YAMATAKE

No.CP—PC—1417E

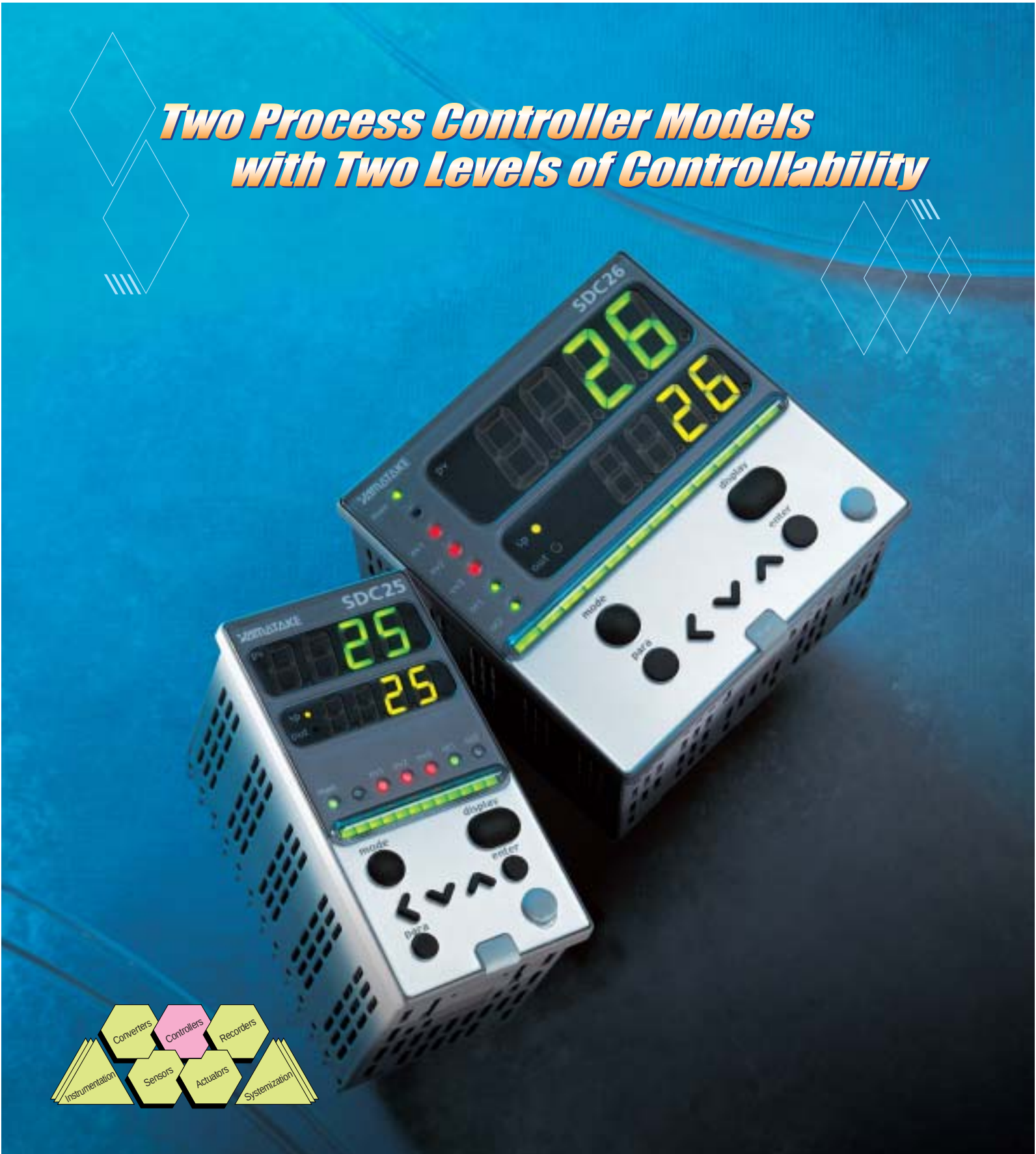
Super DigitroniK Line

SDC25/26

Digital Indicating Controller

CE marking compliant (EN61010-1 EN61326-1)

Two Process Controller Models with Two Levels of Controllability



FineStyle

The new standard for controllers. New easy-to-use functions based on leading-edge concepts.

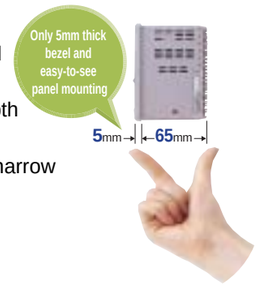
Integration of a new algorithm, high accuracy (±0.3%FS) and sampling cycle 0.3 seconds.
A new type of controller designed for ever-changing demands of industry.

Hardware

Ideal design and style with easy-to-use functions.

Simple design and compact

Simple design not available in conventional models.
The world's shortest depth of 65mm. Thin bezel of only 5mm. Just fits into narrow mounting locations.



Rubber keys

Finger-friendly rubber buttons adopted.
Unique design enhances ease of operation.

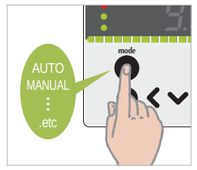
Operation & Monitoring

Easy-to-see display and reliable operability assured simultaneously.

The mode button for easy switching of operational parameters

The following operations can be easily and quickly accessed by pressing the mode key:

- AUTO/MANUAL, RUN/READY, contact latch cancellation, etc.



Powerful, multi-status indicator

Multi-status analog lamp indicator is assignable to several parameters (i.e. alarms, outputs, etc.)

- As an indicator of output
- Can be set to flash as an alarm indicator
  (Ex. High speed flashing at alarm occurrence, and lighting of all indicators at normal operation, etc.)

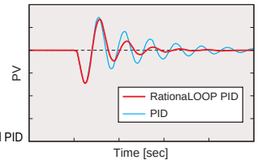
Control

Revolutionary control logic, not just PID and fuzzy logic.

Greatly improved controllability ensured with a brand new algorithm

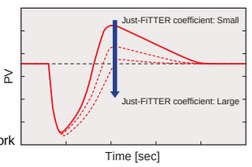
Stable control that is unaffected by disturbances has been realized by including the highly accurate “RationaLOOP PID” control logic and the “Just-FiTTER” algorithm which is very effective in suppressing overshoot.

- **RationaLOOP PID**
  Hunting is suppressed almost immediately with the addition of RationaLOOP PID to the conventional PID.



Difference between RationaLOOP PID and PID

- **Just-FiTTER**
  Just-FiTTER is an algorithm that restricts overshoot within the disturbance response and step response functions.

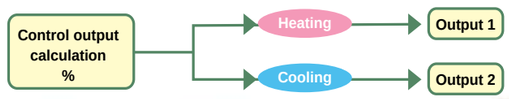


Just-FiTTER at work

Reliable heat/cool control

Heat/cool control can be customized with the SDC25/26. Direct or reverse control outputs can be assigned easily.

(Ex.) • Control output at heat control → Output 1
• Control output at cool control → Output 2



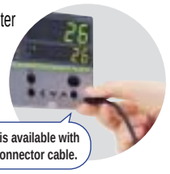
<Heat/cool control function is selected bymodel number.>

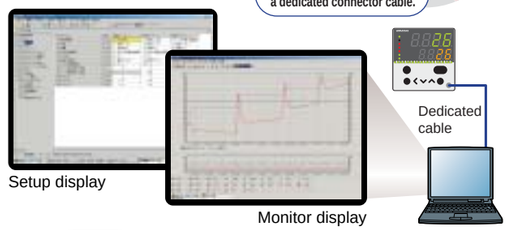
Software

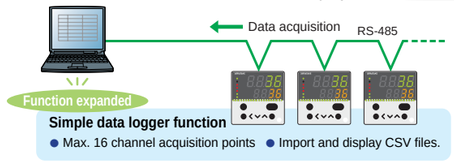
Software functionality provides additional application flexibility.

New methods of installation, operation, and monitoring utilizing a wide variety of software functions

The SDC25/26 can be conveniently connected to a computer via our PC loader software (connection via dedicated connector cable). The software contains various functions such as parameter settings, trend monitoring and CSV output of acquisition data.

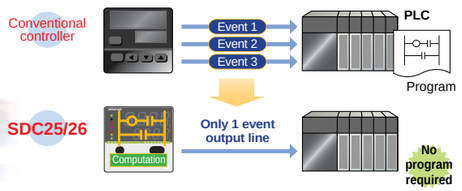






Up to 3 configurable event outputs available as a standard option

Up to 3 event output points are available with the SDC25/26. Additionally, a maximum of 5 internal event points is also provided. These internal events can be assigned to the 3 event outputs using logic operation. The wiring reduction achieved by utilizing these internal events results in labor cost savings for wiring to a PLC or other devices in the system.



The wide variety of inputs and outputs of the SDC25/26 can be used to fulfill various application requirements.

Heat/cool function
Heat/cool control with 2nd control output or event output (D/O).

Maximum 3 analog outputs
PV, MV, etc. can be freely assigned.

Digital inputs (D/I) (optional)
Setting of values or RUN/READY switching can be performed remotely by optional 4-point digital input.

A 2nd control output available
Flexible 2nd output can be used for heat/cool control or an array of application requirements. (Current, voltage pulse)

3 event outputs (D/O)
Three event outputs (D/O) are available as standard function.

Communications (optional)
An optional RS-485 (3-wire system) is available.

All models connectable to a PC loader
Various settings and monitoring can be performed from a PC loader.

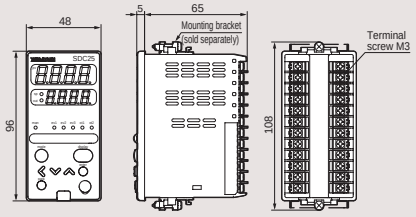
Specifications

PV input	**Type**	Thermocouple, RTD, DC voltage, DC current.					
	Range	Refer to the input type and range table.					
	Sampling cycle	0.3 seconds					
Indication	**Method**	Digital 4-digit, 7-segment					
	Accuracy	±0.3%FS±1 digit					
Control output	**Model No.**	**R0**	**V0**	**C0**	**VC**	**VV**	**CC**
	Control mode	ON/OFF control, time proportional PID, current proportional PID					
	1st control output	Relay	Voltage pulse	Current	Voltage pulse	Voltage pulse	Current
	2nd control output	–	–	–	Current	Voltage pulse	Current
	No. of PID groups	4					
	PID auto-tuning	Automatic setting of PID values by limit cycle method (selectable from normal type, quick response type or stability tape)					
External switch input	**No. of inputs**	Max. 4 points					
	Function	LSP No., PID group No., READY/RUN changeover, timer start/stop, etc.					
Event	**No. of outputs**	Max. 3 points					
	Function	Selectable from process variable (PV), set point (SP), deviation value, absolute value, alarm, timer output, heater line break alarm, etc.					
Heater line break alarm	**No. of inputs**	2 points (optional)					
Analog output	**No. of outputs**	Max. 3 points					
	Type	Selectable from PV, SP or MV					
Communication	**Communication system**	RS-485					
	No. of connectable units	Max. 31 units					
	Communication speed	Max. 38400bps					
Additional processing	Inspection certificate and traceability certification supported						
General	**Rated power supply**	AC power supply model: 100 to 240Vac 50/60Hz					
	Power consumption	SDC25 AC power supply model: 12VA SDC26 AC power supply model: 12VA					
	Approval bodies	CE marking compliant					
	Weight (mass)	SDC25: 250g, SDC26: 300g					

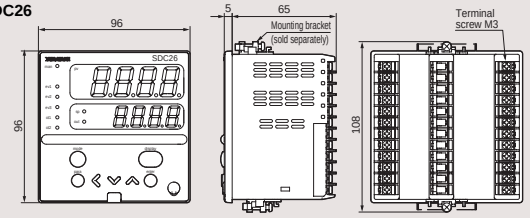
Dimensions

(Unit: mm)

●SDC25



●SDC26



Software (sold separately)

Model No.	Name and specifications
SLP-C35J50	SLP-C35 standard loader for the SDC25/26 Version 2.0CD with loader cable
SLP-C35J51	SLP-C35 standard loader for the SDC25/26 Version 2.0CD, operation manual, without loader cable

Optional Devices (sold separately)

Model No.	Name and specifications
QN206A	Current transformer (5.8mm dia.)
QN212A	Current transformer (12mm dia.)
81446915-001	Hard cover for the SDC25
81446916-001	Hard cover for the SDC26
81446912-001	Terminal cover for the SDC25
81446913-001	Terminal cover for the SDC26
81409654-001	Mounting bracket (included with the controller)

Selection Guide

I II III IV V VI VII Example: **C25TR0UA1000**

Table	Selection		Description		
I	Basic model No.	**C25T**	Digital Indicating Controller (48x96mm size)		
		C26T	Digital Indicating Controller (96x96mm size)		
II	Control output		**Output 1**	**Output 2**	
		R0	Relay	–	
		V0	Voltage pulse	–	
		C0	Current	–	
		VC	Voltage pulse	Current	
		VV	Voltage pulse	Voltage pulse	
		CC	Current	Current	
III	Input type	**U**	Universal (full multi) input		
IV	Power supply	**A**	100 to 240Vac		
		D	24Vac/24Vdc (available soon)		
V	Option (1)		**EV (DO)**	**Auxiliary output**	
		1	3 points	–	
		2	3 points	Current	
	(Note)	**4**	Independent 2 points	–	
	(Note)	**5**	Independent 2 points	Current	
VI	Option (2)		**CT**	**DI**	**Communication**
		0	–	–	–
		1	2 points	4 points	–
		2	2 points	4 points	RS-485
VII	Additional processing	**00**	None		
		D0	w/test data		
		Y0	w/traceability certification		

Note: Not selectable with the DC power supply model.

Input Type and Range

Sensor	Sensor type	Range (°C)	Range (°F)
Thermo-couple	K	–200 to +1200	–300 to +2200
		0 to 1200	0 to 2200
		0 to 800	0 to 1500
		0.0 to 600.0	0 to 1100
		0.0 to 400.0	0 to 700
		–200.0 to +400.0	–300 to +700
		–200.0 to +200.0	–300 to +400
	J	0 to 1200	0 to 2200
		0.0 to 800.0	0 to 1500
		0.0 to 600.0	0 to 1100
		–200.0 to +400.0	–300 to +700
	E	0.0 to 800.0	0 to 1500
		0.0 to 600.0	0 to 1100
	T	–200.0 to +400.0	–300 to +700
	R	0 to 1600	0 to 3000
	S	0 to 1600	0 to 3000
	B	0 to 1800	0 to 3300
	N	0 to 1300	0 to 2300
	PL II	0 to 1300	0 to 2300
	WRe5-26	0 to 1400	0 to 2400
	WRe5-26	0 to 2300	0 to 4200
	Ni-NiMo	0 to 1300	0 to 2300
	PR40-20	0 to 1900	0 to 3400
	DIN U	–200.0 to +400.0	–300 to +700
	DIN L	–100.0 to +800.0	–150 to +1500
	Golden iron chromel	0.0K to 360.0°K	0.0 to 360.0°K
RTD	Pt100	–200.0 to +500.0	–300 to +900
	JPt100	–200.0 to +500.0	–300 to +900
	Pt100	–200.0 to +200.0	–300 to +400
	JPt100	–200.0 to +200.0	–300 to +400
	Pt100	–100.0 to +300.0	–150 to +500

Sensor	Sensor type	Range (°C)	Range (°F)
RTD	JPt100	–100.0 to +300.0	–150 to +500
	Pt100	–100.0 to +200.0	–150 to +400
	JPt100	–100.0 to +200.0	–150 to +400
	Pt100	–100.0 to +150.0	–150 to +300
	JPt100	–100.0 to +150.0	–150 to +300
	Pt100	–50.0 to +200.0	–50 to +400
	JPt100	–50.0 to +200.0	–50 to +400
	Pt100	–50.0 to +100.0	–50 to +200
	JPt100	–50.0 to +100.0	–50 to +200
	Pt100	–60.0 to +40.00	–60 to +100
	JPt100	–60.0 to +40.00	–50 to +100
	Pt100	–40.0 to +60.0	–40 to +140
	JPt100	–40.0 to +60.0	–40 to +140
	Pt100	–10.00 to +60.00	–10 to +140
	JPt100	–10.00 to +60.00	–10 to +140
	Pt100	0.0 to 100.0	0 to 200
	JPt100	0.0 to 100.0	0 to 200
	Pt100	0.0 to 200.0	0 to 400
	JPt100	0.0 to 200.0	0 to 400
	Pt100	0.0 to 300.0	0 to 500
	JPt100	0.0 to 300.0	0 to 500
	Pt100	0.0 to 500.0	0 to 900
	JPt100	0.0 to 500.0	0 to 900
Linear	0 to 10mV	Scaling in the range of –1999 to +9999 Decimal point position changeable	
	–10 to +10mV		
	0 to 100mV		
	0 to 1V		
	1 to 5V		
	0 to 5V		
	0 to 10V		
	0 to 20mA		
	4 to 20mA		

⚠RESTRICTIONS ON USE

This product has been designed, developed and manufactured for general-purpose application in machinery and equipment. Accordingly, when used in applications outlined below, special care should be taken to implement a fail-safe and/or redundant design concept as well as a periodic maintenance program.

- **Safety devices for plant worker protection**
- **Start/stop control devices for transportation and material handling machines**
- **Aeronautical/aerospace machines**
- **Control devices for nuclear reactors**

Never use this product in applications where human safety may be put at risk.

YAMATAKE

Specifications are subject to change without notice.

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