Digital Control Programmer | DCP31

CE cUL*

*For our cUL certification status,
contact our sales representatives.

The DCP31 is an advanced function programmable controller supporting up to 19 program patterns and a variety of input types: thermocouple, resistance temperature detector (RTD), DC voltage, and DC current.

The DCP31 supports extensive digital I/O functions including 3 event outputs, 5 time event outputs (optional), and 12 external switch inputs (8 optional).

RS-485 communications and up to two auxiliary outputs can also be added as options.

Specifications

Program	Number of programs	19					
	Number of segments	30 per program					
PV input	Number of input channels	1					
	Input type	Multi-range of inputs—thermocouple, resistance thermometer detector, DC voltage, and DC current					
	Input indication accuracy	±0.1% FS±1U (under standard conditions; this may be affected by range.)					
	Sampling cycle	0.1 s					
Control	Code	0D	2G	5G	6D	3D	5K
	Control action	Time proportional PID	Position proportional PID	Continuous PID	Time proportional PID	2-stage (heat/cool) PID	
	PID auto-tuning	Neuro & fuzzy (PID with two degree of freedom) and smart methods are used in addition to the limit cycle method to set PID auto-tuning.				Auto-tuning not available	
Events/time events	Number of outputs	Event: 3, time events: 5					
	Event output type	PV type events: PV, deviation, absolute value deviation, SP, MV, MFB (motor feedback) Controller status event: RUN+HOLD+FAST+END, READY, RUN, HOLD, FAST, END, G.SOAK standby, MANUAL, etc.					
	Time event output type	Time event, segment No. event					
External switch input	Number of inputs	12					
	Function	RUN, HOLD, RESET, ADV, program No., FAST, PV start, AT, AUTO/MANUAL, etc.					
Auxiliary output	Number of outputs	Max. 2 (1 on 2G and heat/cool models)					
	Output type	PV, SP, deviation, MV, MFB (motor feedback)					
Communication specification	RS-485 compliant						
General specifications	Rated power supply voltage	100 to 240 Vac 50/60 Hz					
	Power consumption	25 VA or less					
	Weight	Approx. 900 g					

Input list

Input type	Symbol
Thermocouple	K, E, J, T, B, R, S, W (WRe5-65)
	PR40-20, Ni·Mo-Ni, N, PL II,
	DIN U, DIN L, Chromel/Gold-iron
Resistance thermometer detector	JIS'89 Pt100, JIS'89 JPt100

Input type	Symbol
DC current/ voltage	4 to 20 mA, 0 to 20 mA
	0 to 10 mV, -10 to +10 mV
	0 to +100 mV, 0 to +1V, -1 to +1V
	1 to 5 V, 0 to 5 V, 0 to 10 V

Standards for input sensor

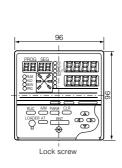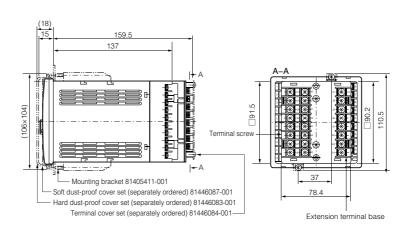|	
Thermocouple	K, E, J, T, B, R, S: JIS C 1602-1981
	WRe5-26: material from Hoskins
	PR40-20: material from Johnson Matthey
	Ni·Mo-Ni: material from General Electric
	N: N.B.S. Monograph 161
	PL II: material from Engelhard Industries (IPTS68)
	DIN U, DIN L: DIN 43710-1985
	Chromel/Gold-iron: material from Hayashi Denko
Resistance thermometer detector	Pt100, JPt100: JIS C 1604-1989

External dimensions

(Unit: mm)

Lock screw

(18)
15
159.5
137

A
A

Mounting bracket 81405411-001
Soft dust-proof cover set (separately ordered) 81446087-001
Hard dust-proof cover set (separately ordered) 81446083-001
Terminal cover set (separately ordered) 81446084-001

A–A

Terminal screw

37
78.4

Extension terminal base

2 RECORDERS, INDICATORES

3 CONVERTERS

4 FLAME SAFEGUARD SYSTEM

5 ACTUATORS

6 SENSORS

7 GAS FLOW MEASUREMENT AND CONTROL PRODUCTS

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Model No. configuration

Ex.: P31A0D0AS00000

Basic model No.	Output	Function	Power supply	Option 1	Option 2	Addition	Description
P31A							Digital Program Controller (single-loop model)
	0D						Relay output (on-off, or time-proportional)
	2G*						Position proportional output
	5G						Current output (4 to 20 mA)
	6D						Voltage output
	3D*						Heat-cool output, relay output + relay output
	5K*						Heat-cool output, current output + current output
		0					One input channel
			AS				100 to 240 Vac 50/60 Hz
				00			No auxiliary output
				01			1 auxiliary output
				02*			2 auxiliary outputs
					0		External switch inputs (4), time event not supported, communications not supported
					1		External switch inputs (12), 5 time events supported, communications not supported
					2		External switch inputs (12), 5 time events supported, RS-485 communications supported
						00	None
						D0	Inspection certificate
						Y0	Supports traceability certification

*. On 2G, 3D, and 5K models, 2 auxiliary outputs (option 1) cannot be specified.

Optional parts (sold separately)

Name	Model No.
Smart Loader Package	SLP-P30J50
Hard dust-proof cover set	81446083-001
Soft dust-proof cover set	81446087-001
Terminal cover set	81446084-001
Lithium battery set	81446431-001

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