Benefits to you:
- *Easy indication of process changes*
- *You can program the best colour for your application*
- *Green Okay & Red Alarm (or vice versa)*

'Out' types



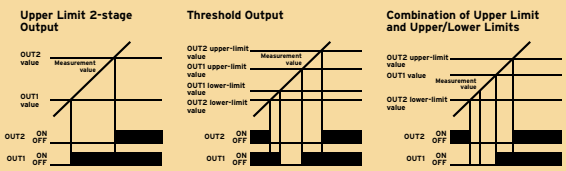
Out 1 and Out 2 can be set to operate in one of the three following modes in accordance with the compared values (applies only to models with output functionality).

Benefits to you:
- *Three principles of basic control functionality*
- *Gives you control of your process*
- *Easy to establish your set-point*

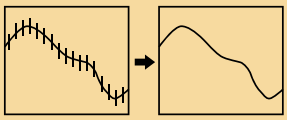
Output combinations

The output relays can be configured for advanced control functionality, like High/High control, Low/Low control, threshold output or a combination of these (applies only to models with output).

Benefits to you:
- *Full save operation (two outputs at one side)*
- *Advanced control functionality possible*
- *Double save operation*



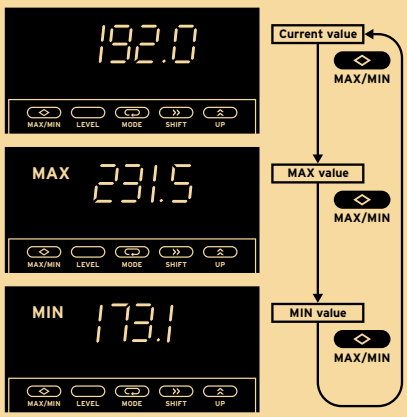
Average processing



You can pre-program the indicator to measure a signal/ temperature/frequency at varying sampling times (2, 4 or 8) for a more stable read-out of the process values. This feature can also be switched off.

Benefits to you:
- *No rapid fluctuation of the display value*
- *No spikes on the process signal*
- *Read-out is better*

MAX/MIN display



For daily process control of Maximum & Minimum process values you can directly read these values out by pressing the MAX/MIN button. Switching off the power supply resets the indicator.

Benefits to you:
- *Registers batch control values*
- *Easy to access*
- *An essential feature for lots of applications*

K3MA SERIES

Process • Temperature • Frequency/Rate

Highly visible display with leading zero-suppression

Each digital panel indicator is equipped with a high-tech back-lit LCD display that ensures excellent visibility at all times. The leading zero-suppression feature provides a clear read-out of the values and guarantees that you will have no misleading zeros.

Front-key programming

Unambiguous, user-friendly programming is made easy via the large, front-panel keys for total control.

Dust- and waterproof front case

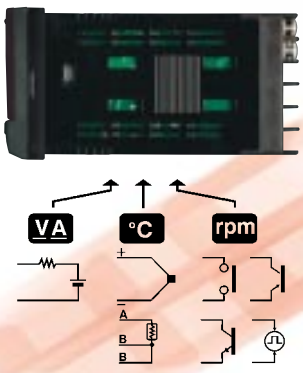
The front panel of each model complies with NEMA4X (IP66 equivalent) standards, which means that it is washable and can be safely handled with wet hands.

Finger-safe terminals

Each digital panel indicator features a finger-safe terminal, making it suitable for use in all industrial environments.

Multi-range inputs

The K3MA series accepts a wide range of inputs, including process, temperature and frequency, and provides a clear, highly stable read-out of values.



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