SDC40B

DigitroniK
Digital Indicating Controller

The SDC40B is a single loop digital indicating controller used for controlling temperature, pressure, flow rate, liquid level, pH value, and many other industrial process variables.

A compact instrument with PID control and various auxiliary functions, the SDC40B offers advanced instrumentation with a high level of cost performance. PC software allows the user to design any combination of functions.

Specifications

Analog input	Input type 1	Multirange: thermocouple, RTD and DC voltage/current
	Input type 2	4–20mA or 1–5Vdc
	Input type 3	1–5Vdc
	Sampling cycle	0.1 to 0.5s
	Accuracy	±0.1% FS
Digital input	No. of inputs	12
	Connectable outputs	Dry relay contact and open collector
	Sampling cycle	0.1 to 0.5s
Computation processing block	Processing	Approx. 80 computational expressions can be assigned to a total of 50 units. Each expression can operate up to max of 4 inputs.
	Computation cycle setting	0.1 to 0.5s
	Output change rate limit	0.0 to 100.0% per computation cycle
	No. of PID groups	8
	PID auto-tuning	Automatic setting of PID value by limit cycle method and neural/fuzzy/smart method
Output processing block	Analog output	M/M driving relay contact, or 4–20mAdc
	Digital output	SPST/SPDT relay contacts, or open collector
Indication & setting	Indicators	No. 1 (5-digit, 7-segment, green), No.2 (5-digit, 7-segment, orange) No. 3 (2-digit, 7-segment, orange), and Bar LED (analog/digital monitoring, green)
Communications		RS-485, RS-232C
General	Memory backup	User setting, semiconductor nonvolatile memory, Model/LSP/control output/hold computation: RAM backed up by super capacitor (stored for 24 hrs)
	Power	100 to 240Vac, 50/60Hz, 24Vdc
	Power consumption	30VA max.
	Ambient temperature	0 to 50°C
	Ambient humidity	10 to 90% RH (without condensation)
	Standards compliance	CE: EN61010-1,EN61326
	Mass	Approx. 900g

Selection Guide

I II III IV V VI VII Example: **C40B2G4AS061D0**

Segment	Model No. selection				Description
I	Basic No.	C40B	↓	↓	Digital indicating controller
II	Control output	2G	○	–	Position proportional PID (M/M drive relay contact)
		5G	–	○	Continuous proportional (4–20mAdc)
III	Inputs	4	○	○	Thermocouple, RTD, DC voltage/current
IV	Power supply	AS	○	○	100 to 240Vac 50/60Hz
		DS	○	○	24Vdc
V	Option 1	06	○	–	1 auxiliary output, 12 digital inputs, 8 digital outputs (3 relays and 5 open collectors)
		09	–	○	Same as above except 2 auxiliary outputs
VI	Communications	1	○	○	None
		2	○	○	RS-485
		3	○	○	RS-232C
VII	Option 2	00	○	○	None
		T0	○	○	Tropicalization
		K0	○	○	Antisulfidization
		D0	○	○	With test data
		B0	○	○	Tropicalization + test data
		L0	○	○	Antisulfidization + test data
		Y0	○	○	With traceability certification

• A circle (○) denotes availability.

Accessories (sold separately)

Model No.	Description
SLPC4B-00H	Smart Loader Package (MS-DOS)
81446083-001	Hard dustproof cover
80446087-001	Soft dustproof cover
81446084-001	Terminal cover

Input Types and Ranges

■ Input 1:

• Thermocouple

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

Range code	Input type	Range (°C)
10	R (PR13)	0.0 to 1600.0
11	S (PR10)	0.0 to 1600.0
12	W (WRe5-26)	0.0 to 2300.0
13		0.0 to 1400.0
14	PR40-20	0.0 to 1900.0
15	Ni-Ni·Mo	0.0 to 1300.0
16	N	0.0 to 1300.0
17	PL II	0.0 to 1300.0
18	DIN U	-200.0 to +400.0
19	DIN L	-200.0 to +800.0

• °F display is selectable.

• Resistance temperature detector (RTD)

Range code	Input type	Range (°C)
32	JIS '89 Pt100 (IEC Pt100Ω)	-200.0 to +500.0
33		-200.0 to +200.0
34		-100.0 to +150.0
35		-50.0 to +200.0
36		-60.00 to +300.0
37		-40.00 to +40.00
38		0.0 to 500.0
39		0.0 to 300.0
40		0.00 to 100.00

Range code	Input type	Range (°C)
48	JIS '89 JPt100	-200.0 to +500.0
49		-200.0 to +200.0
50		-100.0 to +150.0
51		-50.0 to +200.0
52		-60.00 to +40.00
53		-40.00 to +60.00
54		0.0 to 500.0
55		0.0 to 300.0
56		0.00 to 100.00

• °F display is selectable.

• DC current/voltage

Range code	Input type	Range (programmable)
64	4 to 20mA	-19999 to +26000
65	0 to 20mA	
66	0 to 10mV	
67	-10 to +10mV	
68	0 to 100mV	

Range code	Input type	Range (programmable)
69	0 to 1V	-19999 to +26000
70	-1 to +1V	
71	1 to 5V	
72	0 to 5V	
73	0 to 10V	

■ Input 2:

• DC current/voltage

Range code	Input type	Range (programmable)
0	4 to 20mA	-19999 to +26000

Range code	Input type	Range (programmable)
1	1 to 5V	-19999 to +26000

■ Input 3:

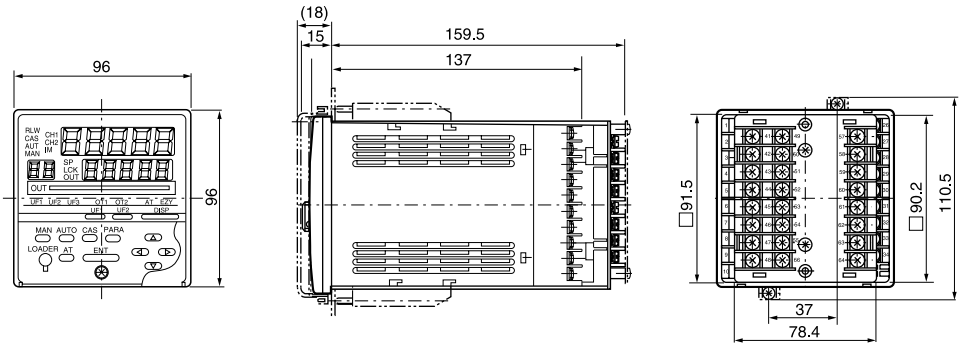
• DC voltage

Input type	Range (programmable)
1 to 5V	-19999 to +26000

Dimensions

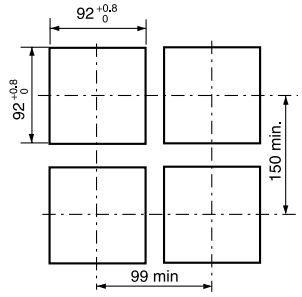
(Unit: mm)

• **SDC40B**

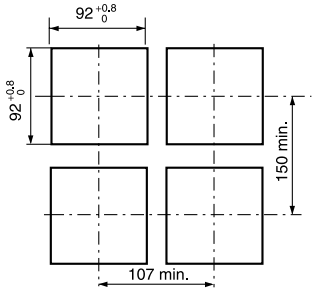


• **Panel cutout**

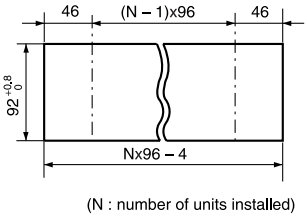
Individual standard mounting or with soft dustproof cover



Individual mounting with hard dustproof cover



Side-by-side mounting



(N : number of units installed)

Functional structure

- Input . . . . . Analog inputs: 3
  Digital inputs: 12
- Output. . . . . Analog output: 3 (5G), 2 (2G)
  Digital output: 8
- Number of computational expressions: Approx. 80
- Number of computational units: 50
- Variable parameters. . . . %: 40, time: 10
  Flag: 20, Index: 10
- Fixed parameters. . . . . Unlimited number
- Number of PID units: . . . . Up to 2 units
- Number of PID parameter groups: 8
- Engineering unit parameters: 8 per PID, a total of 16
- Linearization tables:. . . . . 3 tables (connectable), 16 points per table
- PTB (%→%) tables:. . . . . 4 tables with 16 points per table that can be used as linearization tables
- TTB (%→time) tables: . . . 4 tables with 16 points per table

■ Block diagram of functions