

# Single Loop Controller | SDC15



\* For our cUL certification status, contact our sales representatives.

The SDC15 Single Loop Controller is a 48 × 48 mm compact digital controller featuring group multi-range inputs and a PID control system using the new “RationalLOOP PID” (Ra-PID) and “Just-FITTER” algorithms.

Up to 2 control outputs are available (depending on the model), selectable from relay contact, voltage pulse, and current. Two kinds of mounting method are provided: panel mounting and socket mounting. Compatible with the Smart Loader Package, which facilitates setup and monitoring.



## Specifications

PV input	Input type	Thermocouple, resistance thermometer detector, DC current, DC voltage (selected by model)					
	Sampling cycle	0.5 s					
Indication	Indication method	4-digit, 7-segment LED (PV: upper green display, SP: lower orange display)					
	Indication accuracy	±0.5% FS±1 digit (in the negative area of the thermocouple, the accuracy is ±1% FS±1 digit) (at an ambient temperature of 23 ± 2 °C)					
Control	Code	R0	V0	VC	VV	C0	CC
	Control output #1	Relay contact	Voltage pulse (for SSR drive)	Voltage pulse (for SSR drive)	Voltage pulse (for SSR drive)	Current	Current
	Control output #2	None	None	Current	Voltage pulse (for SSR drive)	None	Current
Control method	1. ON/OFF control 2. Control with fixed PID value (RationalLOOP PID) 3. Self-tuning						
External switch input	Number of inputs	2					
	Function	Up to 4 kinds of setting value (SP) options, RUN/READY selection, AUTO/MANUAL selection, auto tuning stop/start, etc.					
Event	Number of outputs	0 to 3 (depending on the model)					
	Event type	PV high limit, PV low limit, PV high/low limit, deviation high limit, deviation low limit, deviation high/low limit, etc.					
Communication specification	RS-485						
Current transformer input	Number of inputs	2					
General specifications	Rated power supply voltage	AC power supply model: 100 to 240 Vac 50/60 Hz DC power supply model: 24 Vac 50/60 Hz, 24 to 48 Vdc					
	Power consumption	AC power supply model: 12 VA or less DC power supply model: 7 VA or less (24 Vac), 5 W or less (24 to 48 Vdc)					
	Weight	S type: Approx. 200 g (including socket) T type: Approx. 150 g (including mounting bracket)					

## Input list

Input type	Symbol
Thermocouple	K, J, E, T, R, S, B, N, WRe5-26, DIN U, DIN L, PL II
Resistance thermometer detector	Pt100, JPt100
Linear input	1 to 5 V, 0 to 5 V, 0 to 1 V 0 to 10 V, 0 to 20 mA, 4 to 20 mA

## Standards for input sensor

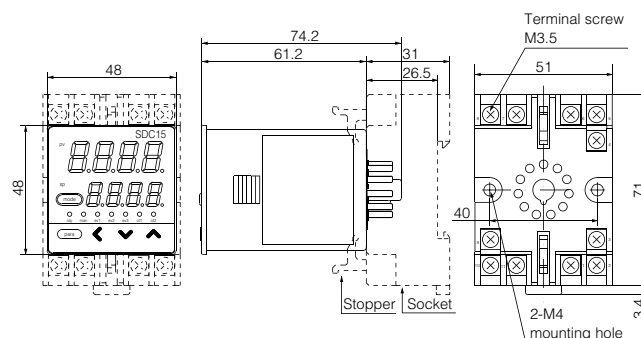
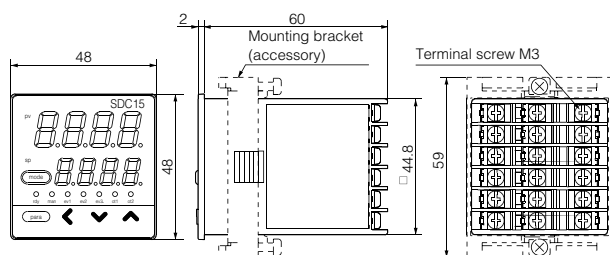
Thermocouple	K, J, E, T, R, S, B, N: JIS C 1602-1995 PL II: material from Engelhard Industries (ITS90) WRe5-26: ASTM E988-96 (Reapproved 2002) DIN U, DIN L: DIN 43710-1985
Resistance thermometer detector	Pt100: JIS C 1604-1997 JPt100: JIS C 1604-1989

## External dimensions

### Panel mounting type

### Socket mounting type

(Unit: mm)



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## Model No. configuration

Ex.: C15TR0TA0000

Basic model No.	Mounting	Control output	PV input	Power supply voltage	Option	Addition	Description
C15							Single Loop Controller
	T						Panel mounting type
	S <sup>*4</sup>						Socket mounting type
							Control output 1
							Control output 2
			R0 <sup>*2</sup>				Relay output
			V0				Voltage pulse output (for SSR drive)
			VC <sup>*1</sup>				Voltage pulse output (for SSR drive)
			VV <sup>*1</sup>				Voltage pulse output (for SSR drive)
			C0				Current output
			CC <sup>*1</sup>				Current output
				T			Thermocouple input (K, J, E, T, R, S, B, N, Wre5-26, DIN U, DIN L)
				R			Resistance thermometer detector input (Pt100/JPt100)
				L			DC voltage/current input (0 to 1 Vdc, 1 to 5 Vdc, 0 to 5 Vdc, 0 to 10 Vdc, 0 to 20 mAdc, 4 to 20 mAdc)
					A		100 to 240 Vac 50/60 Hz
					D		24 Vac 50/60 Hz, 24 to 48 Vdc
					00		None
					01		Event relay outputs: 3
					02 <sup>*1</sup> *3		Event relay outputs: 3 + current transformer inputs: 2 + digital inputs: 2
					03 <sup>*1</sup> *3		Event relay outputs: 3 + current transformer inputs: 2 + RS-485 communication
				04 <sup>*5</sup>		Event relay outputs: 2 (independent contact)	
				05 <sup>*1</sup> *3 *5		Event relay outputs: 2 (independent contact) + current transformer inputs: 2 + digital inputs: 2	
				06 <sup>*1</sup> *3 *5		Event relay outputs: 2 (independent contact) + current transformer inputs: 2 + RS-485 communication	
				00		None	
				D0		Inspection certificate	
				Y0		Supports traceability certification	

Order this product by specifying a model No. beginning with C15\*\*.

- \*1. Cannot be selected for C15S.
- \*2. Only 1a contact is applicable for C15S.
- \*3. Current transformer sold separately.
- \*4. Socket sold separately.
- \*5. Cannot be selected for 24 Vdc model.

### Optional parts (sold separately)

Name	Model No.
Smart Loader Package	SLP-C35J50
Smart Loader Package without user's manual and loader cable	SLP-C35J51
Terminal cover	81446898-001
Dedicated socket (for C15S)	81446391-001
Current transformer (5.8 mm dia. hole)	QN206A
Current transformer (12 mm dia. hole)	QN212A
Cover, hard	81446442-001
Cover, soft	81446443-001
Mounting bracket (supplied with C15T, also fits C15S)	81446403-001
L-shape extension loader cable	81441057-001
Gasket (20 pcs/package)	81446918-001

**1** DIGITAL CONTROLLERS  
**2** RECORDERS, INDICATORS  
**3** CONVERTERS  
**4** FLAME SAFEGUARD SYSTEM  
**5** ACTUATORS  
**6** SENSORS  
**7** GAS FLOW MEASUREMENT AND CONTROL PRODUCTS