

CH402 RKC INSTRUMENT INC.

Digital PID Temperature Controller · 48 x 96 mm (1/8 DIN vertical) · Thermocouple / RTD input · Relay output

Model code: FK02-M*AN-NN | **Spec. code:** ZK-1033 | **Input:** K | **Range:** 0 to 400 °C



The CH402 is a 48 x 96 mm (1/8 DIN, vertical) panel-mount digital temperature controller with a dual 4-digit LED display showing the process value and the set value together. It measures temperature from a thermocouple or RTD sensor, compares it with the set value and drives its output to hold the process at setpoint, using PID control with a self-tuning function that re-tunes the PID parameters automatically when it judges that control has been disturbed. This unit is configured for type K thermocouple input over 0 to 400 °C with relay contact control output and a universal 100 to 240 V AC supply. Typical uses are ovens, dryers, heat-treatment and annealing furnaces, extruders and injection moulding machines, sealing and packaging machines, plating and process tanks, and laboratory heating equipment.

General / Identification

Manufacturer	RKC INSTRUMENT INC.
Series / model	CH series - CH402
Model code (as marked on unit)	FK02-M*AN-NN
Special specification code	ZK-1033
Product type	Panel-mount digital PID temperature controller
Panel size	48 x 96 mm (1/8 DIN, vertical)
Construction	Plug-in construction
Display	Dual 4-digit LED: PV (process value) and SV (set value)
Front indicators	AT, OUT1, OUT2, ALM1, ALM2
Front keys	SET, R/S (shift), Down, Up

Performance / Functional

Control action	PID control with self-tuning (AT)
Self-tuning	Automatic re-tuning of PID parameters when the control state is judged to be disturbed
Number of inputs	1
Input type (this unit)	Thermocouple type K
Measuring range (this unit)	0 to 400 °C
Input types available in series	Thermocouple: K, J, T, S, R, E, B, N, W5Re/W26Re, PLII, U, L; RTD: Pt100, JPt100
Measurement accuracy	±(0.3 % of displayed value + 1 digit)
Sampling cycle	0.5 s

Electrical

Supply voltage (this unit)	100 to 240 V AC, 50/60 Hz
Supply voltages available in series	100 to 240 V AC / 24 V AC / 24 V DC
Power consumption	7 VA at 100 V 10 VA at 240 V
Control output OUT1 (this unit)	Relay contact output
Control output types in series	Relay contact output (1a contact) or SSR drive voltage pulse output, 0/12 V DC
Alarm / event output (option)	Up to 1 point - temperature alarm or loop break alarm
Auxiliary output (option)	Temperature alarm output, relay contact

Connections / Terminals

Termination	Rear-mounted 12-point screw terminal block
Terminal 1 - 2	Power supply, 100 to 240 V AC
Terminal 3 - 4	OUT2 (relay contact, NO)
Terminal 5 - 6	OUT1 (relay contact, NO / NC)
Terminal 7	ALM2 (relay contact, NO)

Terminal 8	ALM1 (relay contact, NO)
Terminal 9	Common
Terminal 10 - 12	Sensor input: RTD (A, B, B) or thermocouple (+ / -)

Mechanical & Environmental

Net weight	Approx. 250 g
Ambient temperature	0 to 50 °C (50 °C max. as marked on the unit)
Mounting	Flush panel mounting

Compliance / Standards

Safety	UL 61010-1
Safety (Canada)	cUL, CAN/CSA-C22.2 No. 61010-1
CE - Low Voltage Directive	EN 61010-1
CE - EMC Directive	EN 61326-1
Marks carried on the unit	UL, cUL / CSA, CE, Class II (double insulated)

Typical applications

Ovens, dryers and hot-air chambers · heat-treatment and annealing furnaces · extruders and injection moulding machines · sealing, shrink and packaging machines · plating, dyeing and process tanks · laboratory and test heating equipment.

Specifications are taken from the manufacturer's published data and are subject to change without notice. Confirm against the current manufacturer manual before rated or safety-critical use. All brand names, trademarks, logos and part numbers are the property of their respective owners and are used here for identification and reference only. We are not an authorised distributor or agent of the manufacturer unless expressly stated otherwise.