

Discontinuation Notice of E5CN-U series (For China area only)

Product Discontinuation

Basic-type Digital Temperature Controller



Model E5CN-U series



Recommended Replacement

Digital Temperature Controller

Model E5CC-U series

[Discontinuation date]

The end of March, 2017

[Difference from discontinued product]

Recommended replacement Model	Body Color	Dimensions	Wire connection	Mounting Dimensions	Characteristics	Operation ratings	Operation methods
Model E5CC-U series	*	--	*	*	--	*	*

** : Compatible

* : The change is a little/Almost compatible

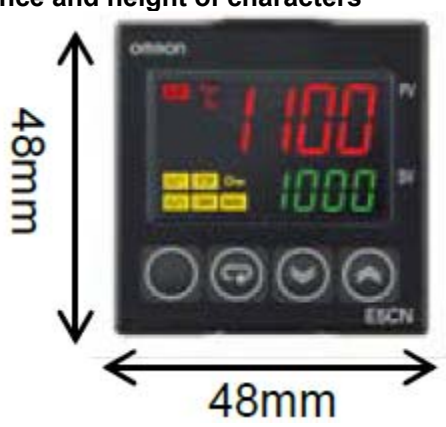

-- : Not compatible

- : No corresponding specification

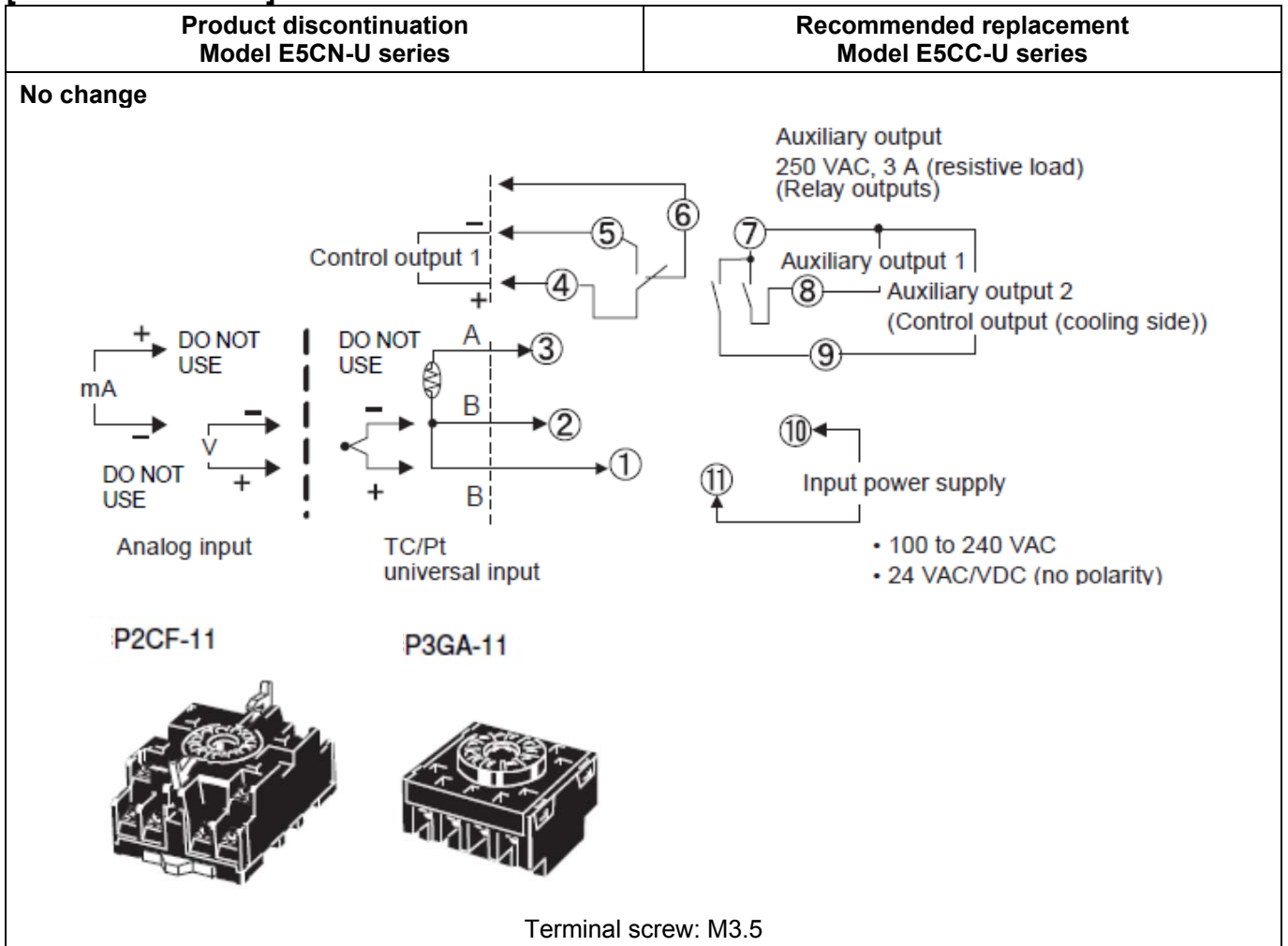
[Product Discontinuation and recommended replacement]

Product discontinuation	Recommended replacement
E5CN-RTU	E5CC-RW0AUM-000
E5CN-RTDU	E5CC-RW0DUM-000
E5CN-R2TU	E5CC-RW2AUM-000
E5CN-R2TDU	E5CC-RW2DUM-000
E5CN-R2LU	E5CC-RW2AUM-000
E5CN-R1TU	E5CC-RW1AUM-000
E5CN-R1TDU	E5CC-RW1DUM-000
E5CN-R1LU	E5CC-RW1AUM-000
E5CN-QTU	E5CC-QX0AUM-000
E5CN-QTDU	E5CC-QX0DUM-000
E5CN-Q2TU	E5CC-QX2AUM-000
E5CN-Q2TDU	E5CC-QX2DUM-000
E5CN-Q2LU	E5CC-QX2AUM-000
E5CN-Q1TU	E5CC-QX1AUM-000
E5CN-Q1TDU	E5CC-QX1DUM-000
E5CN-Q1LU	E5CC-QX1AUM-000
E5CN-CTU	E5CC-CX0AUM-000
E5CN-CTDU	E5CC-CX0DUM-000
E5CN-C2TU	E5CC-CX2AUM-000
E5CN-C2TDU	E5CC-CX2DUM-000
E5CN-C2LU	E5CC-CX2AUM-000
E5CN-C1TU	E5CC-CX1AUM-000
E5CN-C1TDU	E5CC-CX1DUM-000
E5CN-C1LU	E5CC-CX1AUM-000

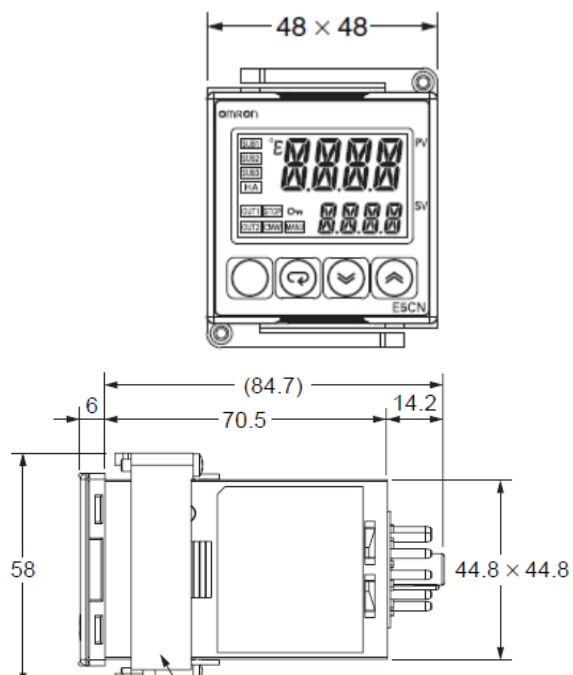
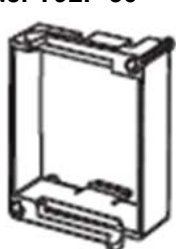
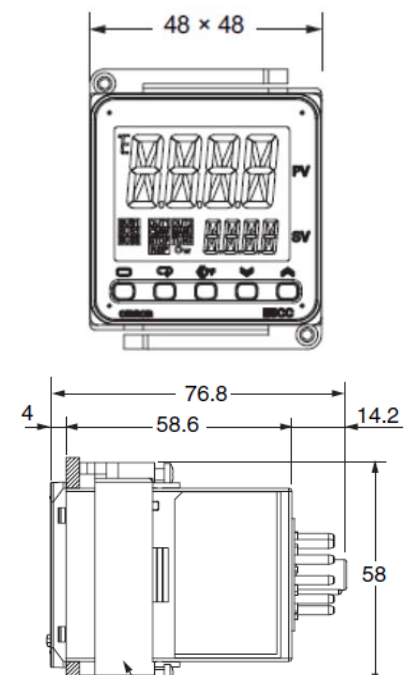
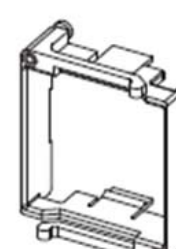
[Body color]

Product discontinuation Model E5CN-U series	Recommendable replacement Model E5CC-U series
<p>Housing color black sliver</p> <p>Appearance and height of characters</p>  <p>Height of characters PV: 11 mm, SV:6.5 mm Indicator color: PV in red (color switches to green and orange), SV in green</p>	<p>Housing color black only</p> <p>Appearance and height of characters</p>  <p>Height of characters PV: 15.2 mm, SV:7.1 mm Indicator color: PV in white, SV in green</p>

[Wire connection]



[Mounting dimensions]

<p>Product discontinuation Model E5CN-U series</p>	<p>Recommendable replacement Model E5CC-U series</p>
<p>There is no change in the panel cutout dimensions.</p>  <p>Mounting Adapter (Accessory)</p> <p>Mounting adapter Model Y92F-30</p> 	 <p>Mounting Adapter (Accessory)</p> <p>Mounting adapter Model Y92F-49</p> 

[Ratings]

Item		Product discontinuation Model E5CN-U series	Recommended replacement Model E5CC-U series
Power consumption		100 to 240 VAC: 6 VA (max.) 24 VAC/VDC: 3 VA/2 W (max.)	Models with option selection of 000: 5.2 VA max. at 100 to 240 VAC, and 3.1 VA max. at 24 VAC or 1.6 W max. at 24 VDC All other models: 6.5 VA max. at 100 to 240 VAC, and 4.1 VA max. at 24 VAC or 2.3 W max. at 24 VDC
Input impedance		Current input: 150 Ω max., Voltage input: 1 MΩ minimum.	Current input: 150 Ω max., Voltage input: 1 MΩ minimum. (No change)
Control outputs	Relay output	SPDT, 250 VAC, 3 A (resistive load), Electrical life: 100,000 operations, Minimum applicable load: 5 V, 10 mA (reference value)	SPDT, 250 VAC, 3 A (resistive load), Electrical life: 100,000 operations, Minimum applicable load: 5 V, 10 mA (reference value)
	Voltage output (for driving SSR)	Output voltage: 12 VDC ±15% (PNP), Max. load current: 21 mA, With short-circuit protection circuit	Output voltage: 12 VDC ±20% (PNP), Max. load current: 21 mA, With short-circuit protection circuit
	Current output	4 to 20 mA DC/0 to 20 mA DC, Load: 600Ω max., Resolution: approx. 10,000	4 to 20 mA DC/0 to 20 mA DC, Load: 500Ω max., Resolution: approx. 10,000
Indication method		11-segment digital display and individual indicators (7-segment display also possible) Character height: PV: 11 mm, SV: 6.5 mm Indicator color: PV in red (color switches to green and orange), SV in green	11-segment digital display and individual indicators Character height: PV: 15.2 mm, SV: 7.1 mm Indicator color: PV in white, SV in green
Multi SP function		Up to four set points (SP0 to SP3) can be saved and selected using key operations, or serial communications.	Up to eight set points (SP0 to SP7) can be saved and selected using the key operations, or serial communications.
Other functions (change points)		—	Functions to be deleted Counting control output ON/OFF, Switching indicator colors, Switching indicator characters Functions to be added Moving average of inputs, Setting indicator luminance, Work bit message, Indicating parameter changes, Shifting digits

[Characteristics]

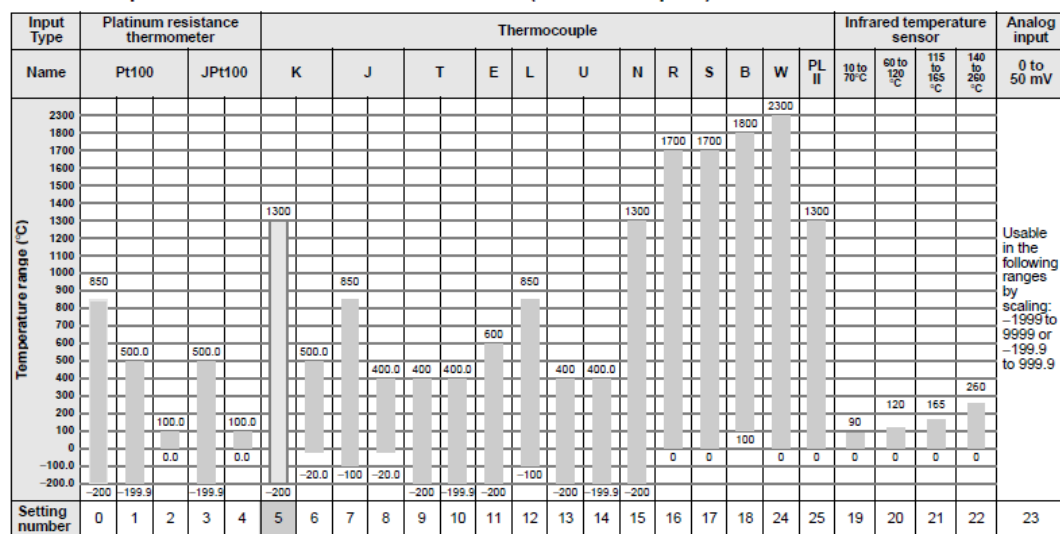
Item		Product discontinuation Model E5CN-U series	Recommended replacement Model E5CC-U series
Input sampling cycle		250 ms	50 ms
Integral time (I)		0 to 3999 s (in units of 1 s)	0 to 9999 s (in units of 1 s), 0.0 to 999.9 s (in units of 0.1 s)
Derivative time (D)		0 to 3999 s (in units of 1 s)	0 to 9999 s (in units of 1 s), 0.0 to 999.9 s (in units of 0.1 s)
Proportional band (P) for cooling		—	Temperature input: 0.1 to 999.9°C or °F (in units of 0.1°C or °F) Analog input: 0.1% to 999.9% FS (in units of 0.1% FS)
Integral time (I) for cooling		—	0 to 9999 s (in units of 1 s), 0.0 to 999.9 s (in units of 0.1 s)
Derivative time (D) for cooling		—	0 to 9999 s (in units of 1 s), 0.0 to 999.9 s (in units of 0.1 s)
Control cycle		0.5, 1 to 99 s (in units of 1 s)	0.1, 0.2, 0.5, 1 to 99 s (in units of 1 s)
Dielectric strength		2,300 VAC, 50 or 60 Hz for 1 min (between terminals with different charge)	3,000 VAC, 50/60 Hz for 1 min between terminals of different charge
Weight		Controller: Approx. 110 g, Mounting Bracket: Approx. 10 g	Controller: Approx. 100 g, Adapter: Approx. 10 g
Setup tool		CX-Thermo version 4.0 or higher	CX-Thermo version 4.61 or higher
Setup Tool port		Provided on the bottom of the E5CN. Use this port to connect a computer to the E5CN when using the Setup Tool. An E58-CIFQ1 USB-Serial Conversion Cable is required to connect the computer to the E5CN.	E5CC top panel: An E58-CIFQ2 USB-Serial Conversion Cable is used to connect to a USB port on the computer.
Standards	Approved standards	UL 61010-1, CSA C22.2 No. 1010-1	UL 61010-1, KOSHA certified (some models), Korean Radio Waves Act (Act 10564)

[Operation ratings]

Product discontinuation
Model E5CN-U series

Input range

Thermocouple/Platinum Resistance Thermometer (Universal Inputs)



Models with Analog Inputs

Input Type	Current		Voltage		
Input specification	4 to 20mA	0 to 20 mA	1 to 5 V	0 to 5 V	0 to 10 V
Setting range	Usable in the following ranges by scaling: -1999 to 9999, -199.9 to 999.9, -19.99 to 99.99 or -1.999 to 9.999				
Setting number	0	1	2	3	4

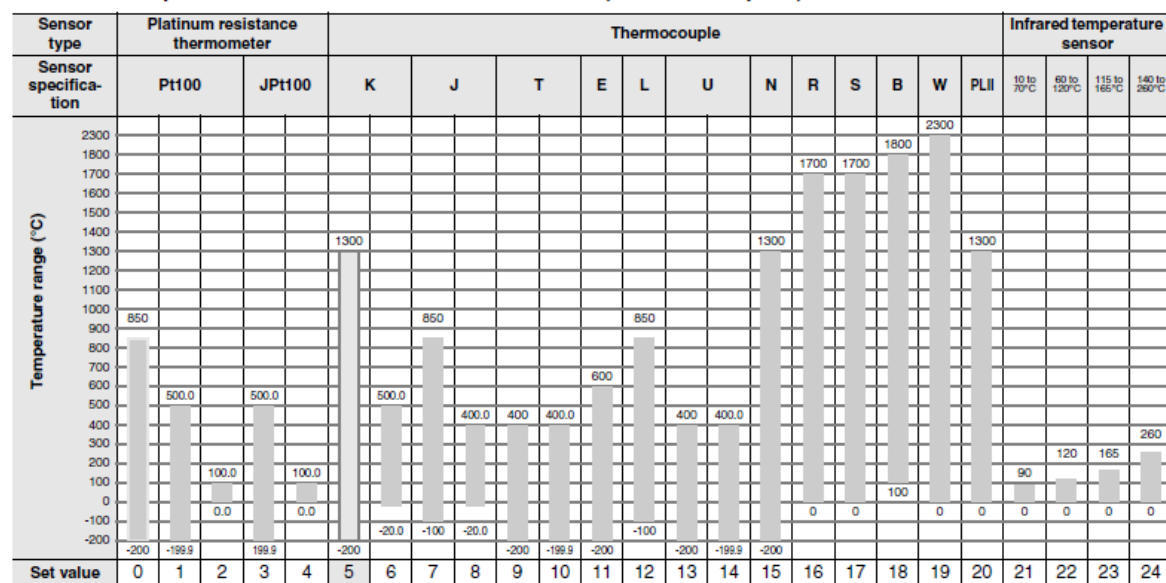
Shaded settings are the default settings.

Recommended replacement
Model E5CC-U series

Input range

The set values 19 or higher for input ranges will be changed.

●Thermocouple/Platinum Resistance Thermometer (Universal inputs)



●Analog input

Input type	Current		Voltage			
Input specification	4 to 20 mA	0 to 20 mA	1 to 5 V	0 to 5 V	0 to 10 V	0 to 50 mV*
Setting range	Usable in the following ranges by scaling: -1999 to 9999, -199.9 to 999.9, -19.99 to 99.99 or -1.999 to 9.999					
Set value	25	26	27	28	29	30

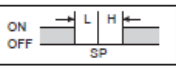
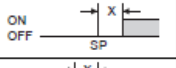
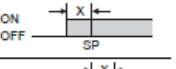
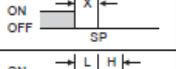
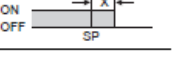
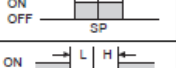
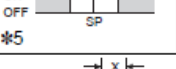
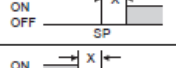
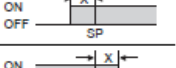
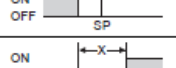
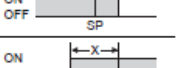
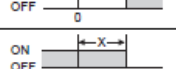
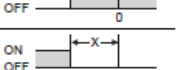
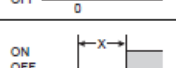

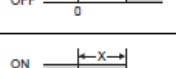
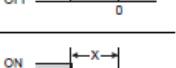
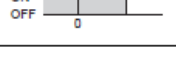
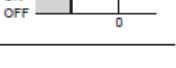
* The range applies to the E5CC-U only for those manufactured in May 2014 or later.

**Product discontinuation
Model E5CN-U series**

Alarm types

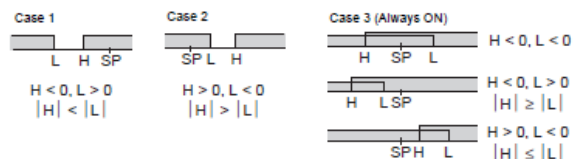
Each alarm can be independently set to one of the following 13 alarm types. The default is 2: *Upper limit*. Auxiliary outputs are allocated for alarms. ON delays and OFF delays (0 to 999 s) can also be specified.

Note: For models with heater burnout, SSR failure, and heater overcurrent detection, alarm 1 will be an OR output of the alarm selected from the following alarm types and the alarms for heater burnout, SSR failure, and heater overcurrent. To output only a heater burnout alarm, SSR failure alarm, and heater overcurrent alarm for alarm 1, set the alarm type to 0 (i.e., no alarm function).

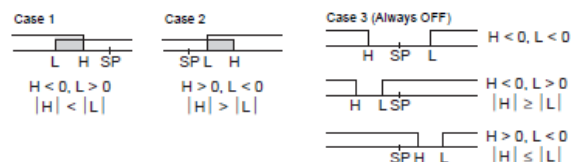
Set value	Alarm type	Alarm output operation	
		When X is positive	When X is negative
0	Alarm function OFF	Output OFF	
1 *1	Upper- and lower-limit	ON OFF 	*2
2	Upper limit	ON OFF 	ON OFF 
3	Lower limit	ON OFF 	ON OFF 
4 *1	Upper- and lower-limit range	ON OFF 	*3
5 *1	Upper- and lower-limit with standby sequence	ON OFF 	*4
6	Upper-limit with standby sequence	ON OFF 	ON OFF 
7	Lower-limit with standby sequence	ON OFF 	ON OFF 
8	Absolute-value upper-limit	ON OFF 	ON OFF 
9	Absolute-value lower-limit	ON OFF 	ON OFF 
10	Absolute-value upper-limit with standby sequence	ON OFF 	ON OFF 
11	Absolute-value lower-limit with standby sequence	ON OFF 	ON OFF 
12	LBA (for alarm 1 only)	---	
13	PV change rate alarm	---	

*1. With set values 1, 4 and 5, the upper and lower limit values can be set independently for each alarm type, and are expressed as "L" and "H."

*2. Set value: 1, Upper- and lower-limit alarm



*3. Set value: 4, Upper- and lower-limit range



*4. Set value: 5, Upper- and lower-limit with standby sequence
For Upper- and Lower-Limit Alarm Described Above

- Case 1 and 2
Always OFF when the upper-limit and lower-limit hysteresis overlaps.

- Case 3: Always OFF

*5. Set value: 5, Upper- and lower-limit with standby sequence
Always OFF when the upper-limit and lower-limit hysteresis overlaps.

**Recommended replacement
Model E5CC-U series**

Alarm types

The set values 14 and higher were newly added for the alarm types.

Each alarm can be independently set to one of the following 19 alarm types. The default is 2: Upper limit. (see note.)

Auxiliary outputs are allocated for alarms. ON delays and OFF delays (0 to 999 s) can also be specified.

Note: In the default settings for models with HB or HS alarms, alarm 1 is set to a heater alarm (HA) and the Alarm Type 1 parameter is not displayed. To use alarm 1, set the output assignment to alarm 1.

Set value	Alarm type	Alarm output operation		Description of function
		When alarm value X is positive	When alarm value X is negative	
0	Alarm function OFF	Output OFF		No alarm
1	Upper- and lower-limit *1		*2	Set the upward deviation in the set point for the alarm upper limit (H) and the lower deviation in the set point for the alarm lower limit (L). The alarm is ON when the PV is outside this deviation range.
2 (default)	Upper-limit			Set the upward deviation in the set point by setting the alarm value (X). The alarm is ON when the PV is higher than the SP by the deviation or more.
3	Lower-limit			Set the downward deviation in the set point by setting the alarm value (X). The alarm is ON when the PV is lower than the SP by the deviation or more.
4	Upper- and lower-limit range *1		*3	Set the upward deviation in the set point for the alarm upper limit (H) and the lower deviation in the set point for the alarm lower limit (L). The alarm is ON when the PV is inside this deviation range.
5	Upper- and lower-limit with standby sequence *1		*4	A standby sequence is added to the upper- and lower-limit alarm (1). *6
6	Upper-limit with standby sequence			A standby sequence is added to the upper-limit alarm (2). *6
7	Lower-limit with standby sequence			A standby sequence is added to the lower-limit alarm (3). *6
8	Absolute-value upper-limit			The alarm will turn ON if the process value is larger than the alarm value (X) regardless of the set point.
9	Absolute-value lower-limit			The alarm will turn ON if the process value is smaller than the alarm value (X) regardless of the set point.
10	Absolute-value upper-limit with standby sequence			A standby sequence is added to the absolute-value upper-limit alarm (8). *6
11	Absolute-value lower-limit with standby sequence			A standby sequence is added to the absolute-value lower-limit alarm (9). *6
12	LBA (alarm 1 type only)	-		*7
13	PV change rate alarm	-		*8
14	SP absolute-value upper-limit alarm			This alarm type turns ON the alarm when the set point (SP) is higher than the alarm value (X).
15	SP absolute-value lower-limit alarm			This alarm type turns ON the alarm when the set point (SP) is lower than the alarm value (X).
16	MV absolute-value upper-limit alarm *9	Standard Control 	Standard Control 	This alarm type turns ON the alarm when the manipulated variable (MV) is higher than the alarm value (X).
		Heating/Cooling Control (Heating MV) 	Heating/Cooling Control (Heating MV) Always ON	
17	MV absolute-value lower-limit alarm *9	Standard Control 	Standard Control 	This alarm type turns ON the alarm when the manipulated variable (MV) is lower than the alarm value (X).
		Heating/Cooling Control (Cooling MV) 	Heating/Cooling Control (Cooling MV) Always ON	
18	RSP absolute-value upper-limit alarm *10			This alarm type turns ON the alarm when the remote SP (RSP) is higher than the alarm value (X).
19	RSP absolute-value lower-limit alarm *10			This alarm type turns ON the alarm when the remote SP (RSP) is lower than the alarm value (X).

- *1 With set values 1, 4 and 5, the upper and lower limit values can be set independently for each alarm type, and are expressed as "L" and "H."
- *2 Set value: 1, Upper- and lower-limit alarm
 - Case 1

H < 0, L > 0
|H| < |L|
 - Case 2

H > 0, L < 0
|H| > |L|
 - Case 3 (Always ON)

H < 0, L < 0
|H| ≥ |L|
- *3 Set value: 4, Upper- and lower-limit range
 - Case 1

H < 0, L > 0
|H| < |L|
 - Case 2

H > 0, L < 0
|H| > |L|
 - Case 3 (Always OFF)

H < 0, L > 0
|H| ≥ |L|
- *4 Set value: 5, Upper- and lower-limit with standby sequence
 - For Upper- and Lower-Limit Alarm Described Above *2
 - Case 1 and 2
Always OFF when the upper-limit and lower-limit hysteresis overlaps.
 - Case 3: Always OFF
- *5 Set value: 5, Upper- and lower-limit with standby sequence
Always OFF when the upper-limit and lower-limit hysteresis overlaps.
- *6 Refer to the *E5CC Digital Temperature Controllers User's Manual* (Cat. No. H174) for information on the operation of the standby sequence.
- *7 Refer to the *E5CC Digital Temperature Controllers User's Manual* (Cat. No. H174) for information on the loop burnout alarm (LBA).
- *8 Refer to the *E5CC Digital Temperature Controllers User's Manual* (Cat. No. H174) for information on the PV change rate alarm.
- *9 When heating/cooling control is performed, the MV absolute upper limit alarm functions only for the heating operation and the MV absolute lower limit alarm functions only for the cooling operation.
- *10 This value is displayed only when a remote SP input is used. It functions in both Local SP Mode and Remote SP Mode.
Remote SP input is supported only for the E5CC.

[Operation methods]

**Product discontinuation
Model E5CN-U series**

- Level key
Use this key to change levels:
- Press the key and the key together for at least 3 seconds to switch to protect level.
- Mode key
Press this key to change the contents of the display.
Press this button for 1 s or longer for reverse scroll.

- No.1 display
Process value or set data symbol
- No.2 display
Set point, set data read-out value or changed input value
- Up and Down keys
Use the keys to change the values displayed on the No.2 display.
Each press of key increments or advances the values displayed on the No.2 display.
Each press of key decrements or returns the values displayed on the No.2 display.

**Recommended replacement
Model E5CC-U series**

When compared with E5CN, the shift key (PF key) is added to E5CC.
When this key is disabled, the same operation as with E5CN is possible.

- °C / °F : temperature unit
The temperature unit is displayed when the displayed value is a temperature. Either °C or °F is displayed according to the set value of the temperature unit.
- Level key
Use this key to change levels:
- Mode key
Press this key to change the contents of the display.
Press this button for 1 s or longer for reverse scroll.
- Press the key and the key together for at least 3 seconds to switch to protect level.
- Shift key (PF key)
The default PF Setting parameter is for shifting the digit. This is a function key. When it is pressed, the function set for the PF Setting parameter will operate.

- No.1 display
Process value or set data type
- No.2 display
Set point, set data read-out value or changed input value
- Up and Down keys
Each press of key increments or advances the values displayed on the No.2 display.
Each press of key decrements or returns the values displayed on the No.2 display.

Specifications and prices in this product news are as of the issue date and are subject to change without notice. Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, datasheets, product specifications, instructions, and manuals for precautions and necessary information when using products.