SDC35

Super DigitroniK
Single Loop Controller

The DigitroniK SDC35 is a digital indicating controller featuring multiple input types and a PID control system using the new "RationaLOOP" and "Just-FiTTER" algorithms.

Up to two control outputs (depending on the exact model) can be used, which are selectable from relay, voltage pulse, continuous voltage, and current output.

Specifications

PV input	**Type**	Selectable from multiple input types: thermocouple, RTD, DC current and DC voltage					
	Sampling cycle	0.1s					
Indication	**Indication method**	4-digit, 7-segment LED. (PV: Upper green display, SP: Lower orange display)					
	Indication accuracy	±0.1% FS ± 1 digit. In the negative area of the thermocouple, the accuracy is ±0.2% FS ± 1 digit (at an ambient temperature of 23 ± 2°C)					
Control output	**Model No. Segment II**	**R0**	**R1**	**V0**	**VC**	**VD**	**VV**
	Control output 1	Relay	Motor drive relay	Voltage pulse (for SSR drive)	Voltage pulse (for SSR drive)	Voltage pulse (for SSR drive)	Voltage pulse (for SSR drive)
	Control output 2	–	–	–	Current	Continuous voltage	Voltage pulse (for SSR drive)
	Model No. Segment II	**C0**	**CC**	**CD**	**D0**	**DD**	
	Control output 1	Current	Current	Current	Continuous voltage	Continuous voltage	
	Control output 2	–	Current	Continuous voltage	–	Continuous voltage	
	Control action	ON/OFF control, Time proportional PID, Current proportional PID					
	No. of PID groups	Max. 8					
	PID auto-tuning	Automatic PID value setting by limit cycle method. However, one of the following 3 control characteristics can be selected: • Standard • Quick disturbance response • Less up-down fluctuation					
Remote switch input	**No. of inputs**	Max. 4					
Event	**No. of outputs**	2 to 3 (according to the model)					
	Type	PV high limit, PV low limit, PV high/low limit, Deviation high limit, Deviation low limit, Deviation high/low limit, etc.					
Communications		RS-485					
Current transformer inputs		2 (option)					
General	**Power**	AC model: 100 to 240Vac 50/60Hz DC model: 24Vac 50/60Hz / 24Vdc					
	Power consumption	AC model: 12VA max. DC model: 12VA max. (24Vac), 8W max. (24Vdc)					
	Standards compliance	CE: EN61010-1,EN61326 cUL: File No. E246616					
	Mass	Approx. 250g (including socket)					

Accessories (sold separately)

Model No.	Description
SLP-C35J50	Smart Loader software with user's manual and loader cable
SLP-C35J51	Smart Loader software without user's manual and loader cable
QN206A	Current transformer (5.8mm dia.)
QN212A	Current transformer (12mm dia.)
81446915-001	Hard cover
81441121-001	Soft cover
81446912-001	Terminal cover

Selection Guide

I II III IV V VI VII Example: **C35TR0UA1000**

Segment	Model No. selection				Description			
I	Basic No.	C35T	↓	↓	Single loop controller			
II	Control output				Output 1	Output 2	Remarks	
		R0	○	○	Relay	–	–	
		R1	○	–	Motor drive relay	–	w/MFB	
		V0	○	○	Voltage pulse (for SSR drive)	–	–	
		VC	○	○	Voltage pulse (for SSR drive)	Current	–	
		VD	○	○	Voltage pulse (for SSR drive)	Continuous voltage (note 1)	–	
		VV	○	○	Voltage pulse (for SSR drive)	Voltage pulse (for SSR drive)	–	
		C0	○	○	Current	–	–	
		CC	○	○	Current	Current	–	
		CD	○	○	Current	Continuous voltage (note 1)	–	
		D0	○	○	Continuous voltage (note 1)	–	–	
		DD	○	○	Continuous voltage (note 1)	Continuous voltage (note 1)	–	
III	PV input	**U**	○	○	Universal (full multi) input			
IV	Power	**A**	○	–	100 to 240Vac 50/60Hz			
		D	–	○	24Vac 50/60Hz, 24 to 48Vdc			
V	Option 1				EV (digital outputs)	Auxiliary output		
		1	○	○	3	–		
		2	○	○	3	Current		
		3	○	○	3	Voltage		
		4	○	–	2 independent outputs	–		
		5	○	–	2 independent outputs	Current		
		6	○	–	2 independent outputs	Voltage		
VI	Option 2				2 CT inputs (note 2)	Digital inputs (DI)	RSP	RS-485 communications
		0	○	○	–	–	–	–
		1	○	○	○	4	–	–
		2	○	○	○	4	–	○
		3	○	○	○	2	○	–
		4	○	○	○	2	○	○
VII	Option 3	**00**	○	○	None			
		D0	○	○	With test data			
		T0	○	○	Tropicalization			
		K0	○	○	Antisulfidization			
		B0	○	○	Tropicalization + test data			
		L0	○	○	Antisulfidization + test data			
		Y0	○	○	With traceability certification			

• A circle (○) denotes availability.

Notes: 1. Selectable from 1–5V, 0–5V and 0–10V.
2. Current transformer input is not available if R1 control output is selected.

Input Types and Ranges

Range code	Input type	Range (°C)
1	K	-200 to +1200
2		0 to 1200
3		0.0 to 800.0
4		0.0 to 600.0
5		0.0 to 400.0
6		-200.0 to +400.0
7		-200.0 to +200.0
8	J	0 to 1200
9		0.0 to 800.0
10		0.0 to 600.0
11		-200.0 to +400.0
12	E	0.0 to 800.0
13		0.0 to 600.0
14	T	-200.0 to +400.0
15	R	0 to 1600
16	S	0 to 1600

Range code	Input type	Range (°C)
17	B	0 to 1800
18	N	0 to 1300
19	PL II	0 to 1300
20	Wre5-26	0 to 1400
21		0 to 2300
22	Ni-NiMo	0 to 1300
23	PR40-20	0 to 1900
24	DIN U	-200.0 to +400.0
25	DIN L	-100.0 to +800.0
26	Gold-iron/Chromel	0.0 to 360.0K (K: Kelvin)
41	Pt100	-200.0 to +500.0
42	JPt100	-200.0 to +500.0
43	Pt100	-200.0 to +200.0
44	JPt100	-200.0 to +200.0
45	Pt100	-100.0 to +300.0
46	JPt100	-100.0 to +300.0

Range code	Input type	Range (°C)
47	Pt100	-100.0 to +200.0
48	JPt100	-100.0 to +200.0
49	Pt100	-100.0 to +150.0
50	JPt100	-100.0 to +150.0
51	Pt100	-50.0 to +200.0
52	JPt100	-50.0 to +200.0
53	Pt100	-50.0 to +100.0
54	JPt100	-50.0 to +100.0
55	Pt100	-60.0 to +40.0
56	JPt100	-60.0 to +40.0
57	Pt100	-40.0 to +60.0
58	JPt100	-40.0 to +60.0
59	Pt100	-10.00 to +60.00
60	JPt100	-10.00 to +60.00
61	Pt100	0.0 to 100.0
62	JPt100	0.0 to 100.0

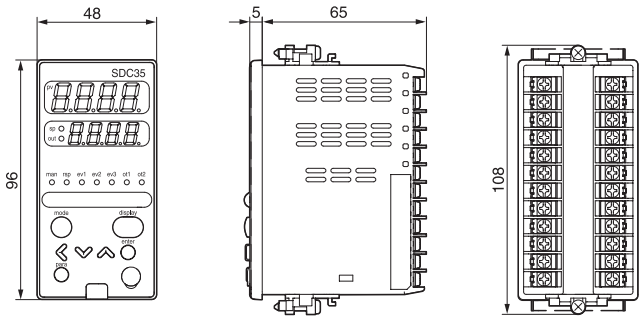
Range code	Input type	Range (°C)
63	Pt100	0.0 to 200.0
64	JPt100	0.0 to 200.0
65	Pt100	0.0 to 300.0
66	JPt100	0.0 to 300.0
67	Pt100	0.0 to 500.0
68	JPt100	0.0 to 500.0
81	0 to 10mV	Scaling range is -1999 to +9999. Decimal point position changeable.
82	-10 to +10mV	
83	0 to 100mV	
84	0 to 1V	
86	1 to 5V	
87	0 to 5V	
88	0 to 10V	
89	0 to 20mA	
90	4 to 20mA	

• °F display is selectable.

Dimensions

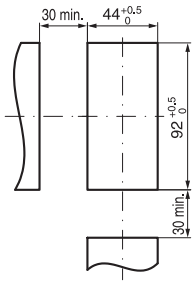
(Unit: mm)

• SDC35

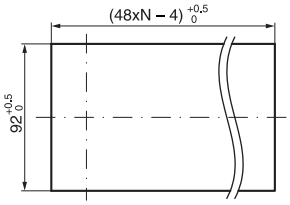


• Panel cutout

Individual mounting



Side-by side mounting



(N: number of units installed)