

## Selection Guide

### ●SDC45V I II III IV V VI VII VIII IX X Example: C45V2A1C000000

Segment	Model No. selection	Description						
I	Basic model No. C45V	Computation function model						
	Input	2 2-input model (full-multi: 2) 3 3-input model (full-multi: 1, DC current / voltage: 2)						
III	Power supply	A 100 to 240 Vac D 24Vdc (note 3)						
		Outputs 1, 2	1 1a1b relay: 1 2 1a relay: 2					
V	Outputs 3, 4	C0 Current (OUT3) D0 Continuous voltage (OUT3) V0 Voltage pulse (OUT3) RR 1a relay + 1a relay CC Current + current VV Voltage pulse + voltage pulse CV Current (OUT3) + voltage pulse (OUT4) SS Motor drive triac, MFB input: 1						
		VI	Output 5	0 None R 1a relay C Current D Continuous voltage P Power supply for signal transmitter				
				VII	Outputs 6, 7	0 None 1 DI: 2 (terminals F1 and F2) (note 1) 2 DI: 10 (note 2) 3 DI: 2, DO: 8 (note 1) 4 CT input: 2 (note 3) 5 CT input: 2, DI: 8 (note 3) 6 CT input: 2, DO: 8 (note 3) 7 CT input: 2, DO: 8, RS-485 (note 3)		
						IX	Addition 1	0 None D Inspection certificate Y Supports traceability certification
								X

Notes : 1. There are no digital inputs if "SS" is selected for Outputs 3, 4.  
2. There are 8 digital inputs if "SS" is selected for Outputs 3, 4.  
3. Cannot be selected if "SS" is selected for Outputs 3, 4.

Order this product by specifying a model No. beginning with C45V\*\*.

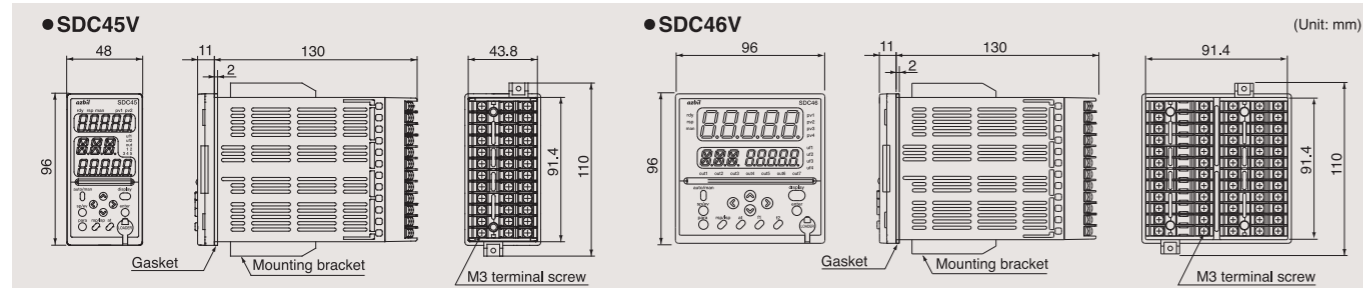
\* Additionally, tropicalization and anti-sulfidation treatments can be ordered. However, there are some specifications restrictions. For details, contact the azbil Group.

## Accessories (sold separately)

Model No.	Description
SLP-C45J60	Smart Loader Package
81441420-001	Terminal cover set*
81441421-001	Hard cover set (for SDC45)
81441422-001	Hard cover set (for SDC46)

\*: 2 sets are needed for the SDC46V.

## Dimensions



Information about Standards	
<b>EMC Directive:</b>	Requires that the electromagnetism generated by the device does not interfere with the operation of communications equipment, and that the device have a certain level of resistance to electromagnetic interference. EN 61326 applies EMC requirements to electric devices for measurement, control and testing.
<b>Low-Voltage Directive:</b>	Requires that devices are safe, that high-level engineering has been applied to ensure safety, and that the design has been made in accordance with the general rules recognized by EU member countries. EN61010-1 defines the safety requirements for electric equipment of measurement, control and test equipment (Part 1: general information).

Please, read 'Terms and Conditions' from following URL before the order and use.

<http://www.azbil.com/products/factory/order.html>

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## Azbil Corporation Advanced Automation Company

Yamatake Corporation changed its name to Azbil Corporation on April 1, 2012.

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# azbil

## Multi Loop Controller with Multi-Input Computation Function SDC45V/46V



*Fresh ideas and advanced functions,  
extending the boundaries of  
next-generation control*



# Evolution Style II

## New top-of-the-line models for the powerful SDC Series

These advanced models offer the ultimate in instrumentation and control.

Dual-input computation capability and temperature-pressure correction are built in.

Sophisticated control can be created with functions like input signal changeover, output signal changeover, and averaged value control.

### 1 Built-in dual-input computation

#### Signal flow

#### Computation details

#### 21 computation functions

Single-input computation	Dual-input computation
First order lag filter	Add/subtract
Ratio/bias	Multiplication
High/low limiter	Division
Changing rate limiter	High selector
Advance	Low selector
Advance/delay	Switch selector
Absolute value	Change point selector
Linearization table	Soft switch selector
Maximum value hold	
Minimum value hold	
Hold	
Preset value	
Soft preset value	



### 2 Examples of what computation functions can do

- Sensor input changeover
- Control using the average of 2 inputs
- Dual-input/one-output control
- Override control
- Feed-forward control, etc.

Enhanced computation = new possibilities for control

### 4 Behavior at power-ON selectable

- Hot start (max. setting: 32000 s)
- Cold start
- Hot start operation: MV (control output) is recorded just before power OFF, so control can restart with that MV when power is turned ON.

### 3 Handles temperature and pressure compensation for flow rate measurements and acts as a 24 Vdc power supply (for transmitter, etc.) for up to 3 analog inputs.

### 5 Since one controller can take up to 3 analog inputs, 1 can be used for remote SP input, and 2 for cascade control.

### Specifications

PV1 input	Type	Thermocouple, RTD, DC current/voltage
	Range	(See Input Type and Range table)
PV2 input (2-input model)	Type	Thermocouple, RTD, DC current/voltage
	Range	(See Input Type and Range table)
PV21 (3-input model)	Type	DC current/voltage
	Range	0-20 mA, 4-20 mA, 0-5 V, 1-5 V and 0-10 V
PV22 (3-input model)	Type	DC voltage
	Range	0-5 V, 1-5 V and 0-10 V
PV input	Sampling cycle	100 ms
	Indication	Type: 5-digit, 7-segment and 3-digit, 11-segment digital displays Accuracy: ±0.1% rdg ±1 digit (depending on range)
Output	No. of outputs	SDC45V: 5 max., SDC46V: 7 max.
	Type	Relay, voltage pulse, DC current and voltage, motor drive, power supply for signal transmitter (24 Vdc)
	Control mode	PID (direct action, reverse action, heat/cool)
	No. of PID groups	16
DI	No. of inputs	SDC45V: 10 max., SDC46V: 14 max.
	Function	LSP change, READY/RUN changeover, indication changeover, etc.
DO	No. of outputs	8 max.
	Function	Process value, set value, deviation value, device alarm, etc.
Communications	Type	RS-485
	No. of connected units	31 max.
	Speed	34,8000 bps max.
General	Power	100 to 240 Vac
	Power consumption	SDC45V: 30 VA max., SDC46V: 40 VA max.
	Battery life	3 years without connection to power (at 20 °C ambient temperature)
	Certification	CE marking (EN61010-1, EN61326), cUL (UL61010-1)*
	Front panel protection	IP65
	Mass	SDC45V: 400 g max., SDC46V: 700 g max.

\*. Varies depending on the model.

### Input Type and Range

Sensor	Sensor type	Range (°C)	Range (°F)
Thermocouple	K	-270.0 to +1372.0	-454 to +2502
	E	-270.0 to +1000.0	-454 to +1832
	J	-200.0 to +1200.0	-328 to +2192
	T	-270.0 to +400.0	-454 to +752
	B	0.0 to 1800.0	32 to 3272
RTD	R	-50.0 to +1768.0	-58 to +3214
	S	-50.0 to +1768.0	-58 to +3214
	WRe5-26	0.0 to 2300.0	32 to 4172
	PR40-20	0.0 to 1900.0	32 to 3452
	Ni-Mo-Ni	0.0 to 1300.0	32 to 2372
	N	-200.0 to +1300.0	-328 to +2372
	PL II	0.0 to 1390.0	32 to 2534
	DIN U	-200.0 to +600.0	-328 to +1112
	DIN L	-200.0 to +900.0	-328 to +1652
	Gold-iron/Chromel	-273.0 to +27.0	-459 to +80
DC current/voltage	Current		4 to 20mA
			0 to 20mA
	Voltage		0 to 10mV
			-10 to +10mV

#### Input sensor standards

- Thermocouple: K, J, E, T, R, S, B, N: JIS C 1602-1995; PL II: ASTM E1751-00; WRe5-26: ASTM E988-96 (reapproved 2002); Ni-Mo-Ni: ASTM E1751-00; PR40-20: ASTM E1751-00; DIN U, DIN L: DIN 43710-1985; Gold-iron/Chromel: ASTM E1751-00
- RTD: Pt100: JIS C 1604-1997; JPt100: JIS C 1604-1989