DCP552A Mark II

DigitroniK
Digital Control Programmer

The DCP552A Mark II is a two-channel advanced-function programmable controller (up to 49 program patterns), to which thermocouple, resistance temperature detector (RTD), DC voltage and DC current can be applied as input signals.

Features include 16 event outputs, 16 remote switch inputs and memory card interface.

Specifications

General	**Memory backup**	RAM backed up by lithium battery
	Power	100 to 240Vac, 50/60Hz
	Power consumption	30VA at 100Vac, 40VA at 200Vac
	Ambient temperature	0 to 50°C
	Ambient humidity	10 to 90% RH (no condensation allowed)
	Mass	Approx. 1.5kg
Program pattern	**No. of programs**	49 x 2 channels
	No. of segments	99/program (2000 in total)
	Segment time	0 to 500/h or 0 to 500/min, 0.0 to 3000.0/s
	Sub-functions	Event, PID group, output limiter group, g. soak, PV shift and repeat setting
	PID group	Group 0 (continuing from previous segment), groups 1 to 9 Group A (automatic changeover) ON-OFF control settable
	Output limiter group	Group 0 (continuing from previous segment), group 1 to 9 settable
	G. soak	Type (start point, end point, all) and g. soak width 0 to 1000U settable
	PV start	Type settable for each program (ascending, descending and bi-directional)
	Cycle	Cycle count No. settable for each program
	Pattern link	Program No. 0 to 49 (program 0 without link) settable for each program
	Tag	8 characters consisting of alphanumerics and symbols settable for each program
	Basic time accuracy	± 0.01% (segment time setting = 0, repeat and cycle delays 0.1 sec. for each time)
PV input	**No. of channels**	2
	Type	Thermocouple, RTD, DC voltage, DC current multi-range
	Sampling cycle	0.1s
	Bias	-1000 to +1000U (U: industrial unit)
Remote switch input (RSW)	**No. of inputs**	16
	Function	Fixed: RUN, HOLD, RESET, ADV, program No., CH1 and CH2 operation cancelled Variable: RAMP-E, FAST, AT, AUTO/MANUAL, G. SOAK reset direct/reverse operation, auto-load, O2 selection check
	Type	Dry relay contact and open collector
Indication & setting	**Indicator**	2 or 5-digit, 7-segment LED (green or orange)
	Profile display	7 orange LEDs
	Message display	Output graph, deviation graph, event status and others
Control	**Control mode**	Program or constant value control
	Control output	5G CH1 & 2 and AUX CH1 & 2 : 4 to 20mAdc. 6D CH1 & 2: voltage. 8D CH1 & 2: open collector.
	Output accuracy	±0.1% FS
	PID auto-tuning	Automatic setting of PID value by limit cycle system
	No. of PID sets	16 for program operation (9 for segment specific + 7 for automatic zone selecting)
	MV limit (%)	Lower: -5.0 to upper limit Upper: Lower limit to 105.0
	MV change limit	0.1 to 110.0%/0.1 s
	Direct/reverse	Changeover settable
Auxiliary (AUX) output		1 or 2 out of SP1, SP2, dev.1, dev.2, MV, PV1 and PV2
Event (EV) output	**No of outputs**	16
	Type	PV-, time-, code- and mode-based
Communications		RS-485, RS-232C

Selection Guide

I II III IV V Example: **DCP552A20000**

Segment	Model No. selection		Description
I	Basic No.	**DCP552A**	Digital control programmer Mark II
II	PV input	**2**	2 channels
III	Correspondence to carbon potential	**0**	None
		1	Provided
IV	Option 1	**0**	None
		1	1 auxiliary output
		2	2 auxiliary outputs and RS-485, RS-232C communications
V	Option 2	**00**	None
		D0	With test data
		Y0	With traceability certification

Accessories (sold separately)

Model No.	Description
81446141	Soft dustproof cover
81446140-001	Lithium battery
SKM008A	Memory card (RAM, battery not replaceable)
SKM016A	Memory card (RAM, battery not replaceable)
SKM064A	Memory card (RAM, battery not replaceable)
SKM256C	Memory card (RAM, replaceable battery)
SKM008E	Memory card (EPROM, battery not required)
SKM032E	Memory card (EPROM, battery not required)
SLP-P55J10	PC Loader software

Input Types and Ranges

• Thermocouple

Range code	Input type	Range (°C)
16	K (CA)	-200.0 to +200.0
0		0.0 to 1200.0
1		0.0 to 800.0
2		0.0 to 400.0
3	E (CRC)	0.0 to 800.0
4	J (IC)	0.0 to 800.0
5	T (CC)	-200.0 to +300.0
6	B (PR30-6)	0.0 to 1800.0
7	R (PR13)	0.0 to 1600.0

Range code	Input type	Range (°C)
8	S (PR10)	0.0 to 1600.0
9	W (WRe5-26)	0.0 to 2300.0
10		0.0 to 1400.0
11	PR40-20	0.0 to 1900.0
12	N	0.0 to 1300.0
13	PL II	0.0 to 1300.0
14	Ni-Ni·Mo	0.0 to 1300.0
15	Gold, iron, chromel	0.0 to 300.0K (K: Kelvin)

• Resistance temperature detector (RTD)

Range code	Input type	Range (°C)
64	JIS '89 Pt100 (IEC Pt100Ω)	-200.0 to +500.0
65		-200.0 to +200.0
66		-100.0 to +150.0
67		-50.0 to +200.0
68		-40.0 to +60.0
69		0.0 to 100.0
70		0.00 to 300.0
71		0.00 to 500.0

Range code	Input type	Range (°C)
96	JIS '89 Pt100	-200.0 to +500.0
97		-200.0 to +200.0
98		-100.0 to +150.0
99		-50.0 to +200.0
100		-40.0 to +60.0
101		0.0 to 100.0
102		0.0 to 300.0
103		0.0 to 500.0

• DC current/voltage

Range code	Input type	Range	
48	mA (Linear)	4 to 20mA	Program-
52		2.4 to 20mA	mable
49	mV (Linear)	0 to 10mV	range
50		-10 to +10mV	-19999
51		0 to 100mV	to
128	mA (Linear)	4 to 20mA	+20000
134		2.4 to 20mA	(Decimal
129	V (Linear)	0 to 1V	point
130		-1 to +1V	position
131		1 to 5V	is
132		0 to 5V	variable.)
133		0 to 10V	

Range code	Input type	Range
135	O_2 sensor (Note)	0 to 1250mV. Carbon potential (CP value) indication range: 0.000 to 4.000% C. (Note, however, that PID control is calculated over the 0.000 to 2.000% input range). Oxygen pressure indication range: 0.000 to 1.500×10^{-20} atm.

Note: • Any O_2 sensor made by Japan Glass Co., Ltd., Marathon Monitors, Cambridge, Corning, AACC (Advanced Atmosphere Control Corporation), Barber Colman or Furnace Control can be used.

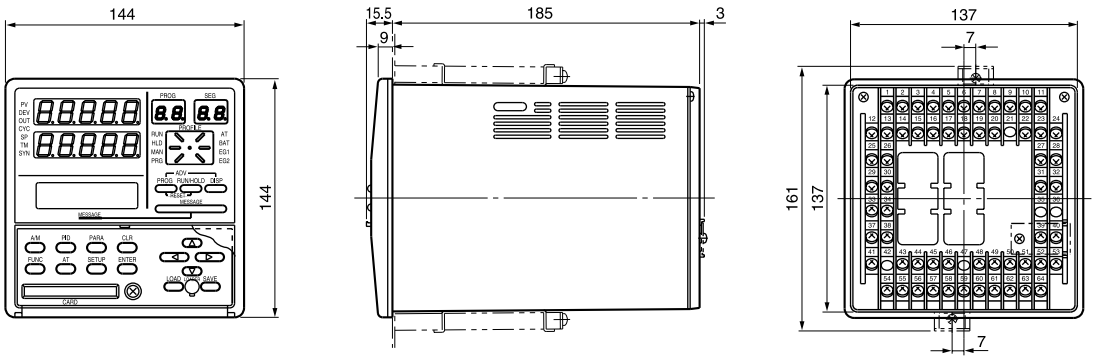
• PV2 is fixed for the O_2 sensor in the case of models supporting carbon potential.

• °F display is selectable.

Dimensions

(Unit: mm)

• DCP552A



• Panel cutout