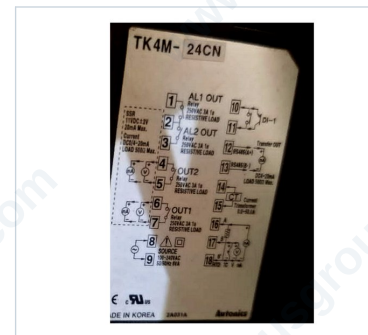


The Autonics TK4M-24CN is a high-performance PID temperature and process controller in a 72 × 72 mm DIN panel housing, with a dual 4-digit 7-segment LED display showing the measured value and the set value together. It accepts thirteen thermocouple types, six RTD types and voltage or current analogue inputs, and samples every 50 ms for fast, stable control. Control output 1 is user-selectable between an isolated DC 4-20 mA / 0-20 mA analogue signal and an SSR drive output, so one unit can drive either a modulating valve or a solid-state relay, while two independent alarm relays handle limit and deviation warnings. The IP65-rated front panel and 100-240 VAC supply suit it to ovens, dryers, extrusion and packaging lines and general process equipment.



GENERAL / IDENTIFICATION

Model	TK4M-24CN
Product type	High-performance PID temperature / process controller, panel mounting
Front panel size	DIN W72 × H72 mm
Display method	4-digit dual 7-segment LED — PV red, SV green
Character height	PV 20 mm · SV 15 mm
Setting method	Front membrane keypad

INPUT

Thermocouple input (13 types)	K (CA), J (IC), E (CR), T (CC), B (PR), R (PR), S (PR), N (NN), C (TT), G (TT), L (IC), U (CC), Platinel II
RTD input (6 types)	DPt100Ω, DPt50Ω, JPt100Ω, Cu100Ω, Cu50Ω, Nickel 120Ω
Analogue voltage input	0-100 mVDC, 0-5 VDC, 1-5 VDC, 0-10 VDC
Analogue current input	0-20 mA, 4-20 mA
Display range	-1999 to 9999
Sampling period	50 ms
Display accuracy — RTD / thermocouple	At 23 °C ± 5 °C: (PV ±0.3 % or ±1 °C, whichever is greater) ±1 digit
Display accuracy — analogue	At 23 °C ± 5 °C: ±0.3 % F.S. ±1 digit

CONTROL & OUTPUT

Control method	ON/OFF, P, PI, PD and PID control, with auto-tuning
Control output 1 (OUT1)	Selectable — current DC 4-20 mA or DC 0-20 mA (load 500 Ω max.), or SSR drive 11 VDC ± 2 V, 20 mA max.
Proportional band (P)	0.1 to 999.9 °C / °F (0.1 to 999.9 %)
Integral time (I)	0 to 9999 sec
Derivative time (D)	0 to 9999 sec
Control period (T)	1.0 to 120.0 sec
Manual reset value	0.0 to 100.0 %
Hysteresis	RTD / thermocouple: 1 to 100 °C/°F (0.1 to 100.0 °C/°F) variable; analogue: 1 to 100 digit

ALARM OUTPUTS

Alarm outputs	Alarm output 1 and alarm output 2
Alarm contact rating	Relay 250 VAC 3 A 1a, resistive load (each)

ELECTRICAL

Power supply	100-240 VAC~ 50/60 Hz
Allowable voltage range	90 to 110 % of rated voltage
Power consumption	Max. 8 VA
Dielectric strength	2,000 VAC 50/60 Hz for 1 minute (between power terminal and input terminal)
Insulation resistance	Over 100 MΩ at 500 VDC megger
Insulation type	Double insulation or reinforced insulation
Noise immunity	±2 kV square-wave noise, pulse width 1 microsecond, by noise simulator
Relay life — mechanical	OUT1 / OUT2 min. 5,000,000 operations; AL1 / AL2 min. 20,000,000 operations
Relay life — electrical	Min. 100,000 operations
Memory retention	Approx. 10 years (non-volatile semiconductor memory)

MECHANICAL & ENVIRONMENTAL

Body dimensions (W × H × D)	72 × 72 × 70.5 mm
Panel cut-out	68 (+0.7 / 0) × 68 (+0.7 / 0) mm
Protection structure	IP65 (front panel)
Ambient temperature	-10 to 50 °C · storage -20 to 60 °C
Ambient humidity	35 to 85 % RH · storage 35 to 85 % RH
Vibration	0.75 mm amplitude at 5 to 55 Hz for 1 min in each of X, Y and Z directions, 2 hours
Net weight	Approx. 140 g (unit only)

COMPLIANCE / STANDARDS

Approvals marked on unit	CE · cULus
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TYPICAL APPLICATIONS

Heat-treatment and curing ovens · industrial dryers and kilns · plastics extrusion and injection moulding · packaging and sealing machines · food processing equipment · laboratory and environmental chambers · general process heating and cooling loops.

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