PRODUCT NEWS

Product Discontinuation Notices

OMRON

Issue Date
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No.2025004EN

Product Discontinuation	Recommended Replacement
Temperature Controllers **E5AN-H series** **E5EN-H series** **E5CN-H series**	Temperature Controllers **E5ED-H series** **E5ED-H series** **E5CD-H series**
Accessories **Output unit E53-□□** **Option unit E53-CN□□, E53-EN□□, E53-AKB** **E53-COV16** **Y92H-9** **Y92S-P4** **Y92S-P5**	**Accessories** **Select the unit based on the product's control output and option specifications（※1）** **E53-COV24** **Y92F-51** **Y92S-P9（※2）** **Y92S-P9**

※1 Change the control output and option selection method.
Please refer to this notice for the selection method.
※2 Waterproof packing when using the recommended replacement product E5ED-H.

[Final order entry date]

E5AN-H series, E5EN-H series, E5CN-H series
The end of March, 2027

Accessories
Output unit Other than E53-R/RN
Option unit E53-CN□□, E53-EN□□, E53-AKB
E53-COV16, Y92H-9, Y92S-P4, Y92S-P5
The end of March, 2028

Output unit E53-R/RN
The end of March, 2030

[Date of The Last Shipping]

E5AN-H series, E5EN-H series, E5CN-H series
The end of June, 2027

Accessories
Output unit Other than E53-R/RN
Option unit E53-CN□□, E53-EN□□, E53-AKB
E53-COV16, Y92H-9, Y92S-P4, Y92S-P5
The end of June, 2028

Output unit E53-R/RN
The end of June, 2030

[Caution on recommended replacement]

- The method of selecting control outputs will change. (Only for E5AN-HAA, E5EN-HAA series replacements)
  Discontinued products:
  Use by incorporating any separately sold output unit (E53-□□) into the product.
  Recommended replacement products:
  The output specifications are fixed by model and built into each product at the factory.
- The specifications for voltage output (for SSR drive) will change. (Only for E5AN-H, E5EN-H series replacements)
  Discontinued products: DC12V PNP, DC24V NPN, DC24V PNP
  Recommended replacement products: DC12V±PNP
- The method of selecting option units will change.
  Discontinued products:
  Use by incorporating any separately sold option units (E53-CN□□, E53-EN□□, E53-AKB) into the product.
  Recommended replacement products:
  The option specifications are fixed by model and built into each product at the factory.
- The specifications for auxiliary outputs will change.
  Discontinued products: Relay output 1a AC250V 3A (resistive load)
  Recommended replacement products: Relay output 1a AC250V 2A (resistive load)
- The analog input scaling range for remote SP input will change.
  Discontinued products: -19999 to 30000
  Recommended replacement products: -19999 to 32400
- The adjustment sensitivity range will change.
  Discontinued products: Temperature input: 0.1 to 3240.0°C or °F (0.1°C or °F units)
  Recommended replacement products: Temperature input: 0.1 to 999.9°C/°F (0.1°C/°F units)
- The setting range for integral time (standard control) and derivative time (standard control) will change.
  Discontinued products: Temperature input: 0.0 to 3240.0s (0.1s units)
  Recommended replacement products: Temperature input: 0 to 9999s (1s units)
- The recommended replacement products are only available in black; there is no silver option.
- The communication specifications for recommended replacement products are RS-485 only.
- The communication speed settings will change.
  Discontinued products: 1,200, 2,400, 4,800, 9,600, 19,200, 38,400, 57,600bps
  Recommended replacement products: 9600, 19200, 38400, 57600, 115200bps
- The connection location of the communication cable and the USB-to-serial conversion cable will change.
  Discontinued products:
  Connection location is on the lower side of the rear of the product; use cable E58-CIFQ1.
  Recommended replacement products:
  Connection location is on the upper side of the rear of the product; use cable E58-CIFQ2 (for E5ED-H, E5CD-H series).
  Connection location is on the front of the product; use a combination of cables E58-CIFQ2 and E58-CIFQ2-E (for E5ED-H series).

Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charac-teristics	Operation ratings	Operation methods
E5ED-H series (From E5AN-H series)	**	--	*	**	**	**	*
E5ED-H series (From E5AN-H-W series)	-	--	*	**	**	**	*
E5ED-H series (From E5EN-H series)	**	*	*	**	**	**	*
E5ED-H series (From E5EN-H-W series)	-	*	*	**	**	**	*
E5CD-H series (From E5CN-H series)	**	*	*	**	**	**	*
E5CD-H series (From E5CN-H-W series)	-	*	*	**	**	**	*

** : Compatible
* : The change is a little/Almost compatible
-- : Not compatible
- : No corresponding specification

[Product Discontinuation and recommended replacement]

E5AN-H

Product discontinuation	Recommended replacement
E5AN-HAA2HB AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5AN-HAA2HB-W AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5AN-HAA2HBD AC/DC24	E5ED-HQX4DBM-027
	E5ED-HRX4DBM-027
E5AN-HAA2HBD-W AC/DC24	E5ED-HQX4DBM-027
	E5ED-HRX4DBM-027
E5AN-HAA2HBM-500 AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5AN-HAA2HBM-W-500 AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5AN-HAA2HBMD-500 AC/DC24	E5ED-HQX4DBM-027
	E5ED-HRX4DBM-027
E5AN-HAA2HBMD-W-500 AC/DC24	E5ED-HQX4DBM-027
	E5ED-HRX4DBM-027
E5AN-HAA2HH01B-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HH01B-W-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HH01BD-FLK AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5AN-HAA2HH01BF-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HH01BFD-FLK AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5AN-HAA2HH02B-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HH02B-W-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025

Product discontinuation	Recommended replacement
E5AN-HAA2HH02BD-FLK AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5AN-HAA2HH02BF-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HH03B-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HH03B-W-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HH03BD-FLK AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5AN-HAA2HH03BF-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HHBB AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5AN-HAA2HHBB-W AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5AN-HAA2HHBBF AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HHBBF-W AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HHBBFD AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5AN-HAA2HHBBFD-W AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5AN-HAA2HHBF AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025

Product discontinuation	Recommended replacement
E5AN-HAA2HHBF-W AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HHBFD AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5AN-HAA2HHBFD-W AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5AN-HAA2HHBFM-500 AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HHBFM-W-500 AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA2HHBFMD-500 AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5AN-HAA3BFM-500 AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5AN-HAA3BFMD-500 AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025

E5CN-H

Product discontinuation	Recommended replacement
E5CN-HC2 AC100-240	E5CD-HCX2ABM-000
E5CN-HC2-W AC100-240	E5CD-HCX2ABM-000
E5CN-HC201-FLK AC100-240	E5CD-HCX2ABM-004
E5CN-HC201-W-FLK AC100-240	E5CD-HCX2ABM-004
E5CN-HC201D-FLK AC/DC24	E5CD-HCX2DBM-004
E5CN-HC203-FLK AC100-240	E5CD-HCX2ABM-004
E5CN-HC203-W-FLK AC100-240	E5CD-HCX2ABM-004
E5CN-HC203D-FLK AC/DC24	E5CD-HCX2DBM-004
E5CN-HC2B AC100-240	E5CD-HCX2ABM-004
E5CN-HC2B-W AC100-240	E5CD-HCX2ABM-004
E5CN-HC2BD AC/DC24	E5CD-HCX2DBM-004
E5CN-HC2BF AC100-240	E5CD-HCX2ABM-006
E5CN-HC2BFD AC/DC24	E5CD-HCX2DBM-006

Product discontinuation	Recommended replacement
E5CN-HC2D AC/DC24	E5CD-HCX2DBM-000
E5CN-HC2D-W AC/DC24	E5CD-HCX2DBM-000
E5CN-HC2M-500 AC100-240	E5CD-HCX2ABM-000
E5CN-HC2M-W-500 AC100-240	E5CD-HCX2ABM-000
E5CN-HC2MD-500 AC/DC24	E5CD-HCX2DBM-000
E5CN-HC2MD-W-500 AC/DC24	E5CD-HCX2DBM-000
E5CN-HQ2 AC100-240	E5CD-HQX2ABM-000
E5CN-HQ2-W AC100-240	E5CD-HQX2ABM-000
E5CN-HQ2BF AC100-240	E5CD-HQX2ABM-006
E5CN-HQ2BFD AC/DC24	E5CD-HQX2DBM-006
E5CN-HQ2D AC/DC24	E5CD-HQX2DBM-000
E5CN-HQ2D-W AC/DC24	E5CD-HQX2DBM-000
E5CN-HQ2H01-FLK AC100-240	E5CD-HQX2ABM-002
E5CN-HQ2H01-W-FLK AC100-240	E5CD-HQX2ABM-002
E5CN-HQ2H01D-FLK AC/DC24	E5CD-HQX2DBM-002
E5CN-HQ2H03-FLK AC100-240	E5CD-HQX2ABM-002
E5CN-HQ2H03-W-FLK AC100-240	E5CD-HQX2ABM-002
E5CN-HQ2H03D-FLK AC/DC24	E5CD-HQX2DBM-002
E5CN-HQ2HB AC100-240	E5CD-HQX2ABM-001
E5CN-HQ2HB-W AC100-240	E5CD-HQX2ABM-001
E5CN-HQ2HBD AC/DC24	E5CD-HQX2DBM-001
E5CN-HQ2HH03-FLK AC100-240	E5CD-HQX2ABM-003
E5CN-HQ2HH03D-FLK AC/DC24	E5CD-HQX2DBM-003
E5CN-HQ2M-500 AC100-240	E5CD-HQX2ABM-000
E5CN-HQ2M-W-500 AC100-240	E5CD-HQX2ABM-000
E5CN-HQ2MD-500 AC/DC24	E5CD-HQX2DBM-000
E5CN-HQ2MD-W-500 AC/DC24	E5CD-HQX2DBM-000
E5CN-HQQ201-FLK AC100-240	E5CD-HQQ2ABM-003
E5CN-HQQ201D-FLK AC/DC24	E5CD-HQQ2DBM-003
E5CN-HQQ203-FLK AC100-240	E5CD-HQQ2ABM-003
E5CN-HQQ203D-FLK AC/DC24	E5CD-HQQ2DBM-003
E5CN-HQQ2B AC100-240	E5CD-HQQ2ABM-001
E5CN-HQQ2BD AC/DC24	E5CD-HQQ2DBM-001
E5CN-HQQ2F AC100-240	E5CD-HQQ2ABM-006
E5CN-HQQ2FD AC/DC24	E5CD-HQQ2DBM-006
E5CN-HQQ2HH AC100-240	E5CD-HQQ2ABM-003
E5CN-HQQ2HHD AC/DC24	E5CD-HQQ2DBM-003
E5CN-HR2 AC100-240	E5CD-HRX2ABM-000
E5CN-HR2-W AC100-240	E5CD-HRX2ABM-000
E5CN-HR2BF AC100-240	E5CD-HRX2ABM-006
E5CN-HR2BFD AC/DC24	E5CD-HRX2DBM-006
E5CN-HR2D AC/DC24	E5CD-HRX2DBM-000
E5CN-HR2D-W AC/DC24	E5CD-HRX2DBM-000
E5CN-HR2H01-FLK AC100-240	E5CD-HRX2ABM-002
E5CN-HR2H01-W-FLK AC100-240	E5CD-HRX2ABM-002
E5CN-HR2H01D-FLK AC/DC24	E5CD-HRX2DBM-002
E5CN-HR2H03-FLK AC100-240	E5CD-HRX2ABM-002
E5CN-HR2H03-W-FLK AC100-240	E5CD-HRX2ABM-002

Product discontinuation	Recommended replacement
E5CN-HR2H03D-FLK AC/DC24	E5CD-HRX2DBM-002
E5CN-HR2HB AC100-240	E5CD-HRX2ABM-001
E5CN-HR2HB-W AC100-240	E5CD-HRX2ABM-001
E5CN-HR2HBD AC/DC24	E5CD-HRX2DBM-001
E5CN-HR2HH03-FLK AC100-240	E5CD-HRX2ABM-003
E5CN-HR2HH03D-FLK AC/DC24	E5CD-HRX2DBM-003
E5CN-HR2M-500 AC100-240	E5CD-HRX2ABM-000
E5CN-HR2M-W-500 AC100-240	E5CD-HRX2ABM-000
E5CN-HR2MD-500 AC/DC24	E5CD-HRX2DBM-000
E5CN-HR2MD-W-500 AC/DC24	E5CD-HRX2DBM-000
E5CN-HV2 AC100-240	E5CD-HCX2ABM-000 ∗1
E5CN-HV201-FLK AC100-240	E5CD-HCX2ABM-004 ∗1
E5CN-HV201D-FLK AC/DC24	E5CD-HCX2DBM-004 ∗1
E5CN-HV203-FLK AC100-240	E5CD-HCX2ABM-004 ∗1
E5CN-HV203D-FLK AC/DC24	E5CD-HCX2DBM-004 ∗1
E5CN-HV2B AC100-240	E5CD-HCX2ABM-004 ∗1
E5CN-HV2BD AC/DC24	E5CD-HCX2DBM-004 ∗1
E5CN-HV2BF AC100-240	E5CD-HCX2ABM-006 ∗1
E5CN-HV2BFD AC/DC24	E5CD-HCX2DBM-006 ∗1
E5CN-HV2D AC/DC24	E5CD-HCX2DBM-000 ∗1
E5CN-HV2M-500 AC100-240	E5CD-HCX2ABM-000 ∗1
E5CN-HV2MD-500 AC/DC24	E5CD-HCX2DBM-000 ∗1

*1 Using a signal converter, you can convert analog current signals such as 4 to 20 mA into analog voltage signals such as 1 to 5 V.
The input current range and output voltage range can also be specified depending on the output specifications of the signal converter.
Please consider the K3FP-VS, K3FK-VS, or K3FM-VS series.

E5EN-H

Product discontinuation	Recommended replacement
E5EN-HAA2HB AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5EN-HAA2HB-W AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5EN-HAA2HBD AC/DC24	E5ED-HQX4DBM-027
	E5ED-HRX4DBM-027
E5EN-HAA2HBD-W AC/DC24	E5ED-HQX4DBM-027
	E5ED-HRX4DBM-027
E5EN-HAA2HBM-500 AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5EN-HAA2HBM-W-500 AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5EN-HAA2HBMD-500 AC/DC24	E5ED-HQX4DBM-027
	E5ED-HRX4DBM-027
E5EN-HAA2HBMD-W-500 AC/DC24	E5ED-HQX4DBM-027
	E5ED-HRX4DBM-027

Product discontinuation	Recommended replacement
E5EN-HAA2HH01B-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HH01B-W-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HH01BD-FLK AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5EN-HAA2HH01BF-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HH01BFD-FLK AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5EN-HAA2HH02B-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HH02B-W-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HH02BD-FLK AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5EN-HAA2HH02BF-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HH03B-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HH03B-W-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HH03BD-FLK AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025

Product discontinuation	Recommended replacement
E5EN-HAA2HH03BF-FLK AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HHBB AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5EN-HAA2HHBB-W AC100-240	E5ED-HQX4ABM-027
	E5ED-HRX4ABM-027
E5EN-HAA2HHBBF AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HHBBF-W AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HHBBFD AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5EN-HAA2HHBBFD-W AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5EN-HAA2HHBF AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HHBF-W AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HHBFD AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5EN-HAA2HHBFD-W AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5EN-HAA2HHBFM-500 AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025
E5EN-HAA2HHBFM-W-500 AC100-240	E5ED-HCQ4ABM-025
	E5ED-HQQ4ABM-025
	E5ED-HQR4ABM-025
	E5ED-HRR4ABM-025

Product discontinuation	Recommended replacement
E5EN-HAA2HHBFMD-500 AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5EN-HAA3BFM-500 AC100-240	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025
E5EN-HAA3BFMD-500 AC/DC24	E5ED-HCQ4DBM-025
	E5ED-HQQ4DBM-025
	E5ED-HQR4DBM-025
	E5ED-HRR4DBM-025

E5□N-H Accessories, Output Units, Option Units

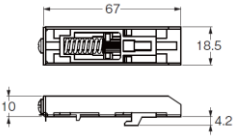
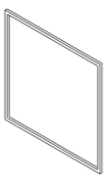
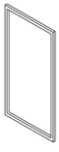
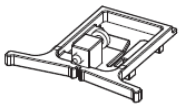
Product discontinuation	Recommended replacement
E53-AKB	Please select based on the option specifications of the temperature controller.
E53-C	Please select based on the output specifications of the temperature controller.
E53-C3	Please select based on the output specifications of the temperature controller.
E53-C3D	Please select based on the output specifications of the temperature controller.
E53-C3DN	Please select based on the output specifications of the temperature controller.
E53-C3N	Please select based on the output specifications of the temperature controller.
E53-CN01N2	Please select based on the option specifications of the temperature controller.
E53-CN03N2	Please select based on the option specifications of the temperature controller.
E53-CNBFN2	Please select based on the option specifications of the temperature controller.
E53-CNBN2	Please select based on the option specifications of the temperature controller.
E53-CNH01N2	Please select based on the option specifications of the temperature controller.
E53-CNH03N2	Please select based on the option specifications of the temperature controller.
E53-CNHBN2	Please select based on the option specifications of the temperature controller.
E53-CNHH03N2	Please select based on the option specifications of the temperature controller.
E53-CNQ01N2	Please select based on the option specifications of the temperature controller.
E53-CNQ03N2	Please select based on the option specifications of the temperature controller.
E53-CNQBN2	Please select based on the option specifications of the temperature controller.
E53-CNQFN2	Please select based on the option specifications of the temperature controller.

Product discontinuation	Recommended replacement
E53-CNQHHN2	Please select based on the option specifications of the temperature controller.
E53-CNQHN2	Please select based on the option specifications of the temperature controller.
E53-COV16	E53-COV24
E53-EN01	Please select based on the option specifications of the temperature controller.
E53-EN02	Please select based on the option specifications of the temperature controller.
E53-EN03	Please select based on the option specifications of the temperature controller.
E53-Q	Please select based on the output specifications of the temperature controller.
E53-Q3	Please select based on the output specifications of the temperature controller.
E53-Q4	Please select based on the output specifications of the temperature controller.
E53-QN	Please select based on the output specifications of the temperature controller.
E53-R	Please select based on the output specifications of the temperature controller.
E53-RN	Please select based on the output specifications of the temperature controller.
E53-V34	E5ED-HCX□, -HCQ□, -HCC□ Please consider a product with current output. ∗2
E53-V34N	
E53-V35	
E53-V35N	
Y92H-9	Y92F-51
Y92S-P	Y92S-P9 ∗3
Y92S-P5	Y92S-P9

*2 Using a signal converter, you can convert analog current signals such as 4 to 20 mA into analog voltage signals such as 1 to 5 V.
The input current range and output voltage range can also be specified depending on the output specifications of the signal converter.
Please consider using a current output temperature controller in combination with the K3FP-VS, K3FK-VS, or K3FM-VS series.

*3 Waterproof packing when using the recommended replacement product E5ED-H.

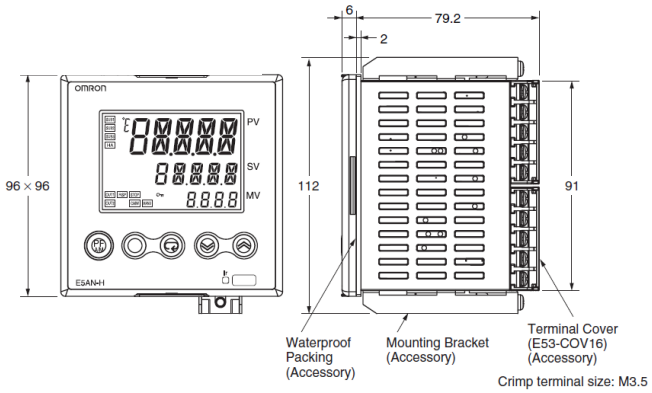
[Body color]

Product discontinuation E5AN-H series, E5EN-H series, E5CN-H series	Recommendable replacement E5ED-H series, E5CD-H series
Case color E5AN-H Black  E5EN-H Black  E5CN-H Black  E53-COV16  Y92H-9  Y92S-P4  Y92S-P5 	**Case color** E5ED-H Black  E5CD-H Black  E53-COV24  Y92F-51  Y92S-P9 

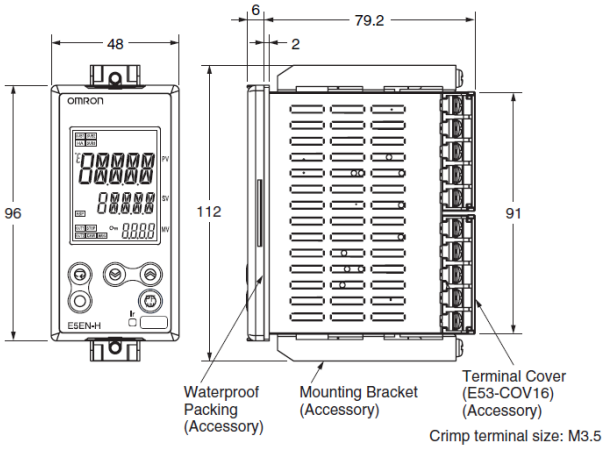
[Dimensions]

Product discontinuation E5AN-H series, E5EN-H series, E5CN-H series	Recommendable replacement E5ED-H series, E5CD-H series

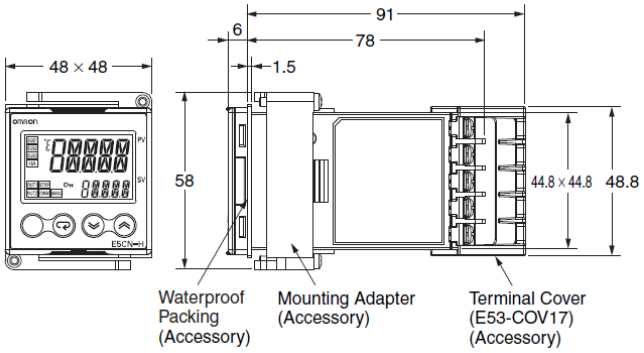
E5AN-H



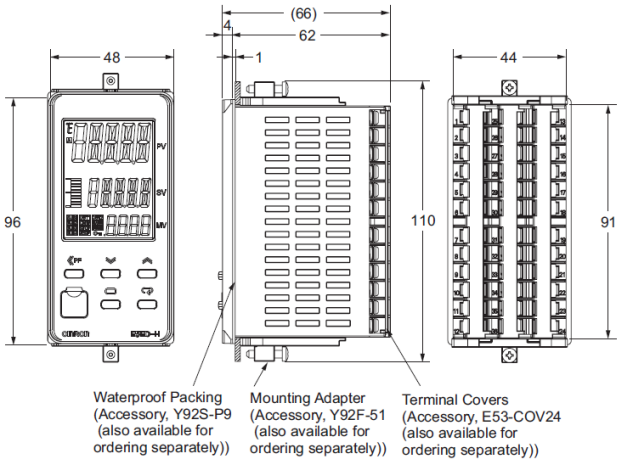
E5EN-H



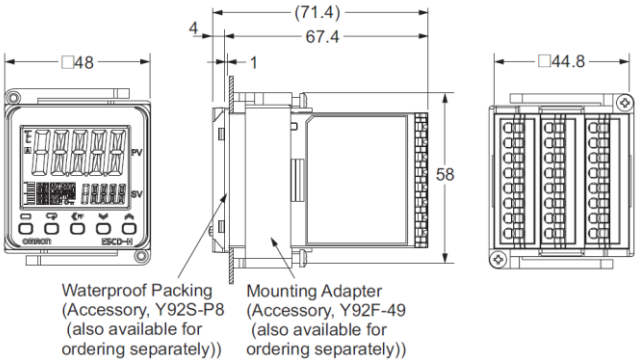
E5CN-H



E5ED-H



E5CD-H



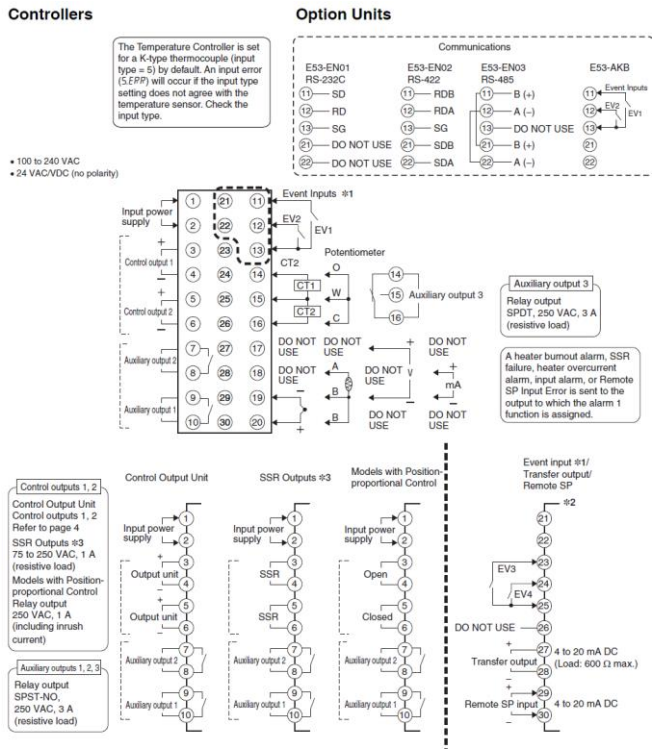
[Terminal arrangement / Wire connection]

Product discontinuation
E5AN-H series, E5EN-H series, E5CN-H series

E5AN-H
E5EN-H

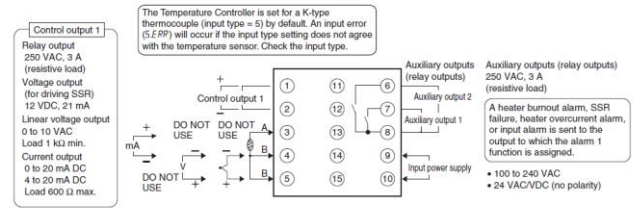
Controllers

Option Units

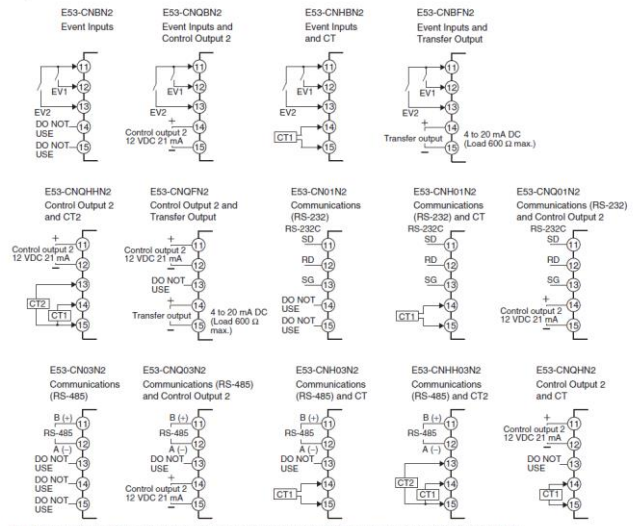


E5CN-H

Controllers



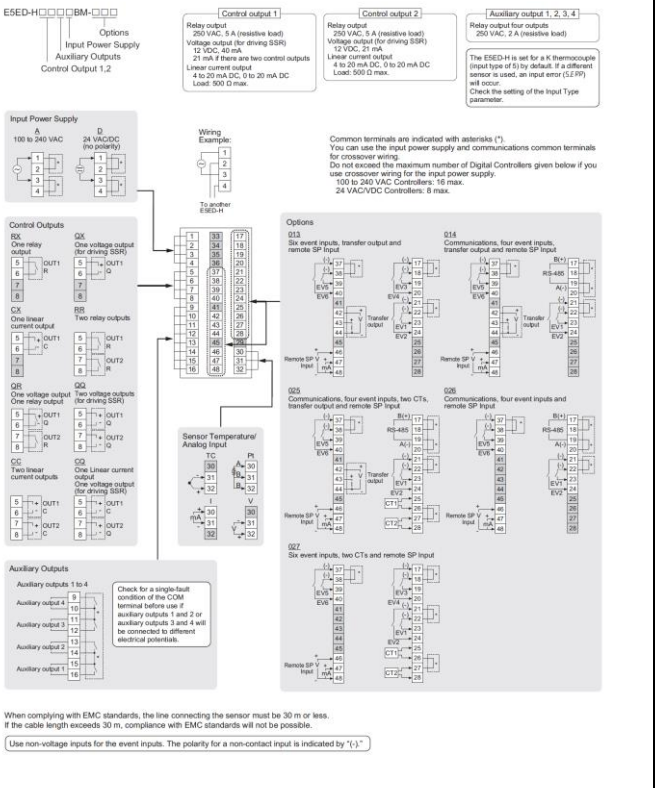
Option Units



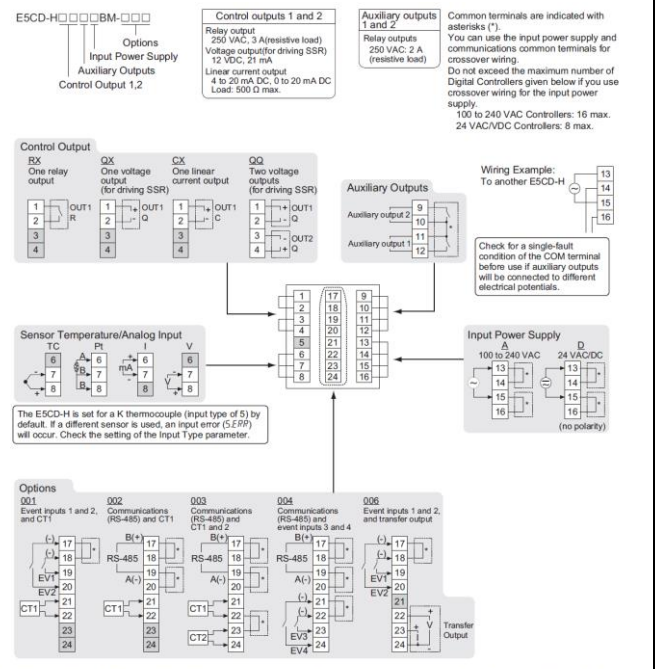
Note: Wire all voltage input terminals correctly. The Controller may fail if voltage input terminals are wired incorrectly.

Recommendable replacement
E5ED-H series, E5CD-H series

E5ED-H



E5CD-H



※1. When complying with EMC standards, the line connecting the sensor must be 30 m or less. If the cable length exceeds 30 m, compliance with EMC standards will not be possible.
※2. Use non-voltage inputs for the event inputs. The polarity for a non-contact input is indicated by "(-)."

[Ratings]

Product discontinuation E5AN-H／E5EN-H series: Recommended replacement E5ED-H series

<table>
<tr><th colspan="2">Item</th><th>Product discontinuation
E5AN-H, E5EN-H series</th><th>Recommendable replacement
E5ED-H series</th></tr>
<tr><td colspan="2">Power supply voltage</td><td>100 to 240 VAC, 50/60 Hz
24 VAC, 50/60 Hz; 24 VDC</td><td>Same as left</td></tr>
<tr><td colspan="2">Operating voltage range</td><td>85% to 110% of rated supply voltage</td><td>Same as left</td></tr>
<tr><td colspan="2">Power consumption</td><td>100 to 240 VAC: 12 VA
24 VAC/VDC: 8.5 VA (24 VAC)/5.5 W (24 VDC)</td><td>Models with option selection of 000: 6.6 VA max. at 100 to 240 VAC, and 4.1 VA max. at 24 VAC or 2.3 W max.
at 24 VDC
All other models: 8.3 VA max. at 100 to 240 VAC, and 5.5 VA max. at 24 VAC or 3.2 W max. at 24 VDC</td></tr>
<tr><td colspan="2">Sensor input</td><td>Thermocouple: K, J, T, E, L, U, N, R, S, B, W, or PL II
Platinum resistance thermometer: Pt100 or JPt100
Current input: 4 to 20 mA or 0 to 20 mA
Voltage input: 1 to 5 V, 0 to 5 V, or 0 to 10 V</td><td>Temperature input
Thermocouple: K, J, T, E, L, U, N, R, S, B, C/W, or PL II
Platinum resistance thermometer: Pt100 or JPt100
Analog input
Current input: 4 to 20 mA or 0 to 20 mA
Voltage input: 1 to 5 V, 0 to 5 V, or 0 to 10 V</td></tr>
<tr><td colspan="2">Input impedance</td><td>Current input: 150 Ω max., Voltage input: 1 MΩ min.</td><td>Same as left</td></tr>
<tr><td colspan="2">Control method</td><td>ON/OFF control or 2-PID control (with auto-tuning)</td><td>Same as left</td></tr>
<tr><td rowspan="4">Control output</td><td>Relay output</td><td rowspan="4">Output Unit
<table><tr><th>Output unit</th><th>Model</th><th>Specifications</th></tr><tr><td>Relay output</td><td>E53-RN</td><td>SPST-NO, 250 VAC, 5 A (resistive load), electrical life: 100,000 operations</td></tr><tr><td rowspan="3">Voltage output (for driving SSR)</td><td>E53-QN</td><td>12 VDC (PNP), max. load current: 40-mA, with short-circuit protection</td></tr><tr><td>E53-Q3</td><td>24 VDC (NPN), max. load current: 20-mA, with short-circuit protection</td></tr><tr><td>E53-Q4</td><td>24 VDC (PNP), max. load current: 20-mA, with short-circuit protection</td></tr><tr><td rowspan="2">Current output</td><td>E53-C3N</td><td>4 to 20-mA DC, load: 600 Ω max., resolution: approx. 10,000</td></tr><tr><td>E53-C3DN</td><td>0 to 20-mA DC, load: 600 Ω max., resolution: approx. 10,000</td></tr><tr><td rowspan="2">Linear voltage output</td><td>E53-V34N</td><td>0 to 10 VDC, load: 1 kΩ min., resolution: approx. 10,000</td></tr><tr><td>E53-V35N</td><td>0 to 5 VDC, load: 1 kΩ min., resolution: approx. 10,000</td></tr></table></td><td>SPST-NO, 250 VAC, 5 A (resistive load), electrical life: 100,000 operations, minimum applicable load: 5 V, 10 mA (reference value)</td></tr>
<tr><td>Voltage output (for driving SSR)</td><td>Output voltage: 12 VDC ±20% (PNP), max. load current: 40 mA, with short-circuit protection circuit (The maximum load current is 21 mA for models with two control outputs.)</td></tr>
<tr><td>Current output</td><td>4 to 20 mA DC/0 to 20 mA DC, load: 500 Ω max., resolution: approx. 10,000</td></tr>
<tr><td>Linear voltage output</td><td>—</td></tr>
<tr><td rowspan="2">Auxiliary output</td><td>Number of outputs</td><td>2 or 3 max.</td><td>4</td></tr>
<tr><td>Output specifications</td><td>Relay output: SPST-NO, 250 VAC, 3 A (resistive load), electrical life: 100,000 operations, minimum applicable load: 5 V,10 mA</td><td>SPST-NO relay outputs, 250 VAC, 2 A (resistive load)
Electrical life: 100,000 operations,
Minimum applicable load: 10 mA at 5 V (reference values)</td></tr>
</table>

Event input	**Number of outputs**	2 or 4 (with an E53-AKB)	4 or 6 (depends on model)
	External contact input specifications	Contact input: ON: 1 kΩ max., OFF: 100 kΩ min. Non-contact input: ON: Residual voltage: 1.5 V max., OFF: Leakage current: 0.1 mA max. Current flow: Approx. 7 mA per contact	Same as left
Logic operations	**Number of operations**	8 max.	Same as left
	Operations	Logic operation: Any of the following four patterns can be selected. The input status may be inverted. (A and B) or (C and D), (A or C) and (B or D), A or B or C or D, A and B and C and D (A, B, C, and D are four inputs.) Delay: ON delay or OFF delay for the results of the logic operation given above. Setting time: 0 to 9999 s or 0 to 9999 min Output inversion: Possible	Same as left
	Output	One work bit per operation	Same as left
	Work bit assignment	Any of The following can be assigned to up to eight work bits (logic operation results): operation commands (assigned to event inputs) : auxiliary outputs, or control outputs.	Same as left
Transfer outputs		1 max. (Depends on model. Models with transfer output (F in model number) Current output: 4 to 20 mA DC, Load: 600 Ω max., Resolution at 4 to 20 mA: Approx. 10,000	1 (depends on model): Transfer output type Current output: 4 to 20 mA DC, Load: 500 Ω, Resolution: Approx. 10,000 Linear voltage output: 1 to 5 V DC, Load: 1 kΩ min., Resolution: Approx. 10,000
RSP input	**Number of inputs**	1	Same as left
	Signal type	Current input: 4 to 20 mA (input impedance: 150 Ω ±10%)	Current input: 4 to 20 mA, 0 to 20 mA (Input impedance 150 Ω max.) Voltage input: 1 to 5 V, 0 to 5 V, 0 to 10 V (Input impedance 1 MΩ min.)
	Analog input scaling	Scaling of signal to engineering units (EU) −19,999 to 30,000 (display: 30,000 max.)	Scaling of signal to engineering units (EU) -19999 to 32400
	Accuracy	(±0.2% of FS) ±1 digit max.	Same as left
	Input sampling period	60ms	50ms
Setting method		Set digitally using keys on the front panel or by using the RSP input.	Digital setting using front panel keys

Indication method	11-segment digital display and individual indicators (7-segments displays also possible) Character height: E5AN-H: PV: 15.8 mm, SV: 9.5 mm, MV: 6.8 mm; E5EN-H: PV: 11.8 mm, SV: 8.1 mm, MV: 5.8 mm Content of 3-level display: PV/SV/MV, PV/SV/Bank No., or soak time remain Number of digits: 5 for PV and SV, 4 for MV	11-segment digital display, individual indicators, and bar display Character height: PV: 15.0 mm, SV: 11.0 mm, MV: 7.8 mm Three displays Contents: PV/SV/MV, PV/SV/Bank no., PV/SV/Remaining soak time, etc. Numbers of digits: 5 digits each for PV, SV, and 4 digits for MV
Bank switching	Supported (number of banks: 8) Local SP, alarm settings, PID sets (PID constants, MV upper limit, MV lower limit, etc.)	Same as left
Ambient operating temperature	−10 to 55°C (with no condensation or icing), for 3-year warranty: −10 to 50°C	Same as left
Ambient operating humidity	25% to 85%	Same as left

[Characteristics]

Product discontinuation E5AN-H／E5EN-H series: Recommended replacement E5ED-H series

Item	Product discontinuation E5AN-H, E5EN-H series	Recommendable replacement E5ED-H series
Indication accuracy	Thermocouple: (±0.1% of indicated value or ±1°C, whichever is greater) ±1 digit max. (The indication accuracy of K thermocouples in the −200 to 1300° C range, T and N thermocouples at a temperature of −100° C max., and U and L thermocouples at any temperatures is ±2° C ±1 digit max. The indication accuracy of the B thermocouple at a temperature of 400° C max. is not specified. The indication accuracy of B thermocouples in the 400 to 800° C range is ± 3° C max. The indication accuracy of the R and S thermocouples at a temperature of 200° C max. is ±3° C ±1 digit max. The indication accuracy of W thermocouples is ±0.3% of PV or ±3° C, whichever is greater, ±1 digit max. The indication accuracy of PL II thermocouples is ±0.3% of PV or ±2° C, whichever is greater, ±1 digit max.) Platinum resistance thermometer: (±0.1% of indicated value or ±0.5°C, whichever is greater) ±1 digit max. Analog input: ±0.1% FS ±1 digit max. CT input: ±5% FS ±1 digit max. Potentiometer input: ±5% FS ±1 digit max.	Same as left
Transfer output accuracy	±0.3% FS max.	Same as left
RSP input Accuracy	(±0.2% of FS) ±1 digit max.	Same as left
Influence of temperature	Thermocouple input (R, S, B, W, PL II): (±1% of PV or ±10°C, whichever is greater) ±1 digit max. Other thermocouple input: (±1% of PV or ±4°C, whichever is greater) ±1 digit max. (K thermocouple at −100° C max.: ±10° C max.)	Thermocouple input (R, S, B, C/W, PL II): (±1% of indication value or ±10°C, whichever is greater) ±1 digit max. Other thermocouple input: (±1% of indication value or ±4°C, whichever is greater) ±1 digit max. *3 Platinum resistance
Influence of voltage		

Influence of EMS. (at EN 61326-1)	Platinum resistance thermometer: (±1% of PV or ±2°C, whichever is greater) ±1 digit max. Analog input: (±1%FS) ±1 digit max.	thermometer: (±1% of indication value or ±2°C, whichever is greater) ±1 digit max. Analog input: ±1%FS ±1 digit max. CT input: ±5% FS ±1 digit max. Remote SP input: ±0.1% FS ±1 digit max.
Input sampling period	60ms	50ms
Hysteresis	Temperature input: 0.1 to 3240.0°C or °F (in units of 0.1°C or °F) Analog input: 0.01% to 99.99% FS (in units of 0.01% FS)	Temperature input: 0.1 to 999.9°C or °F (in units of 0.1°C or °F) Analog input: 0.01% to 99.99% FS (in units of 0.01% FS)
Proportional band (P)	Temperature input: 0.1 to 3240.0°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)	Temperature input: 0.1 to 3420.0°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)	0.0 to 3240.0 s (in units of 0.1 s)	Standard or heating/cooling control: 0 to 9999 s (in 1-s increments) or 0.0 to 3240.0 s (in 0.1-s increments)
Derivative time (D)	0.0 to 3240.0 s (in units of 0.1 s)	0 to 9999 s (in 1-s increments) 0.0 to 3240.0 s (in 0.1-s increments)
Proportional band (P) for cooling	—	Temperature input: 0.1 to 3420.0°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	—	Standard or heating/cooling control: 0 to 9999 s (in 1-s increments) or 0.0 to 3240.0 s (in 0.1-s increments)
Derivative time (D) for cooling	—	0 to 9999 s (in 1-s increments) 0.0 to 3240.0 s (in 0.1-s increments)

For adaptive control	**SP response proportional band**		—	Temperature input: 0.1 to 3240.0°C or °F (in units of 0.1°C or °F)
	SP response integral time		—	0 to 9999 s (in units of 1 s), 0.0 to 3240.0 s (in units of 0.1 s)
	SP response derivative time		—	0 to 9999 s (in units of 1 s), 0.0 to 3240.0 s (in units of 0.1 s)
	Disturbance proportional band		—	Temperature input: 0.1 to 3240.0°C or °F (in units of 0.1°C or °F)
	Disturbance integral time		—	0 to 9999 s (in units of 1 s), 0.0 to 3240.0 s (in units of 0.1 s)
	Disturbance derivative time		—	0 to 9999 s (in units of 1 s), 0.0 to 3240.0 s (in units of 0.1 s)
Control period			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)
Manual reset value			0.0 to 100.0% (in units of 0.1%)	0.0 to 100.0% (in units of 0.1%)
Alarm setting range			-19999 to 32400 (decimal point position depends on input type)	−19999 to 32400 (except for MV alarm) Temperature input: The decimal point is automatically set when the sensor is selected. Analog input: The decimal point depends on the Decimal Point parameter setting. −1999.9 to 3240.0 (MV alarm)
Insulation resistance			20 MΩ min. (at 500 VDC)	Same as left
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
Vibration resistance		**Malfunction**	10 to 55 Hz, 20 m/s^2 for 10 min each in X, Y, and Z directions	Same as left
		Destruction	10 to 55 Hz, 0.75-mm single amplitude for 2 hrs each in X, Y, and Z directions	Same as left
Shock resistance		**Malfunction**	100 m/s^2, 3 times each in X, Y, and Z directions	Same as left
		Destruction	300 m/s^2, 3 times each in X, Y, and Z directions	Same as left
life (Relay output)		**Electrical**	100,000 operations min.	Same as left
Memory protection			Non-volatile memory (number of writes: 1,000,000 times)	Same as left
Weight			E5AN-H Controller: Approx. 310 g, Mounting Bracket: Approx. 100 g E5EN-H Controller: Approx. 260 g, Mounting Bracket: Approx. 100 g	Controller: Approx. 220 g, Mounting Adapter: Approx. 4 g × 2

Degree of protection		Front panel: IP66, Rear case: IP20, Terminals: IP00	Same as left
Communications Specifications	**Transmission line connection method**	RS-485, RS-422: Multipoint RS-232C: Point-to-point	RS-485: Multidrop
	Communications	RS-485 (two-wire, half duplex) RS-422 (four-wire, half duplex) or RS-232C	RS-485 (two-wire, half duplex)
	Synchronization method	Start-stop synchronization	Same as left
	Protocol	CompoWay/F, SYSWAY, or Modbus	CompoWay/F, or Modbus
	Baud rate	1,200, 2,400, 4,800, 9,600, 19,200, 38,400, or 57,600 bps	9,600, 19,200, 38,400, 57,600, or 115,200 bps
	Transmission code	ASCII (CompoWay/F, SYSWAY) RTU (Modbus	ASCII
	Data bit length	7 or 8 bits	Same as left
	Stop bit length	1 or 2 bits	Same as left
	Error detection	Vertical parity (none, even, odd) Frame check sequence (FCS) with SYSWAY Block check character (BCC) with CompoWay/F or CRC-16 Modbus	Vertical parity (none, even, odd) Block check character (BCC) with CompoWay/F or CRC-16 Modbus
	Flow control	None	Same as left
	Interface	RS-485, RS-422, or RS-232C	RS-485
	Retry function	None	Same as left
	Communications buffer	217 bytes	Same as left
	Communications response wait time	0 to 99 ms Default: 20 ms	Same as left
Standards	**Approved standards**	UL 61010-1, CSA C22.2 No. 1010-1	cULus: UL 61010-1/CSA C22.2 No.61010-1, Korean wireless regulations (Radio law: KC Mark)
	Conformed standards	EN 61010-1 (IEC 61010-1): Pollution level 2, overcurrent category II, Lloyd's standards	EN 61010-1 (IEC 61010-1) and RCM standards

EMC	EMI: EN 61326-1 Radiated Interference Electromagnetic Field Strength: EN 55011 Group 1, class A Noise Terminal Voltage: EN 55011 Group 1, class A EMS: EN 61326-1 ESD Immunity: EN 61000-4-2 Electromagnetic Field Immunity: EN 61000-4-3 Burst Noise Immunity: EN 61000-4-4 Conducted Disturbance Immunity: EN 61000-4-6 Surge Immunity: EN 61000-4-5 Power Frequency Magnetic Field Immunity: EN 61000-4-8 Voltage Dip/Interrupting Immunity: EN 61000-4-11	EMI: EN 61326-1 Radiated Interference Electromagnetic Field Strength: EN 55011 Group 1, class A Noise Terminal Voltage: EN 55011 Group 1, class A EMS: EN 61326-1 ESD Immunity: EN 61000-4-2 Electromagnetic Field Immunity: EN 61000-4-3 Burst Noise Immunity: EN 61000-4-4 Conducted Disturbance Immunity: EN 61000-4-6 Surge Immunity: EN 61000-4-5 Voltage Dip/Interrupting Immunity: EN 61000-4-11

[Ratings]

Product discontinuation E5CN-H series: Recommended replacement E5CD-H series

Item	Product discontinuation E5CN-H series	Recommendable replacement E5CD-H series
Power supply voltage	100 to 240 VAC, 50/60 Hz 24 VAC, 50/60 Hz; 24 VDC	Same as left
Operating voltage range	85% to 110% of rated supply voltage	Same as left
Power consumption	100 to 240 VAC: 8.5 VA (max.) (E5CN-HR2 at 100 VAC: 3.0 VA) 24 VAC/VDC: 5.5 VA (24 VAC)/3.5 W (24 VDC) (max.) (E5CN-HR2D at 24 VAC: 2.7 VA)	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	Thermocouple: K, J, T, E, L, U, N, R, S, B, W, or PL II Platinum resistance thermometer: Pt100 or JPt100 Current input: 4 to 20 mA or 0 to 20 mA Voltage input: 1 to 5 V, 0 to 5 V, or 0 to 10 V	Temperature input Thermocouple: K, J, T, E, L, U, N, R, S, B, C/W, or PL II Platinum resistance thermometer: Pt100 or JPt100 Analog input Current input: 4 to 20 mA or 0 to 20 mA Voltage input: 1 to 5 V, 0 to 5 V, or 0 to 10 V
Input impedance	Current input: 150 Ω max., Voltage input: 1 MΩ min. (Use a 1:1 connection when connecting the ES2-HB-N.)	Current input: 150 Ω max., Voltage input: 1 MΩ min. (Use a 1:1 connection when connecting the ES2-HB-N/THB-N.)
Control method	ON/OFF control or 2-PID control (with auto-tuning)	Same as left

Control output	**Relay output**	SPST-NO, 250 VAC, 3 A (resistive load), electrical life: 100,000 operations, minimum applicable load: 5 V, 10 mA	Same as left
	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: 600 Ω max., resolution: approx. 10,000	4 to 20 mA DC/0 to 20 mA DC, load: 500 Ω max., resolution: approx. 10,000
	Linear voltage	0 to 10 VDC (load: 1 kΩ min.), Resolution: Approx. 10,000	—
Auxiliary output	**Number of outputs**	2 max.	2
	Output specifications	Relay output: SPST-NO, 250 VAC, 3 A (resistive load), electrical life: 100,000 operations, minimum applicable load: 5 V, 10 mA	SPST-NO relay outputs, 250 VAC, 2 A (resistive load) Electrical life: 100,000 operations, Minimum applicable load: 10 mA at 5 V (reference values)
Event input	**Number of outputs**	2	2 max.
	External contact input specifications	Contact input: ON: 1 kΩ max., OFF: 100 kΩ min. Non-contact input: ON: Residual voltage: 1.5 V max., OFF: Leakage current: 0.1 mA max. Current flow: Approx. 7 mA per contact	Same as left
Logic operations	**Number of operations**	8 max.	Same as left
	Operations	Logic operation: Any of the following four patterns can be selected. The input status may be inverted. (A and B) or (C and D), (A or C) and (B or D), A or B or C or D, A and B and C and D (A, B,C, and D are four inputs.) Delay: ON delay or OFF delay for the results of the logic operation given above. Setting time: 0 to 9999 s or 0 to 9999 min Output inversion: Possible	Same as left
	Output	One work bit per operation	Same as left
	Work bit assignments	Any of the following can be assigned to up to eight work bits (logic operation results): Operation commands(assigned to event inputs) *, auxiliary outputs, or control outputs.	Same as left

Transfer outputs	1 max. Current output: 4 to 20 mA DC, Load: 600 Ω max., Resolution at 4 to 20 mA: Approx. 10,000	1 (only on models with a transfer output) Current output: 4 to 20 mA DC, load: 500 Ω max., resolution: approx. 10,000 Linear voltage output: 1 to 5 VDC, load: 1 kΩ min., resolution: Approx. 10,000
Setting method	Digital setting using front panel keys	Same as left
Indication method	11-segment digital display and individual indicators (7-segments displays also possible) Character height: PV: 11 mm, SV: 6.5 mm	11-segment digital display, individual indicators, and bar display Character height: PV: 15.0 mm, SV: 6.5 mm
Bank switching	Supported (number of banks: 8) Local SP, alarm settings, PID sets (PID constants, MV upper limit, MV lower limit, etc.)	Same as left
RSP input	Not supported	—
Ambient operating temperature	-10 to 55°C (with no condensation or icing), for 3-year warranty: −10 to 50°C	Same as left
Ambient operating humidity	25% to 85%	Same as left

[Characteristics]

Product discontinuation E5CN-H series: Recommended replacement E5CD-H series

Item	Product discontinuation E5CN-H series	Recommendable replacement E5CD-H series
Indication accuracy	Thermocouple: (±0.1% of indicated value or ±1°C, whichever is greater) ±1 digit max. (The indication accuracy of K thermocouples in the −200 to 1300°C range, T and N thermocouples at a temperature of −100°C max, and U and L thermocouples at any temperatures is ±2°C ±1 digit max. The indication accuracy of the B thermocouple at a temperature of 400°C max. is not specified. The indication accuracy of B thermocouples in the 400 to 800°C range is ±3°C max. The indication accuracy of the R and S thermocouples at a temperature of 200°C max. is ±3°C ±1 digit max. The indication accuracy of W thermocouples is ±0.3 of PV or ±3°C, whichever is greater, ±1 digit max. The indication accuracy of PL II thermocouples is ±0.3 of PV or ±2°C, whichever is greater, ±1 digit max.) Platinum resistance thermometer: (±0.1% of indicated value or ±0.5°C, whichever is greater) ±1 digit max. Analog input: ±0.1% FS ±1 digit max. CT input: ±5% FS ±1 digit max.	Same as left
Transfer output accuracy	±0.3% FS max.	Same as left
Influence of temperature	Thermocouple input (R, S, B, W, PLII): (±1% of PV or ±10°C, whichever is greater) ±1 digit max. Other thermocouple input: (±1% of PV or ±4°C, whichever is greater) ±1 digit max. (K thermocouple at −100°C max.: ±10°C max.) Platinum resistance thermometer: (±1% of PV or ±2°C, whichever is greater) ±1 digit max. Analog input: (±1%FS) ±1 digit max.	Thermocouple input (R, S, B, C/W, PL II): (±1% of indication value or ±10°C, whichever is greater) ±1 digit max. Other thermocouple input: (±1% of indication value or ±4°C, whichever is greater) ±1 digit max. Platinum resistance thermometer: (±1% of indication value or ±2°C, whichever is greater) ±1 digit max. Analog input: ±1%FS ±1 digit max. CT input: ±5% FS ±1 digit max.
Influence of voltage		
Influence of EMS. (at EN 61326-1)		

Input sampling period		60ms	50ms
Hysteresis		Temperature input: 0.1 to 3240.0°C or °F (in units of 0.1°C or °F) Analog input: 0.01% to 99.99% FS (in units of 0.01% FS)	Temperature input: 0.1 to 999.9°C or °F (in units of 0.1°C or °F) Analog input: 0.01% to 99.99% FS (in units of 0.01% FS)
Proportional band (P)		Temperature input: 0.1 to 3240.0°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)	Temperature input: 0.1 to 3240.0°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)		0.0 to 3240.0 s (in units of 0.1 s)	0 to 9999 s (in 1-s increments) 0.0 to 3240.0 s (in 0.1-s increments)
Derivative time (D)		0.0 to 3240.0 s (in units of 0.1 s)	0 to 9999 s (in 1-s increments) 0.0 to 3240.0 s (in 0.1-s increments)
Proportional band (P) for cooling		—	Temperature input: 0.1 to 3240.0°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 1-s increments) 0.0 to 3240.0 s (in 0.1-s increments)
Derivative time (D) for cooling		—	0 to 9999 s (in 1-s increments) 0.0 to 3240.0 s (in 0.1-s increments)
For adaptive control	**SP response proportional band**	—	Temperature input: 0.1 to 3240.0°C or °F (in units of 0.1°C or °F)
	SP response integral time	—	0 to 9999 s (in units of 1 s), 0.0 to 3240.0 s (in units of 0.1 s)
	SP response derivative time	—	0 to 9999 s (in units of 1 s), 0.0 to 3240.0 s (in units of 0.1 s)
	Disturbance proportional band	—	Temperature input: 0.1 to 3240.0°C or °F (in units of 0.1°C or °F)
	Disturbance integral time	—	0 to 9999 s (in units of 1 s), 0.0 to 3240.0 s (in units of 0.1 s)
	Disturbance derivative time	—	0 to 9999 s (in units of 1 s), 0.0 to 3240.0 s (in units of 0.1 s)
Control period		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)
Manual reset value		0.0 to 100.0% (in units of 0.1%)	0.0 to 100.0% (in units of 0.1%)
Alarm setting range		-19999 to 32400 (decimal point position depends on input type)	−19999 to 32400 (except for MV alarm) Temperature input: The decimal point is automatically set when the sensor is selected. Analog input: The decimal point depends on the Decimal Point parameter setting. −1999.9 to 3240.0 (MV alarm)

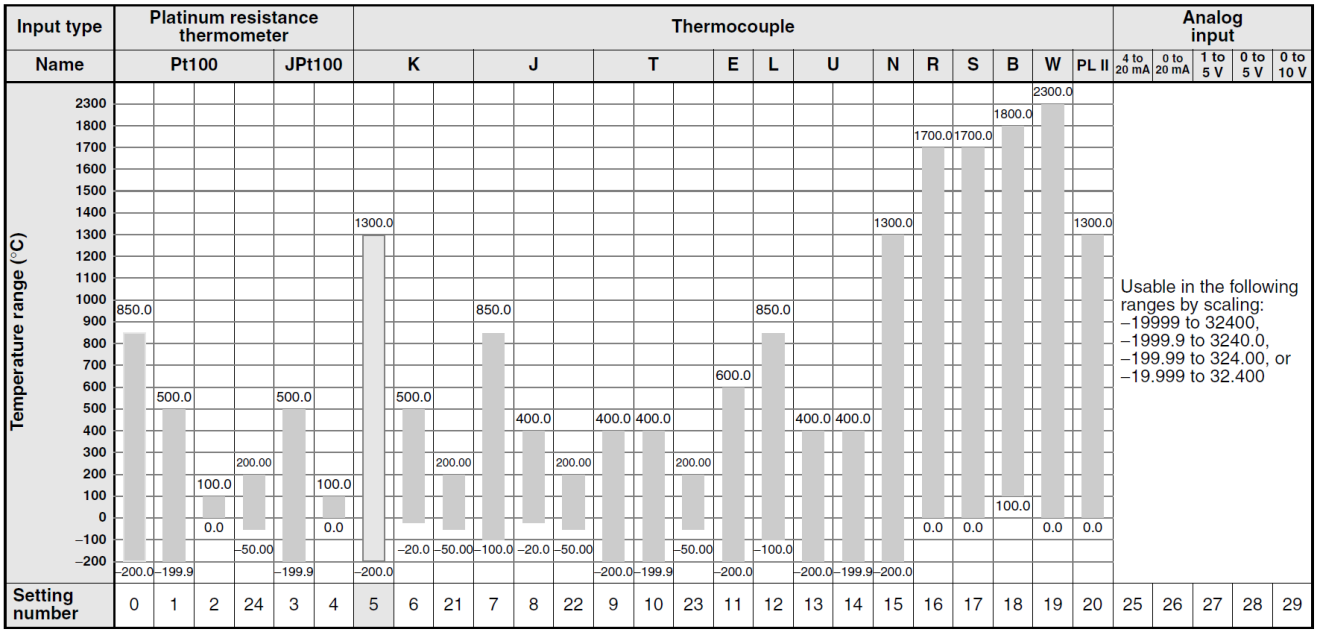
Insulation resistance			20 MΩ min. (at 500 VDC)	Same as left
Dielectric strength			2,300 VAC, 50 or 60 Hz for 1 min (between terminals with different charge)	3,000 VAC, 50/60 Hz for 1 min between terminals of different charge
Vibration resistance		**Malfunction**	10 to 55 Hz, 20 m/s^2 for 10 min each in X, Y, and Z directions	Same as left
		Destruction	10 to 55 Hz, 0.75-mm single amplitude for 2 hrs each in X, Y, and Z directions	Same as left
Shock resistance		**Malfunction**	100 m/s^2, 3 times each in X, Y, and Z directions	Same as left
		Destruction	300 m/s^2, 3 times each in X, Y, and Z directions	Same as left
Life (Relay output)		**electrical:**	100,000 operations	Same as left
Memory protection			Non-volatile memory (number of writes: 1,000,000 times)	Same as left
Weight			Controller: Approx. 150 g, Mounting Bracket: Approx. 10 g	Controller: Approx. 130 g, Mounting Adapter: Approx. 10 g
Degree of protection			Front panel: IP66, Rear case: IP20, Terminals: IP00	Same as left
Communications Specifications	**Transmission line connection method**		RS-485, RS-422: Multipoint RS-232C: Point-to-point	RS-485: Multidrop
	Communications		RS-485 (two-wire, half duplex) RS-422 (four-wire, half duplex) or RS-232C	RS-485 (two-wire, half duplex)
	Synchronization method		Start-stop synchronization	Same as left
	Protocol		CompoWay/F, SYSWAY, or Modbus	CompoWay/F, or Modbus
	Baud rate		1,200, 2,400, 4,800, 9,600, 19,200, 38,400, or 57,600 bps	9,600, 19,200, 38,400, 57,600, or 115,200 bps
	Transmission code		ASCII (CompoWay/F, SYSWAY) RTU (Modbus	ASCII
	Data bit length		7 or 8 bits	Same as left
	Stop bit length		1 or 2 bits	Same as left
	Error detection		Vertical parity (none, even, odd) Frame check sequence (FCS) with SYSWAY Block check character (BCC) with CompoWay/F or CRC-16 Modbus	Vertical parity (none, even, odd) Block check character (BCC) with CompoWay/F or CRC-16 Modbus
	Flow control		None	Same as left
	Interface		RS-485, RS-422, or RS-232C	RS-485
	Retry function		None	Same as left
	Communications buffer		217 bytes	Same as left
	Communications response wait time		0 to 99 ms Default: 20 ms	Same as left

Standards	**Approved standards**	UL 61010-1, CSA C22.2 No. 1010-1	cULus: UL 61010-1/CSA C22.2 No.61010-1, Korean wireless regulations (Radio law: KC Mark)
	Conformed standards	EN 61010-1 (IEC 61010-1): Pollution level 2, overcurrent category II, Lloyd's standards	EN 61010-1 (IEC 61010-1) and RCM standards
EMC		EMI: EN 61326-1 Radiated Interference Electromagnetic Field Strength: EN 55011 Group 1, class A Noise Terminal Voltage: EN 55011 Group 1, class A EMS: EN 61326-1 ESD Immunity: EN 61000-4-2 Electromagnetic Field Immunity: EN 61000-4-3 Burst Noise Immunity: EN 61000-4-4 Conducted Disturbance Immunity: EN 61000-4-6 Surge Immunity: EN 61000-4-5 Power Frequency Magnetic Field Immunity: EN 61000-4-8 Voltage Dip/Interrupting Immunity: EN 61000-4-11	EMI: EN 61326-1 Radiated Interference Electromagnetic Field Strength: EN 55011 Group 1, class A Noise Terminal Voltage: EN 55011 Group 1, class A EMS: EN 61326-1 ESD Immunity: EN 61000-4-2 Electromagnetic Field Immunity: EN 61000-4-3 Burst Noise Immunity: EN 61000-4-4 Conducted Disturbance Immunity: EN 61000-4-6 Surge Immunity: EN 61000-4-5 Voltage Dip/Interrupting Immunity: EN 61000-4-11

[Operating characteristics]

Product discontinuation
E5AN-H, E5EN-H, E5CN-H series

Input Ranges

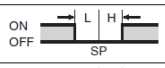
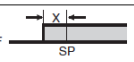
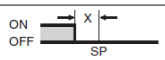
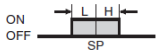
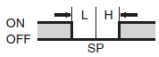
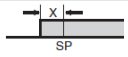
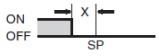
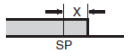
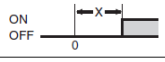
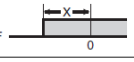
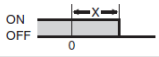
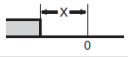
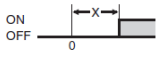
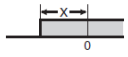
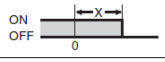
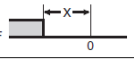
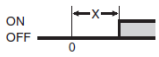
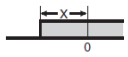
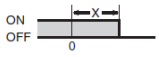
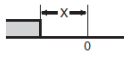


Input type	Platinum resistance thermometer						Thermocouple																	Analog input				
Name	Pt100				JPt100		K			J			T			E	L	U		N	R	S	B	W	PL II	4 to 20 mA	0 to 20 mA	1 to 5 V	0 to 5 V	0 to 10 V
Setting number	0	1	2	24	3	4	5	6	21	7	8	22	9	10	23	11	12	13	14	15	16	17	18	19	20	25	26	27	28	29

Product discontinuation
E5AN-H, E5EN-H, E5CN-H series

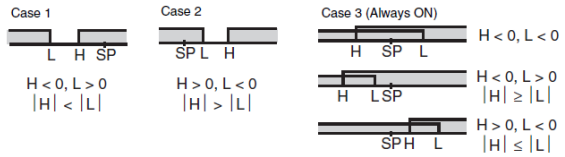
Alarm Outputs

E5AN-H,E5EN-H series

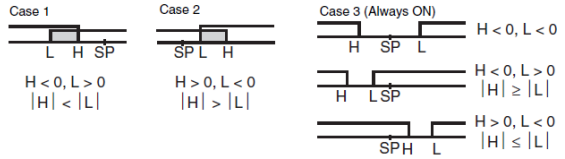
Set value	Alarm type	Alarm output operation		Description of function
		When alarm value X is positive	When alarm value X is negative	
0	Alarm function OFF	Output OFF		No alarm
1	Upper- and lower-limit ✻1		✻2	Set the deviation in the set point by setting the alarm upper limit (H) and alarm lower limit (L).
2	Upper-limit			Set the upward deviation in the set point by setting the alarm value (X).
3	Lower-limit			Set the downward deviation in the set point by setting the alarm value (X).
4	Upper- and lower-limit range ✻1		✻3	Set the deviation in the set point by setting the alarm upper limit (H) and alarm lower limit (L).
5	Upper- and lower-limit with standby sequence ✻1	 ✻5	✻4	A standby sequence is added to the upper- and lower-limit alarm (1). ✻7
6	Upper-limit with standby sequence			A standby sequence is added to the upper-limit alarm (2). ✻7
7	Lower-limit with standby sequence			A standby sequence is added to the lower-limit alarm (3). ✻7
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). ✻7
11	Absolute-value lower-limit with standby sequence			A standby sequence is added to the absolute-value lower-limit alarm (9). ✻7
12	LBA (alarm 1 type only)	---		✻8
13	PV change rate alarm	---		✻9
14	RSP absolute value upper limit ✻6			The alarm turns ON when the remote SP (RSP) is larger than the alarm value (X). This alarm functions in both Local SP and Remote SP Modes.
15	RSP absolute value lower limit ✻6			The alarm turns ON when the remote SP (RSP) is smaller than the alarm value (X). This alarm functions in both Local SP and Remote SP Modes.

✻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.

✻6. Displayed when there is a remote SP input.

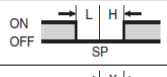
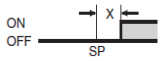
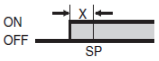
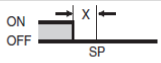
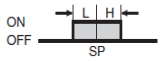
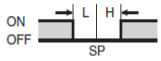
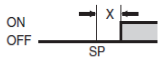
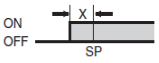
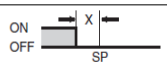
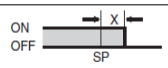
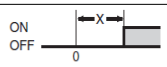
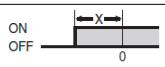
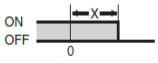
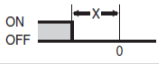
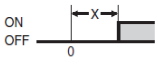
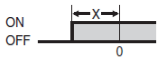
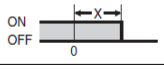
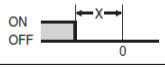
✻7. Refer to the *E5CN/E5AN/E5EN/E5GN Digital Temperature Controllers User's Manual Basic Type* (Cat. No. H156) for information on the operation of the standby sequence.

✻8. Refer to the *E5CN/E5AN/E5EN/E5GN Digital Temperature Controllers User's Manual Basic Type* (Cat. No. H156) for information on the loop burnout alarm (LBA).

✻9. Refer to the *E5CN/E5AN/E5EN/E5GN Digital Temperature Controllers User's Manual Basic Type* (Cat. No. H156) for information on the PV change rate alarm.

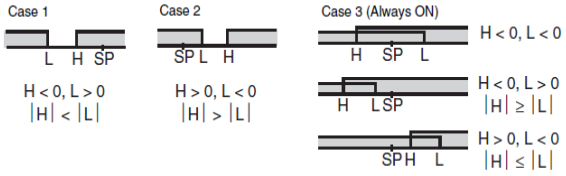
Product discontinuation
E5AN-H, E5EN-H, E5CN-H series

E5CN-H series

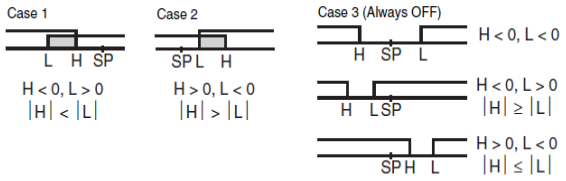
Set value	Alarm type	Alarm output operation		Description of function
		When alarm value X is positive	When alarm value X is negative	
0	Alarm function OFF	Output OFF		No alarm
1 ✻1	Upper- and lower-limit		✻2	Set the deviation in the set point by setting the alarm upper limit (H) and alarm lower limit (L).
2	Upper-limit			Set the upward deviation in the set point by setting the alarm value (X).
3	Lower-limit			Set the downward deviation in the set point by setting the alarm value (X).
4 ✻1	Upper- and lower-limit range		✻3	Set the deviation in the set point by setting the alarm upper limit (H) and alarm lower limit (L).
5 ✻1	Upper- and lower-limit with standby sequence	 ✻5	✻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

✻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.

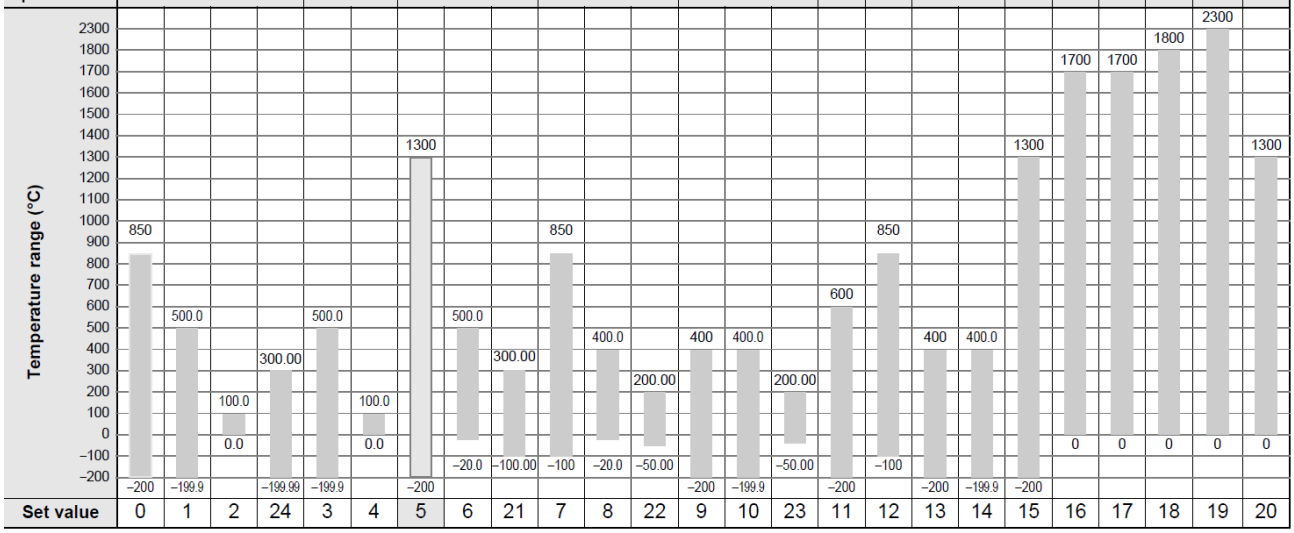
✻6. Refer to the *E5CN/E5AN/E5EN/E5GN Digital Temperature Controllers User's Manual Basic Type* (Cat. No. H156) for information on the operation of the standby sequence.

✻7. Refer to the *E5CN/E5AN/E5EN/E5GN Digital Temperature Controllers User's Manual Basic Type* (Cat. No. H156) for information on the loop burnout alarm (LBA).

✻8. Refer to the *E5CN/E5AN/E5EN/E5GN Digital Temperature Controllers User's Manual Basic Type* (Cat. No. H156) for information on the PV change rate alarm.

Recommendable replacement
E5ED-H, E5CD-H series

Input Ranges



Sensor type	Platinum resistance thermometer						Thermocouple																		
Sensor specification	Pt100				JPt100		K			J			T			E	L	U		N	R	S	B	C/W	PLII
Set value	0	1	2	24	3	4	5	6	21	7	8	22	9	10	23	11	12	13	14	15	16	17	18	19	20
	850	500.0	100.0	300.00	500.0	100.0	1300	500.0	300.00	850	400.0	200.00	400	400.0	200.00	600	850	400	400.0	1300	1700	1700	1800	2300	1300
	0.0				0.0																0	0	0	0	0
	−200	−199.9		−199.99	−199.9		−200	−20.0	−100.00	−100	−20.0	−50.00	−200	−199.9	−50.00	−200	−100	−200	−199.9	−200					

Shaded settings are the default settings.

The applicable standards for the input types are as follows:

K, J, T, E, N, R, S, B: JIS C 1602-2015, IEC 60584-1
L: Fe-CuNi, DIN 43710-1985
U: Cu-CuNi, DIN 43710-1985
C/W: W5Re/W26Re, JIS C1602-2015, ASTM E988-1990
JPt100: JIS C 1604-1989, JIS C 1606-1989
Pt100: JIS C 1604-1997, IEC 60751
PL II: ASTM E1751-000

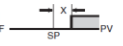
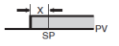
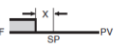
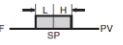
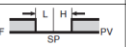
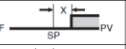
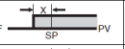
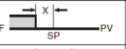
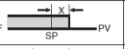
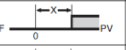
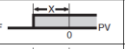
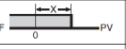
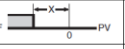
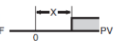
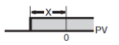
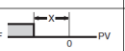
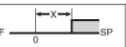
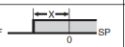
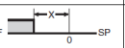
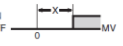
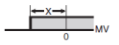
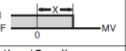
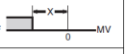
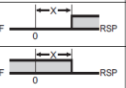
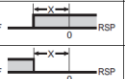
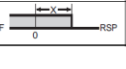
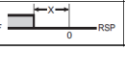
Analog input

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
Setting range	Usable in the following ranges by scaling: -19999 to 32400 -1999.9 to 3240.0 -199.99 to 324.00 -19.999 to 32.400				
Set value	25	26	27	28	29

Recommendable replacement
E5ED-H, E5CD-H series

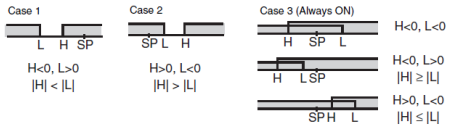
Alarm Outputs

E5ED-H series

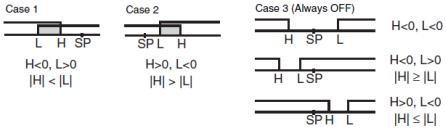
Set value	Alarm type	Alarm output operation		Description of function
		When alarm value X is positive	When alarm value X is negative	
0	Alarm function OFF	Output OFF		No alarm
1	Upper- and lower-limit ✻1		✻2	Set the upward deviation in the set point for the alarm upper limit (H) and the lower deviation 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	✻5 	✻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  Heating/Cooling Control (Heating MV) 	Standard Control  Heating/Cooling Control (Heating MV) Always ON	This alarm type turns ON the alarm when the manipulated variable (MV) is higher than the alarm value (X).
17	MV absolute-value lower-limit alarm ✻9	Standard Control  Heating/Cooling Control (Cooling MV) 	Standard Control  Heating/Cooling Control (Cooling MV) Always ON	This alarm type turns ON the alarm when the manipulated variable (MV) is lower than the alarm value (X).
18	RSP absolute-value upper-limit alarm ✻10			The alarm output is ON while the RSP is equal to or higher than the alarm value.
19	RSP absolute-value lower-limit alarm ✻10			The alarm output is ON while the RSP is equal to or lower than the alarm value.

✻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 *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 *E5□D-H Digital Temperature Controllers User's Manual* (Cat. No. H239) for information on the operation of the standby sequence.

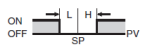
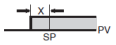
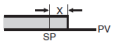
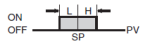
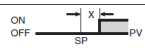
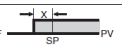
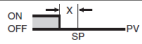
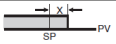
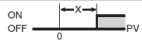
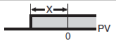
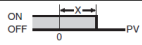
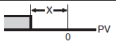
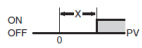
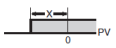
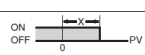
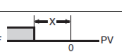
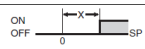
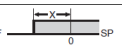
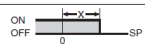
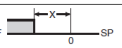
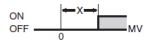
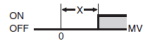
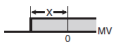
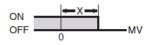
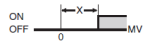
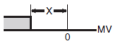
✻7. Refer to the *E5□D-H Digital Temperature Controllers User's Manual* (Cat. No.H239) for information on the loop burnout alarm (LBA).

✻8. Refer to the *E5□D-H Digital Temperature Controllers User's Manual* (Cat. No. H239) 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.

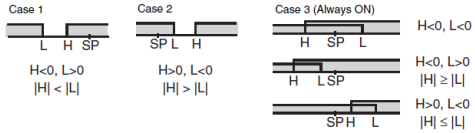
Recommendable replacement
E5ED-H, E5CD-H series

E5CD-H series

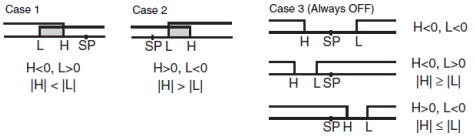
Set value	Alarm type	Alarm output operation		Description of function
		When alarm value X is positive	When alarm value X is negative	
0	Alarm function OFF	Output OFF		No alarm
1	Upper- and lower-limit ✻1		✻2	Set the upward deviation in the set point for the alarm upper limit (H) and the lower deviation 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	 ✻5	✻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  Heating/Cooling Control (Heating MV) 	Standard Control  Heating/Cooling Control (Heating MV) Always ON	This alarm type turns ON the alarm when the manipulated variable (MV) is higher than the alarm value (X).
17	MV absolute-value lower-limit alarm ✻9	Standard Control  Heating/Cooling Control (Cooling MV) 	Standard Control  Heating/Cooling Control (Cooling MV) Always ON	This alarm type turns ON the alarm when the manipulated variable (MV) 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



✻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 *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 *E5□D-H Digital Temperature Controllers User's Manual* (Cat. No. H239) for information on the operation of the standby sequence.

✻7. Refer to the *E5□D-H Digital Temperature Controllers User's Manual* (Cat. No.H239) for information on the loop burnout alarm (LBA).

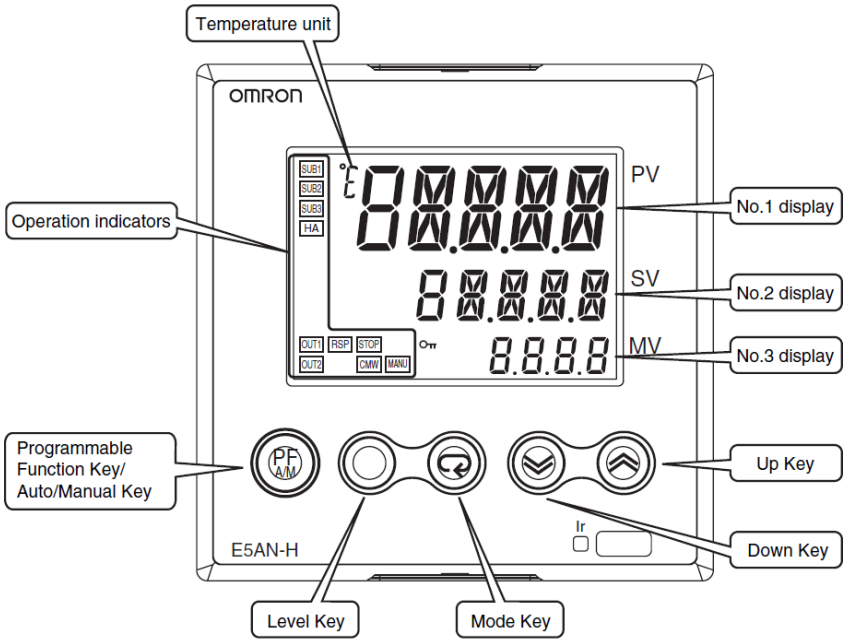
✻8. Refer to the *E5□D-H Digital Temperature Controllers User's Manual* (Cat. No. H239) for information on the PV change rate alarm.

✻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.

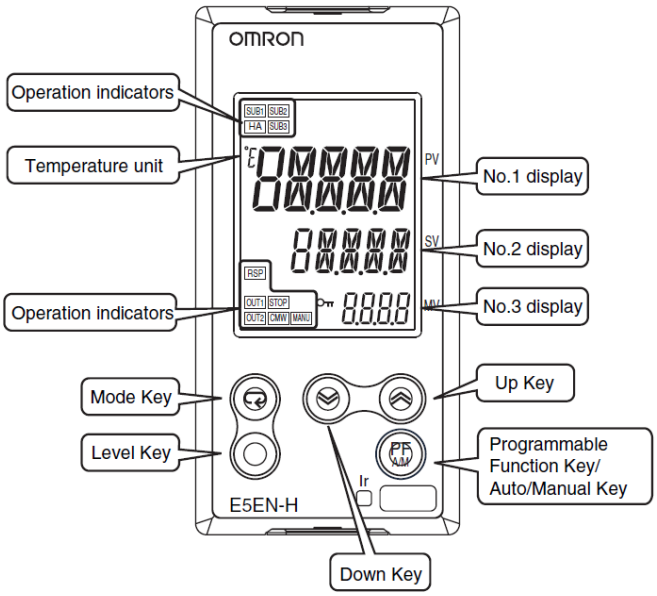
[Operation methods]

Product discontinuation
E5AN-H, E5EN-H, E5CN-H series

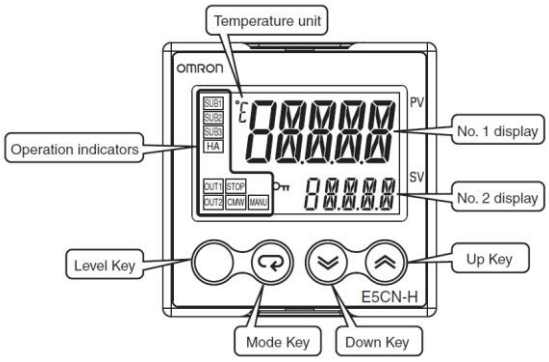
E5AN-H series



E5EN-H series

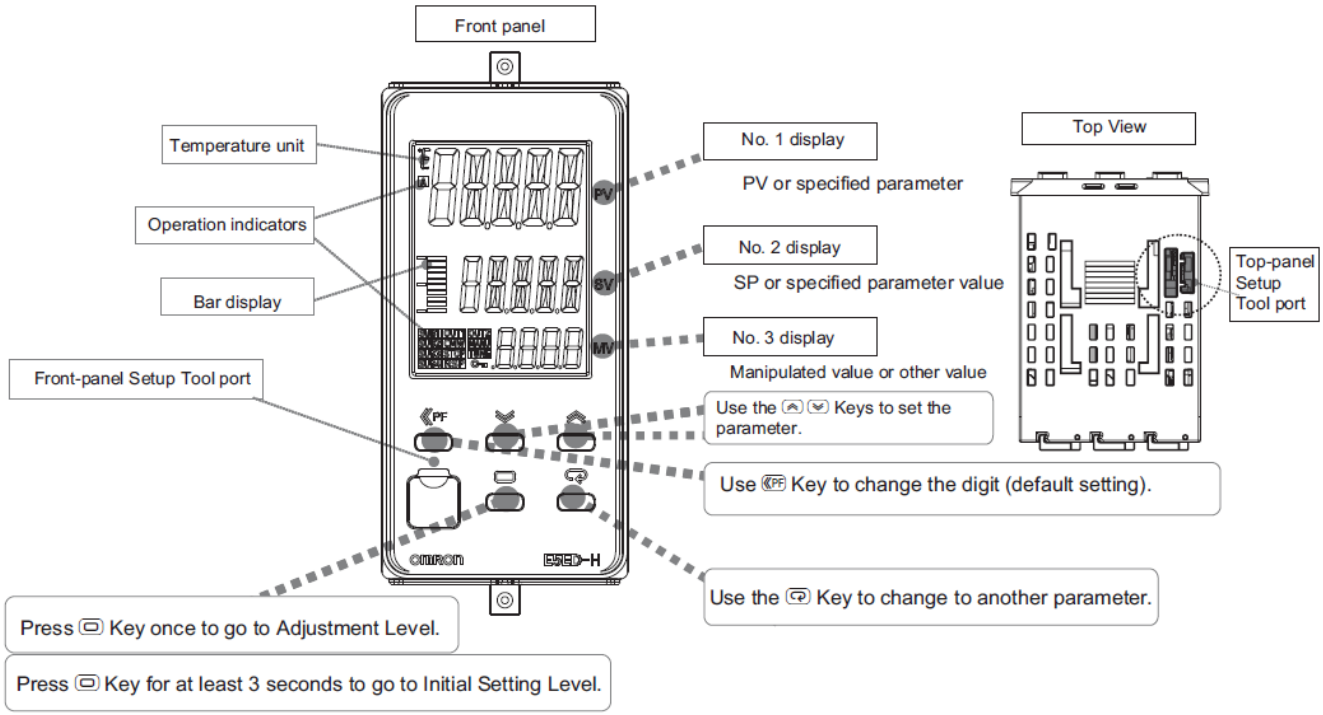


E5CN-H series

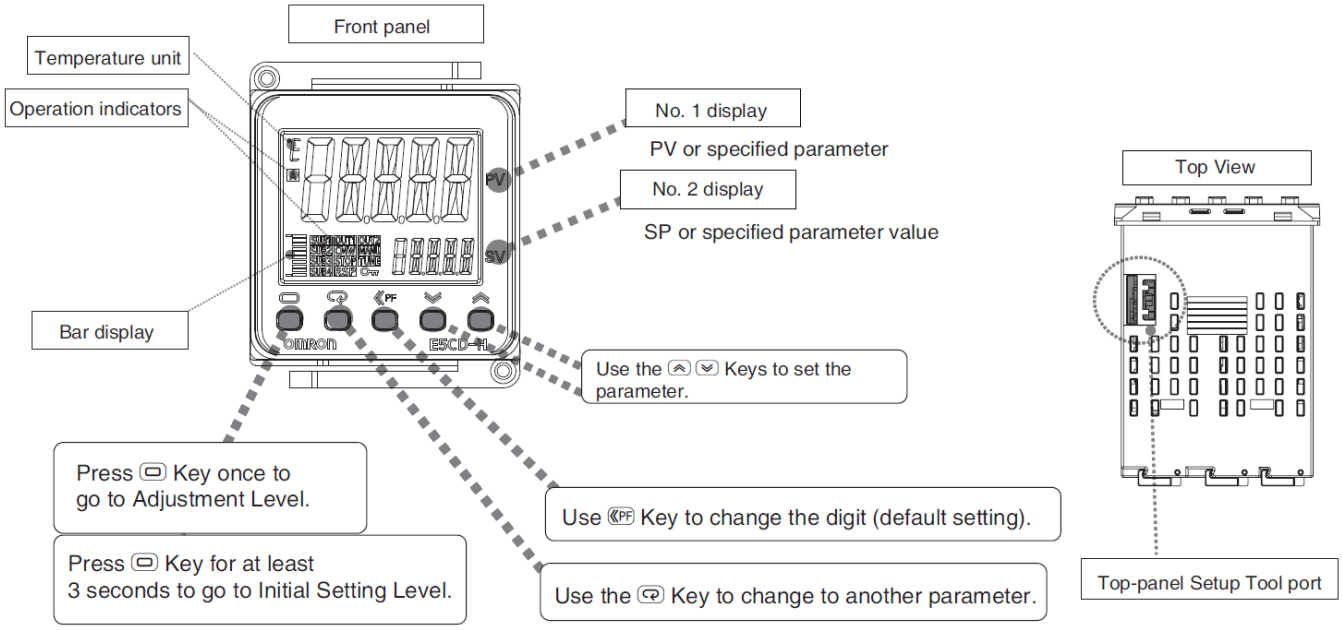


Recommendable replacement
E5ED-H, E5CD-H series

E5ED-H series



E5CD-H series



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.