



SDC46A

Super DigitroniK Digital Indicating Controller

The DigitroniK SDC46A is a highly advanced, high-precision compact digital indicating controller. It offers PID control using the latest "RationalLOOP" and "Just-FITTER" algorithms.

Up to seven control outputs (depending on the mode) are available, selectable from relay contact, voltage pulse, triac (for position proportional output), current, continuous voltage, and transmitter power (24 Vdc).



DIGITAL CONTROLLERS

Specifications

PV input (common for PV1 and PV2)	Type	Thermocouple, RTD, DC current and DC voltage
	Sampling cycle	25ms, 50ms, 100ms, 300ms
Indication	Indication method	5-digit, 7-segment LED, 3-digit, 11-segment LED.
	Indication accuracy	±0.1% rdg. ± 1digit (depending on the range)
Control output	No. of outputs	7max.
	Type	Relay, voltage pulse, DC current, DC voltage, motor drive (triac), transmitter power supply (24Vdc)
	Control action	PID
	No. of PID groups	16
	Auto tuning	Calculation of PID values by limit cycle method
DI	No. of inputs	14max. (for models with CT input: 12max.)
	Functions	LSP No., READY/RUN selection, etc.

DO (transistor)	No. of outputs	8max.
	Functions	PV, SP, deviation, controller alarm, etc.
Communications	Communication system	RS-485
	Network	Connect up to 31 units
	Speed	Up to 38400bps
General	Power	AC power model: 100-240V, 50/60Hz DC power model: 24Vdc
	Power consumption	AC power model: 40VA max. DC power model: 15W max.
	Front panel protection	IP65
	Standards compliance	CE: EN61010-1, EN61326
	Mass	700g

Selection Guide

● Detailed model No.

(useful for equipment manufacturers)

I II III IV V VI VII VIII IX X Example: **C46A1A1C00000**

Segment	Model No. selection	Description				
I	Basic No. C46A	Standard model				
II	Inputs	1 1 input (full multiple 1) 2 2 inputs (full multiple 2)				
	Power	A 100 to 240 Vac D 24 Vdc				
IV	Outputs 1 and 2	1 1 form 1a1b relay 2 2 form 1a relays				
	V	Outputs 3 and 4	C0 Current output (output 3) D0 Continuous voltage output (output 3) V0 Voltage pulse output (output 3) RR 2 form 1a relays CC 2 current outputs VV 2 voltage pulse outputs CV Current (output 3) + voltage pulse (output 4) SS Motor drive triac + MFB input R1 Motor drive relay + MFB input			
VI		Output 5	0 None (note 2) R Form 1a relay (note 2) C Current output (note 2) D Continuous voltage output (note 2) P Transmitter power supply (note 2)			
		VII	Outputs 6 and 7	0 None 1 Current output (output 6) 2 Transmitter power supply (output 7) 3 2 current outputs (note 1) 4 Current (output 6) + transmitter power supply (output 7)		
			VIII	Options	0 2 digital inputs (DI-F1, 2) (note 3) 1 14 digital inputs (note 4) 2 14 digital inputs + 8 digital outputs (note 4) 3 14 digital inputs + 8 digital outputs + RS-485 communications (note 4) 4 2 CT inputs (note 5) 5 2 CT inputs + 12 digital inputs (note 5) 6 2 CT inputs + 12 digital inputs + 8 digital outputs (note 5) 7 2 CT inputs + 12 digital inputs + 8 digital outputs + RS-485 communications 1 (note 5)	
				IX	Additional features 1	0 None T Tropicalization K Antisulfidization D Inspection certificate B Tropicalization + inspection certificate L Antisulfidization + inspection certificate Y With traceability certification Z Tropicalization + traceability certification X Antisulfidization + traceability certification
					X	Additional features 2

- Notes : 1 . Not available if "CC" is selected for Outputs 3, 4 and "C" is selected for Output 5.
2 . Selection must be "0" if "R1" is selected for Outputs 3, 4.
3 . There are no digital inputs if "SS" or "R1" is selected for Outputs 3, 4.
4 . There are 12 digital inputs if "SS" or "R1" is selected for Outputs 3, 4.
5 . Not available if "SS" or "R1" is selected for Outputs 3, 4.

● Combined function model No. (with all-orange LED displays)

(useful for engineering manufacturers and factory maintenance staff)

I II III IV Example: **C46A000**

Segment	Model No. selection	Description
I	Basic No. C46A	Standard model : 2 alarm outputs (output 1, 2) + 1 current output (output 6)
II	Set No. 0	None
III	Option 1	0 Regular type 1: 2 relay outputs (output 3, 4) + 1 current output (output 5) + 2 digital inputs (DI-F 1, 2)
		1 Regular type 2: 1 current output (output 3) + 1 voltage pulse output (output 4) + 1 relay output (output 5) + 2 digital inputs (DI-F 1, 2)
		2 Position proportion type 1: 2 triac outputs (output 3, 4) + 1 relay output (output 5)
		3 Regular type 3: 2 current outputs (output 3, 4) + transmitter power supply (24 Vdc) (output 7) + 2 digital inputs (DI-F 1, 2)
IV	Option 2	4 Position proportion type 2: 2 triac outputs (output 3, 4) + 1 relay output (output 5) transmitter power supply (24 Vdc) (output 7)
		0 None
		1 Communications (RS-485) + PV inputs 2 + 12 digital inputs + 8 digital outputs
		2 PV input 2 + 12 digital inputs + 8 digital outputs
	3 12 digital inputs + 8 digital outputs	
	4 PV input 2	

Input Types and Ranges

Input type	Pv-01	Sensor type	Range
Thermocouple	1	K	-270.0 to +1372.0 °C
	2	E	-270.0 to +1000.0 °C
	3	J	-200.0 to +1200.0 °C
	4	T	-270.0 to +400.0 °C
	5	B	0.0 to 1800.0 °C
	6	R	-50.0 to +1768.0 °C
	7	S	-50.0 to +1768.0 °C
	8	W(WRe5-26)	0.0 to 2300.0 °C
	9	PR40-20	0.0 to 1900.0 °C
	10	Ni-NiMo	0.0 to 1300.0 °C
	11	N	-200.0 to +1300.0 °C
	12	PL II	0.0 to 1390.0 °C
	13	DIN U	-200.0 to 600.0 °C
	14	DIN L	-200.0 to +900.0 °C
	15	Gold-iron/Chromel	-273.0 to +27.0 °C

Input type	Pv-01	Sensor type	Range
RTD	21	Pt100	-200.0 to +850.0 °C
	22		-200.00 to +300.00 °C
	31	JPt100	-200.0 to +640.0 °C
	32		-200.00 to +300.00 °C
Linear (DC voltage/current)	41	Current	4 to 20 mA
	42		0 to 20 mA
	43		0 to 10 mA
	44	Voltage	-10 to +10 mV
	45		0 to 100 mV
	46		-100 to +100 mV
	47		0 to 1 V
	48		-1 to +1 V
	49		1 to 5 V
	50		0 to 5 V
	51		0 to 10 V

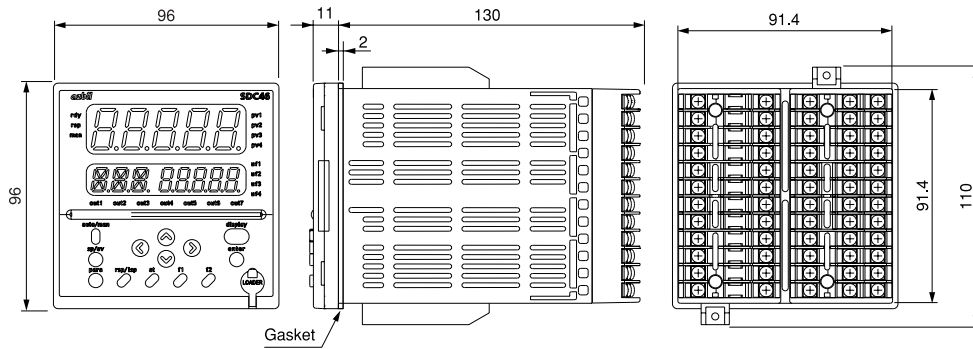
Accessories (sold separately)

Model No.	Description
SLP-C45J60	Smart Loader Package
SLP-C45J61	Smart Loader Package (Without user's manual and loader cable)
QN206A	Current transformer (5.8mm dia. hole)
QN212A	Current transformer (12mm dia. hole)
81441422-001	Hard cover
81441420-001	Terminal cover (The SDC46A needs 2 units.)

Dimensions

(Unit: mm)

• C46A



• Panel cutout

