Multipoint Temperature Controller
E5ZE

Compact, Easy-to-mount Multipoint Temperature Controller (Casing)

Compact, Easy-to-use, Board-type Multipoint Temperature Controller (Open)

- Easy-to-mount, user-friendly models with casing.
- 50% smaller in projection space than the previous E5ZD Multipoint Temperature Controller.
- Connector terminal block saves wiring effort.
- High-speed input sampling.
- Heating/cooling models are available.

Note: Open models do not bear CE markings.

Model Number Structure

■ Model Number Legend

E5ZE-8□AAM□□-E
     1 2 3 4 5 6 7

1. Control Point
  8:    8

2. Control Method
  A: Standard
  V: Heating/cooling

3. Control Output
  A: Option (see note 1)

4. Heater Burnout and SSR Failure Detection (see note 2)
  A: Option (see note 3)

5. Communications
  M: Option (see note 4)

6. Input Type
  TC: Thermocouple
  P: Platinum resistance thermometer

7. Casing
  B: Yes
  Blank:No (open type)

Note: 1. The E53-E8Q Voltage Output Unit or the E53-E8C Current Output Unit can be used with the E5ZE. The E53-E8Q Voltage Output Unit and the E53-E8C Current Output Unit are sold separately.

2. The heater burnout and SSR failure detection function of the E5ZE will be invalid if the heating side control output of the E5ZE is current output.

3. The E54-E8CT CT Input Unit is required for the heater burnout and SSR failure detection. The E54-E8CT CT Input Unit is sold separately.

4. The E53-E01 Communications Unit for RS-232C communication or the E53-E04 Communications Unit for RS-422 and RS-485 communication can be used with the E5ZE. The E53-E01 Communications Unit and the E53-E04 Communications Unit are sold separately.

Ordering Information

■ List of Models

No. of control points	Casing	Control method	Control output	Heater burnout and SSR failure detection	Communica-tions	Input type	
						Thermocouple	Platinum resistance thermometer
8	No	Standard	Option	Option	Option	E5ZE-8AAAMTC-E	E5ZE-8AAAMP-E
		Heating and cooling	Option	Option	Option	E5ZE-8VAAMTC-E	E5ZE-8VAAMP-E
	Yes	Standard	Option	Option	Option	E5ZE-8AAAMTCB-E	E5ZE-8AAAMPB-E
		Heating and cooling	Option	Option	Option	E5ZE-8VAAMTCB-E	E5ZE-8VAAMPB-E

■ I/O Units (Order Separately)

Units	Models
RS-232C Communications Unit	E53-E01
RS-422/485 Communications Unit	E53-E04
CT Input Unit	E54-E8CT
Voltage Output Unit	E53-E8Q
Current Output Unit	E53-E8C

■ Accessories (Order Separately)
Current Transformers (CT)

Hole diameter	5.8 mm	12.0 mm
Model	E54-CT1	E54-CT3

Note: The above CTs are not provided with the E5ZE.

Recommended Power Supply

S82J Switching Power Supply

Input voltage	Power ratings	Output voltage	Output current	Model	
				Open-frame type	Covered-type
100 to 240 VAC	50 W	24 V	2.1 A	S82J-05024A	S82J-05024D
	100 W		4.5 A	S82J-10024A	S82J-10024D
	150 W		6.5 A	S82J-15024A S82J-15024B S82J-15024C	S82J-15024D S82J-15024E S82J-15024F

S82K Switching Power Supply

Input voltage	Power ratings	Output voltage	Output current	Model
100/200 VAC	50 W	24 V	2.1 A	S82K-05024
	100 W		4.2 A	S82K-10024

Wiring Devices
Connector Terminal Conversion Unit

Specifications	Model
20-pole, M2.4 terminal block	XW2B-20G4
20-pole, M3.5 terminal block	XW2B-20G5

I/O Block

Specifications	Model
8-point (SPST-NO x 8) relay output with NPN DC coil (+ common)	G7TC-OC08
16-point (SPST-NO x 16) relay output with NPN DC coil (+ common)	G7TC-OC16
16-point (SPST-NO x 16) relay output with NPN DC coil (+ common)	G7VC-OC16
16-point (SPST-NO x 16) SSR AC output with NPN DC coil (+ common)	G7VC-OA16
16-point (SPST-NO x 16) SSR DC output with NPN DC coil (+ common)	G7VC-OD16

Connecting Cable

Specifications	Model
2 m long	E5ZE-CBL200

Setting Display Unit

Connecting model	Connecting part	Model (see note 2)
RS-232C	Connector	E5ZD-SDL1
RS-422	Terminal block	E5ZD-SDL2-X
RS-485	Terminal block	E5ZD-SDL3-X
		E5ZD-SDLM

Note: 1. The Setting Display Unit is originally for use with the E5ZD. Be careful when using the Setting Display Unit with the E5ZE as some of the E5ZE's functions cannot be used with the Setting Display Unit.

2. Each model available as a 100-to-240-VAC type or 24-VDC type. (Exception: The E5ZD-SDLM is available only as a 24-VDC type).

Specifications

■ Ratings

Supply voltage		24 VDC
Operating voltage range		85% to 110% of rated supply voltage
Power consumption		15 W + 20% max. at rated supply voltage
Input	**Input type**	Thermocouple: K, J, R, S, T, E, B, N, L, U, W, PL-II Platinum resistance thermometer: Pt100, JPt100
	Input impedance	Thermocouple: 1 MΩ min.
	Rated platinum resistance thermometer current	1 mA

Control outputs		Voltage output (with short-circuit protecting function)
		    ON: 12 ± 1.2 VDC
		    OFF: 0.5 VDC max.
		    Max. load current: 30 mA DC per point
		Current output
		    Rated output range: 4 to 20 mA DC
		    Current output range: 0 to 22 mA DC
		        With an output value of 0%: $4^{+0}/_{-0.6}$ mA DC
		        With an output value of 100%: $20^{+2}/_{-0}$ mA DC
		    Max. load resistance: 600 Ω per point

		Open collector output (NPN) (cooling side only)
		    Max. applied voltage: 30 VDC
		    Max. load current: 50 mA DC per point
		    ON residual voltage: 2 VDC max.
		    OFF leakage current: 1 mA DC max.

Alarm outputs		Temperature alarm: The total output of all control points (alarm 1 NPN open collector output and
		                          alarm 2 NPN open collector output)
		HB alarm (heater burnout detection): Total output of all control points (1-point NPN open collector
		                          output)
		HS alarm (SSR failure detection): Total output of all control points (1-point NPN open collector
		                          output)
		Temperature controller error output (memory, set value, or hardware error):
		1-point NPN open collector output
		    Max. applied voltage: 30 VDC
		    Max. load current: 50 mA DC per point

No. of input control points		8 input and 8 control points
Setting method		Via communication
Control method		ON/OFF control Hybrid of 2-PID control and fuzzy control Manual operation

■ Input Ranges

Thermocouple

Input (switch selectable) (see note 1)		K (CA) Chromel vs. alumel (see note 2)	J (IC)/L Iron vs. constantan	R/S Platinum vs. Platinum rhodium 10%	T (CC)/U Copper vs. constantan	E (CRC) Chromel vs. constantan	B Platinum rhodium 30% vs. platinum rhodium 6%	N Nichrosil vs. nisil	W (see note 3)	PL-II (Platinum)
Range	°C	−200 to 1,300	−100 to 850	0 to 1,700	−200 to 400	0 to 600	100 to 1,800	0 to 1,300	0 to 2,300	0 to 1,300
	°F	−300 to 2,300	−100 to 1,500	0 to 3,000	−300 to 700	0 to 1,100	300 to 3,000	0 to 2,300	32 to 4,100	0 to 2,300
Setting no.		0	1/8	2/3	4/9	5	6	7	A	B
Min. setting unit		1°C or 0.1°C								

Platinum Resistance Thermometer

Input (switch selectable) (see note 1)		Pt 100	JPt 100
Range	°C	−100.0 to 500.0	−100.0 to 500.0
	°F	−100.0 to 900.0	−100.0 to 900.0
Setting no.		0	1
Min. setting unit		1°C or 0.1°C	

Note: 1. The setting selector set to 0 (K) or 0 (Pt 100) before shipping.

2. A temperature range is factory-set to a range of −200° to 1,300°C (K(CA)) or −100.0° to 500.0°C (Pt 100).

3. Thermocouple W is W/Re5-26 (tungsten rhenium 5, tungsten rhenium 26).

■ Characteristics

Measurement accuracy (see note)	Thermocouple:
	    (±0.3% of the process value or ±2°C, whichever greater) ±1 digit max.
	    (±0.3% of the process value or ±3.6°F, whichever greater) ±1 digit max.
	Platinum resistance thermometer:
	    (±0.3% of the process value or ±0.8°C, whichever greater) ±1 digit max.
	    (±0.3% of the process value or ±1.5°F, whichever greater) ±1 digit max.

Hysteresis	0.0°C/°F to 99.9°C/°F for ON/OFF control only (in units of 0.1°C/°F)
Cooling coefficient	0.0 to 10.0 (in units of 0.1)
Proportional band	0.0°C/°F to 999.9°C/°F (in units of 0.1°C/°F) Cooling side: Cooling coefficient x Proportional band
Integral (reset) time	0 to 3,999 s (in units of 1 s) (for both heating and cooling)
Derivative (rate) time	0 to 3,999 s (in units of 1 s) (for both heating and cooling)
Control period	Heating side: 1 to 99 s (in units of 1 s) Cooling side: 1 to 99 s (in units of 1 s)
Sampling period	Approx. 200 ms for 8 control points
Dead band/overlap band	−999°C/°F to 999°C/°F (in units of 1°C/°F)
Alarm output setting range	−999°C/°F to 9999°C/°F, 0 to 9999°C/°F (upper- and lower-limit alarm) (in units of 1°C/°F) −999.9°C/°F to 9999.9°C/°F, 0.0 to 9999.9°C/°F (upper- and lower-limit alarm) (in units of 0.1°C/°F)
Fuzzy strength	0% to 99% (in units of 1%)
Fuzzy scale 1	0.2°C/°F to 999.9°C/°F (in units of 0.1°C/°F)
Fuzzy scale 2	0.02°C/s or °F/s to 99.99°C/s or °F/s (in units of 0.01°C/s or °F/s)
Set value backup	Lithium battery
Set value backup period	10 years min. at room temperature
Insulation resistance	20 MΩ min. between the FG terminal and all analog input terminals (at 500 VDC)
Dielectric strength	A leakage current of 1 mA AC max. with 500 VAC for 1 minutes between the FG terminal and all analog input terminals
Vibration resistance	Malfunction: 10 to 55 Hz, 10 m/s² (1G) for 10 min each in X, Y, and Z directions Destruction: 10 to 55 Hz, 20 m/s² (2G) for 2 hrs each in X, Y, and Z directions
Shock resistance	Malfunction: 150 m/s² (15.3G), 3 times each in 6 directions Destruction: 200 m/s² (20.4G), 3 times each in 6 directions
Ambient temperature	Operating: −10°C to 55°C (with no icing or condensation) Storage: −25°C to 65°C (with no icing or condensation)
Ambient humidity	Operating: 35% to 85% Storage: 35% to 95%
Dimensions	Without casing: 169.5 x 192 x 58 mm max. With casing: 173.5 x 200 x 65 mm max.
Degree of protection	IP00
Weight	Without casing: 900 g max. With casing: 1,700 g max.

EMC	Emission Enclosure: EN55011 Group 1 class A
	Immunity ESD: EN61000-4-2: 4 kV contact discharge (level 2)
	    8 kV air discharge (level 3)
	Immunity RF-interference: ENV50140: 10 V/m (amplitude modulated, 80 MHz to 1 GHz) (level 3)
	    10 V/m (pulse modulated, 900 MHz)
	Immunity Conducted Disturbance: ENV50141: 10 V (0.15 to 80 MHz) (level 3)
	Immunity Burst: EN61000-4-4: 2 kV power-line (level 3)

Approved standards	Conforms to EN50081-2, EN50082-2 (see note 3)

Note: 1. The measurement accuracy of the E5ZE used with a thermocouple B at 400°C or 750°F max. is not guaranteed. The following measurement accuracy values are applied to the E5ZE.

    K and T at −100°C max. and U: ±3°C ±1 digit max.
    K and T at −100°F max. and U: ±5.4°F ±1 digit max.
    R, S, and W at 200°C max., and B at 1,000°C max.:   ±4°C ±1 digit max.
    R, S, and W at 400°F max., and B at 1,800°F max.:   ±7.2°F ±1 digit max.

  2. The measurement accuracy of the E5ZE used with any thermocouple is 1°C/°F. The thermocouple can be used under the following temperature ranges to increase the measurement accuracy to as high as 0.1°C/°F.

    K thermocouple: 0.0 °C to 1,300.0 °C, 0.0 °F to 2,300.0 °F
    T or U thermocouple: 0.0 °C to 400.0 °C, 0.0 °F to 700.0 °F
    N thermocouple: 400.0 °C to 1,300.0 °C, 700.0 °F to 2,300.0 °F
    J, E, L, or PLII thermocouple: Any temperature

  3. To ensure EMC conformance, refer to *Wiring for Conformance to the EMC Directives* on page 16.

■ Communications Specifications

Item	RS-232C	RS-422	RS-485
Communications method	Half-duplex		
Connecting method	25-pin D-sub connector	5-pole terminal block (with M3 screws)	
Transmission line configuration	3-wire	4-wire	2-wire
Transmission line type	Direct line	Multi-drop line	
Synchronization method	Start-stop synchronization (asynchronous)		
Baud rate	2,400/4,800/9,600/19,200 bps		
Transmission code	ASCII		
No. of stop bits	2		
Parity	Even parity		
Character length	7 bits		
Error detection	Vertical parity and FCS (frame check sequence)		
Communications unit no.	0 to F (hexadecimal)		
Transmission and reception switching time	---	20 ms max.	
Max. transmission path	15 m	500 m in total	
No. of controllers connected in parallel	---	16 (excluding host system)	

Note: 1. The maximum total cable length must not exceed the following limits.
RS-422: 500 m, RS-232C: 15 m, RS-485: 500 m

• Recommended connectors:
RS-232C: XM2□ D-sub connector (25 pin) (OMRON)

2. A maximum of 16 Temperature Controllers can be connected to one host computer using serial communications (RS-422 or RS-485).

■ Communications

• Set point
• Process value
• Alarm value
• Alarm mode
• Hysteresis
• Proportional band
• Integral time
• Derivative time
• Output value
• Auto-tuning (AT) start/stop
• Heater burnout detection set value
• Control start/stop
• Control memory bank
• Cooling coefficient (see note)
• Dead band/overlap band (see note)
• Fuzzy strength
• Fuzzy scale 1, 2

Note: For heating and cooling control models only.

■ E5ZD-SDL Ratings/Characteristics

Ratings

Supply voltage	100 to 240 VAC, 50/60 Hz or 24 VDC
Operating voltage range	85% to 110% of rated supply voltage
Power consumption	Approx. 12 W (at 100 VAC) to 18 W (at 240 VAC), approx. 13 W (at 24 VDC)
Setting method	Digital setting via Up and Down Keys
Display method	Digital (character heights: PV: 15 mm, SV: 11 mm, UNIT/CH/BK: 11 mm) (color PV: red, SV: green, UNIT/CH/BK: orange)
Other functions	Key protection Display group selection Display scan function Others also provided

Characteristics

Sampling period	500 ms, 1 s (selectable)
Vibration resistance	Malfunction: 2 to 55 Hz, 19.6 m/s^2 for 10 min each in X, Y, and Z directions Destruction: 10 to 55 Hz, 0.75-mm for 2 hrs each in X, Y, and Z directions
Shock resistance	Malfunction: 196 m/s^2 for 3 times each in 6 directions Destruction: 294 m/s^2 for 3 times each in 6 directions
Ambient temperature	Operating: −10° C to 55° C (with no icing)
Ambient humidity	Operating: 35% to 85%
Weight	Approx. 450 g
Degree of protection	Front panel: IEC standard IP50 Rear case: IEC standard IP20 Terminals: IEC standard IP00
Connection method	RS-232C, RS-422, RS-485 Communications speed: 9,600 bps Connecting device: E5ZD/E5ZE Multipoint Temperature Controller series
Max. number of E5ZD/E5ZE Multipoint Temperature Controllers which can be connected	RS-232C: 1 RS-422: 16 RS-485: 16

Note: The connection method must coincide with the communications specifications of the E5ZE Multipoint Temperature Controller.

OMRON

Dimensions

Note: All units are in millimeters unless otherwise indicated.

E5ZE-8□AAM□B-E

The mounting brackets can be fixed to the position marked with *.

Mounting bracket
Mounting fixed screw
Mounting bracket *
Mounting bracket *

206
65
60
40
220
131.1
11
t1.6
85.5
145
173.5

Mounting Holes

M4
220±0.4
40±0.2

E5ZE-8□AAM□-E

Mounting studs (5 points)
Five, 3.5 dia.
Five, R5

6.0
115.5
192 180
102
6
108.9
139
169.5
131.1
8
50

M3 x 6 stud fixing screw

Mounting Holes

Five, 3.5 dia.
115.5±0.2
180±0.2
102±0.2
108.9±0.2
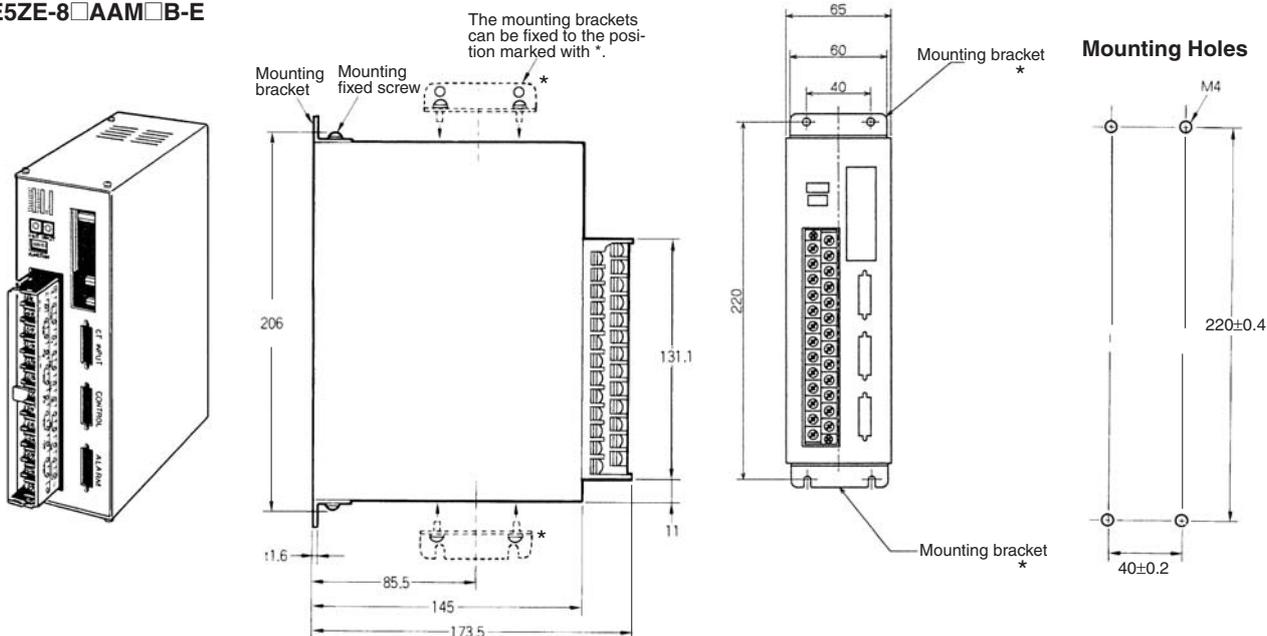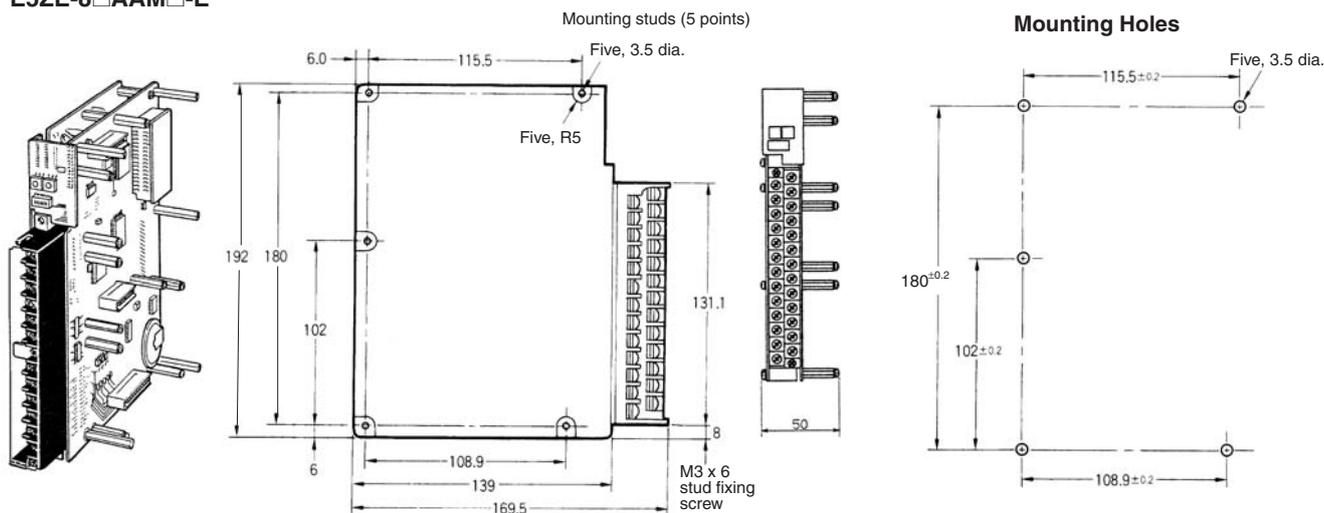
Panel-mounting Screws

Prepare the following screws.
Size: M3 x ℓ
          $t + t_1 + t_2 + 2.5 < \ell < t + t_1 + t_2 + 7.8$
          t: Panel thickness
          t_1: Spring washer thickness
          t_2: Flat washer thickness
Material: Iron or stainless

ℓ
t_1 t_2

Mounting Stud

M3 depth: 8
30

Multipoint Temperature Controller **E5ZE**   9
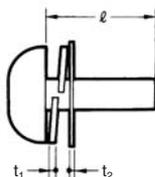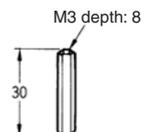
Connections

■ System Configuration

Devices Connectable to the E5ZE
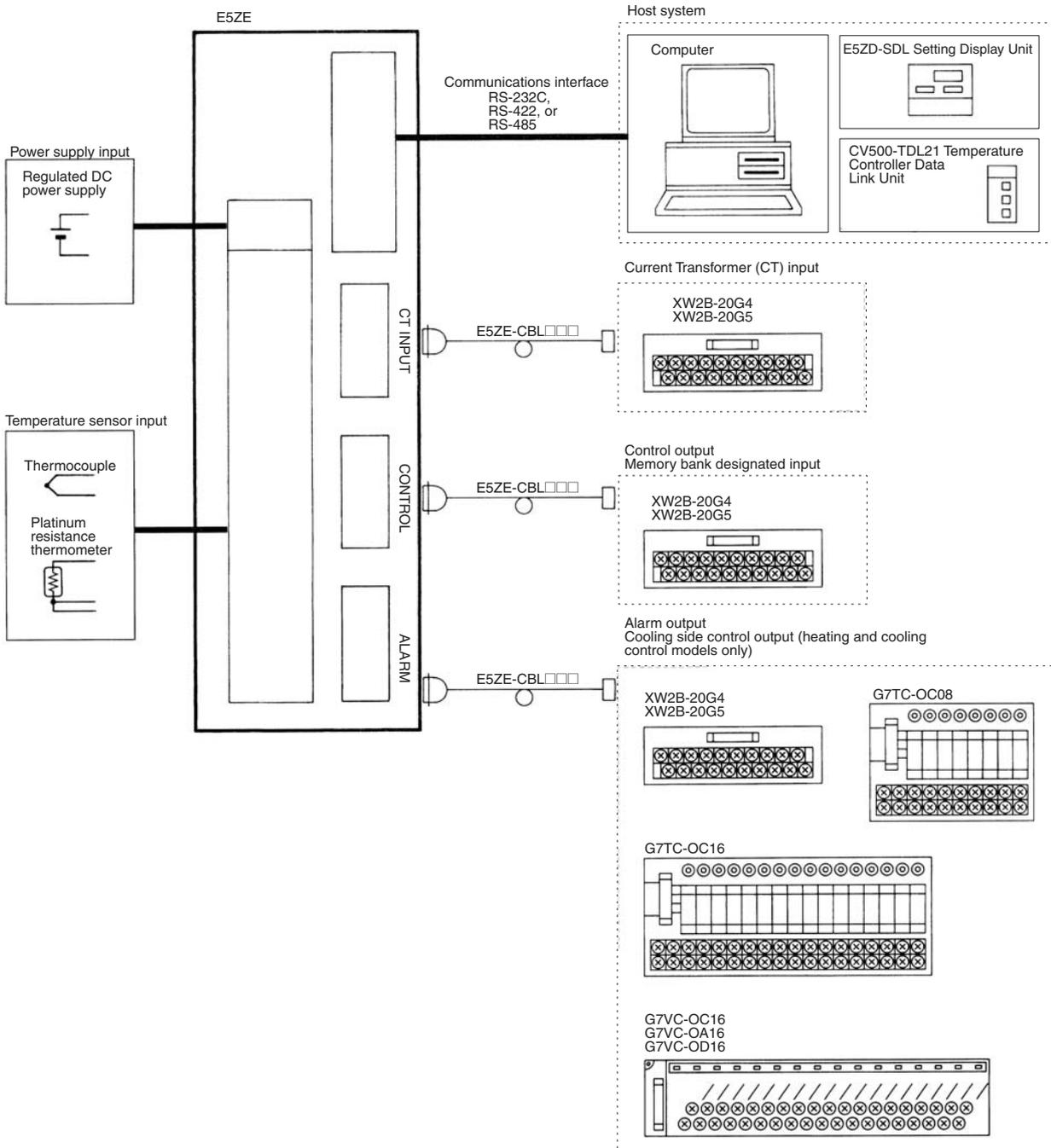
Connections

Use E5ZE-CBL□□□ Connecting Cables to connect the following devices to the E5ZE.

• XW2B-20G4 and XW2B-20G5 Connector Terminal Conversion Units
• G7TC-OC08, G7TC-OC16, G7VC-OC16, G7VC-OD16, and G7VC-OA16 I/O Blocks

⚠ **Caution**

Do not connect any device other than those listed above to the E5ZE using E5ZE-CBL□□□ Connecting Cables, or the E5ZE may malfunction or accidents may result.

■ External Connection

Terminal Block Connections

Thermocouple
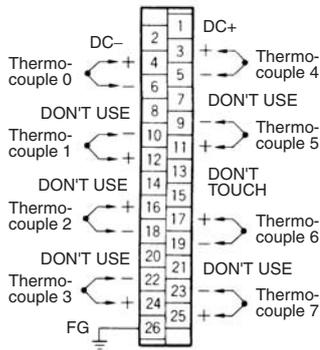
A thermocouple has polarity. Connect thermocouples to the terminal block correctly using compensating conductor that are suitable for the thermocouples.

Be sure to use the cold junction compensator (no. 13 and 15) provided with the E5ZE. The lot and serial numbers of the cold junction compensator must be identical to those of the E5ZE. Do not touch the cold junction compensator while operating the E5ZE.

The number of each of the above thermocouples is a point number.

Platinum Resistance Thermometer
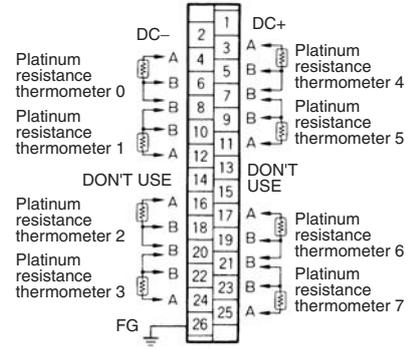
Make sure there in no difference in resistance among the three conductor of each platinum resistance thermometer used with the E5ZE.

Do not short-circuit terminals 7, 8, 20, and 21.

The number of each of the above platinum resistance thermometer is a point number.

Connecting to Connector Terminal Conversion Unit

Control Output and Memory Bank Designation Input

XW2B-20G4 or
XW2B-20G5
Connector Terminal
Conversion Unit
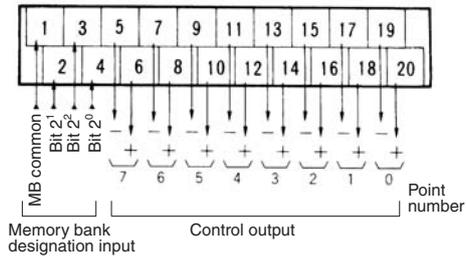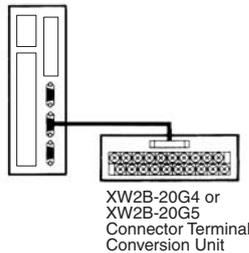
Current Transformer (CT) Input

XW2B-20G4 or
XW2B-20G5
Connector Terminal
Conversion Unit
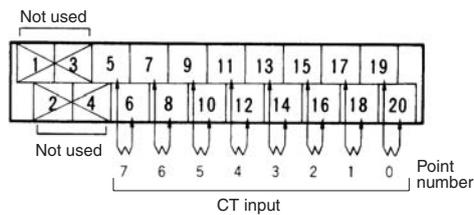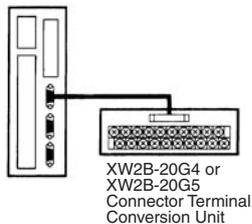
Alarm Output and Cooling Side Control Output (For Heating and Cooling Control Model Only)

Cooling side control output (Do not use these terminals when using an E5ZE Standard Model.)
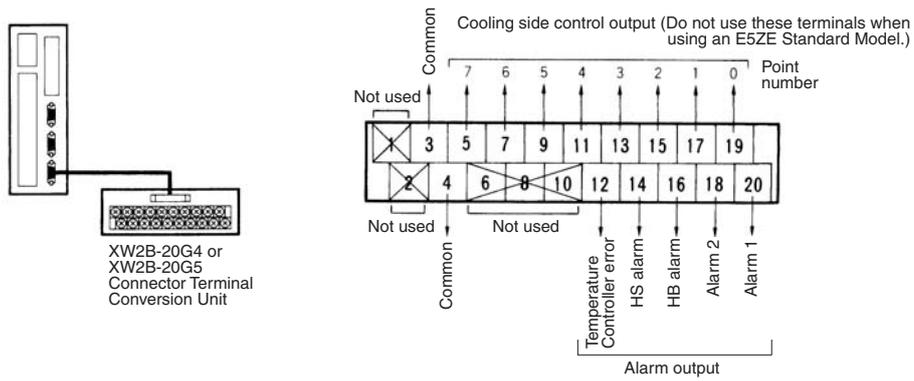
Alarm output

Connecting to G7VC-O☐16 I/O Block

Alarm Output and Cooling Side Control Output (For Heating and Cooling Control Models Only)

G7VC-OC16, G7VC-OA16, or G7VC-OD16 I/O Block

Alarm output

Do not use these terminals when using an E5ZE Standard Model.

Cooling side control output

Drive power supply for G7VC (24 VDC)
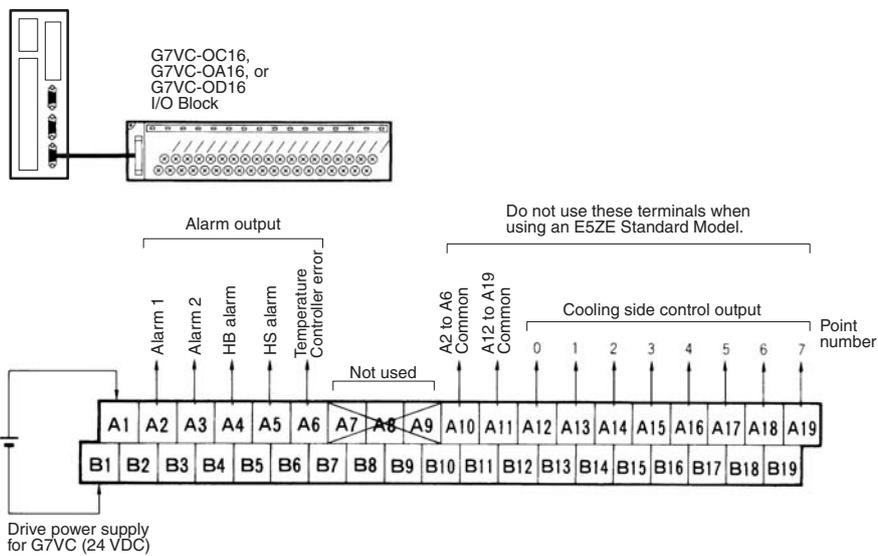
Connecting to G7TC-OC☐☐ I/O Block

G7TC-OC08 Alarm Output

G7TC-OC08 I/O Block

Drive power supply for G7TC (12 or 24 VDC)
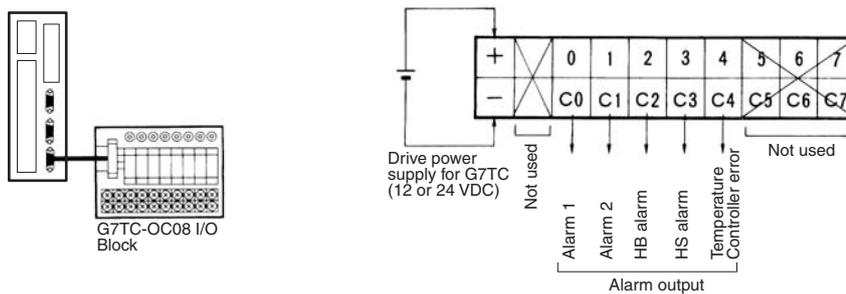
Alarm output

G7TC-OC16 Alarm Output and Cooling Side Control Output (For Heating and Cooling Control Models Only)

G7TC-OC16
I/O Block

Drive power supply for G7TC (12 or 24 VDC)

Not used

Alarm 1
Alarm 2
HB alarm
HS alarm
Temperature Controller error

Alarm output

Not used

Point number

Cooling side control output (Do not use these terminals when using an E5ZE Standard Model.
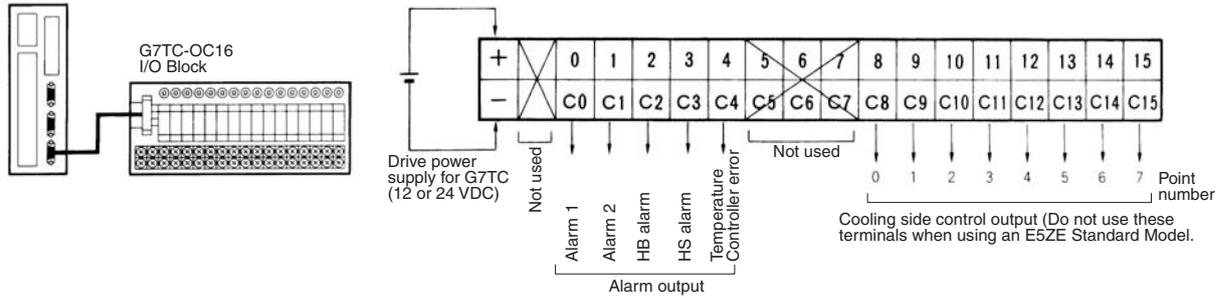
Communication Interfaces

RS-232C

Pin Assignments

Pin number
Symbol

Enlarged illustration

1 NC   14 NC
2 SD   15 NC
3 RD   16 NC
4 RS   17 NC
5 CS   18 NC
6 DR   19 NC
7 SG   20 ER
8 NC   21 NC
9 NC   22 NC
10 NC   23 NC
11 NC   24 NC
12 NC   25 NC
13 NC
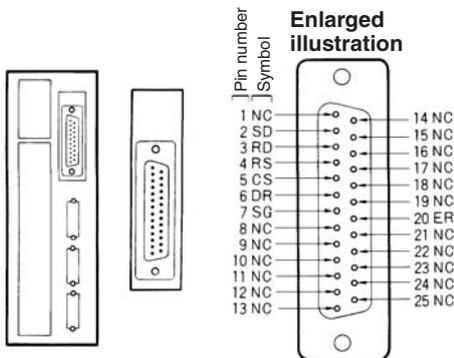
Signal name	Symbol	Signal direction	Pin
Signal ground	SG	---	7
Send data	SD	Output	2
Receive data	RD	Input	3
Send request	RS	Output	4
Send enable	CS	Input	5
Data set ready	DR	Input	6
Data terminal ready	ER	Output	20
Not used	NC	---	1, 8 to 19, 21 to 25

Electrical characteristics: Conforming to EIA RS-232C
Synchronization clock: Internal

RS-422 and RS-485

Communications terminal block
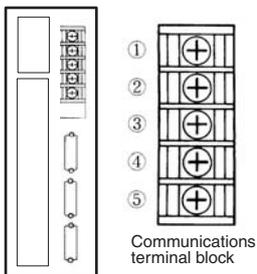
RS-422

Terminal	Signal name	Symbol	Signal direction
1	Receive data B	RDB	Input
2	Receive data A	RDA	Input
3	Signal ground	SG	---
4	Send data B	SDB	Output
5	Send data A	SDA	Output

Electrical characteristics: Conforming to EIA RS-422
Synchronization clock: Internal
Maximum E5ZE Units connectable: 16 (excluding host system)
Transmission length: 500 m max. in total

RS-485

Terminal	Signal name	Symbol	Signal direction
1	Not used	---	---
2	Not used	---	---
3	Signal ground	SG	---
4	Terminal B (+)	B	I/O
5	Terminal A (−)	A	I/O

Communications terminal block

Electrical characteristics: Conforming to EIA RS-485
Synchronization clock: Internal
Maximum E5ZE Units connectable: 16 (excluding host system)
Transmission length: 500 m max. in total
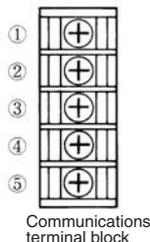
Communications Switch Settings

Setting		RS-422	RS-485
Termination resistance	Yes	ON ▶ / ON ▶	OFF ▶ / ON ▶
	No	OFF ▶ / OFF ▶	OFF ▶ / OFF ▶
RS-422 ↔ RS-485		OFF ▶ / OFF ▶	ON ▶ / ON ▶

Communications switch

No.3
No.4
No.1
No.2

All pins are factory-set to OFF.
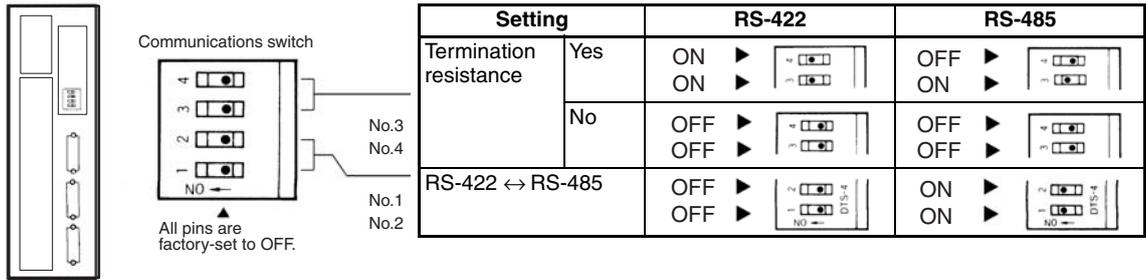
■ E5ZD-SDL

External Connection

Terminal arrangement
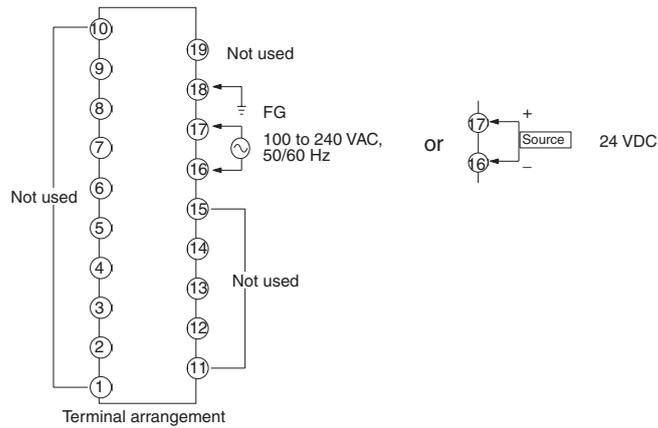
E5ZD-SDL1

Electrical Characteristics

Conforming to EIA RS-232C

Connecting Signals

Signal name	Symbol	Signal direction	D-sub connector pin number
Field ground	FG	---	1
Signal ground	SG	---	7
Send data	SD	Output	2
Receive data	RD	Input	3
Request send	RS	Output	4
Send enable	CS	Input	5
Data set ready	DR	Input	6
Data terminal ready	ER	Output	20

Connection

Only a single E5ZD-SDL can be connected via RS-232C.

RS-232C Pin Connection
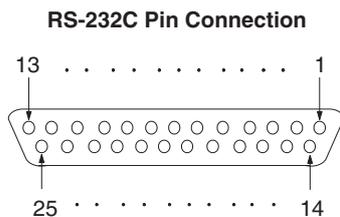
E5ZD-SDL2X

Electrical Characteristics

Conforming to EIA RS-422

Connecting Signals

Signal name	Symbol	Signal direction	Terminal block pin number
Send data A	SDA	Output	21
Send data B	SDB	Output	20
Receive data A	RDA	Input	23
Receive data B	RDB	Input	24
Signal ground	SG	---	22
Field ground	FG	---	---

E5ZD-SDL3-X

Electrical Characteristics

Conforming to EIA RS-485

Connecting Signals

Signal name	Symbol	Signal direction	Terminal block pin number
Terminal A	–	Input/Output	21, 23
Terminal B	+	Input/Output	20, 24
Signal ground	SG	---	22

Terminal Block


```
24
23
22
21
20
```
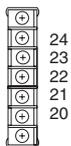
The size of each screw is M3.

■ Wiring for Conformance to the EMC Directives

Conformance of the E5ZE to the EMC Directives has been confirmed according to the following conditions.

Thermocouple Input Model
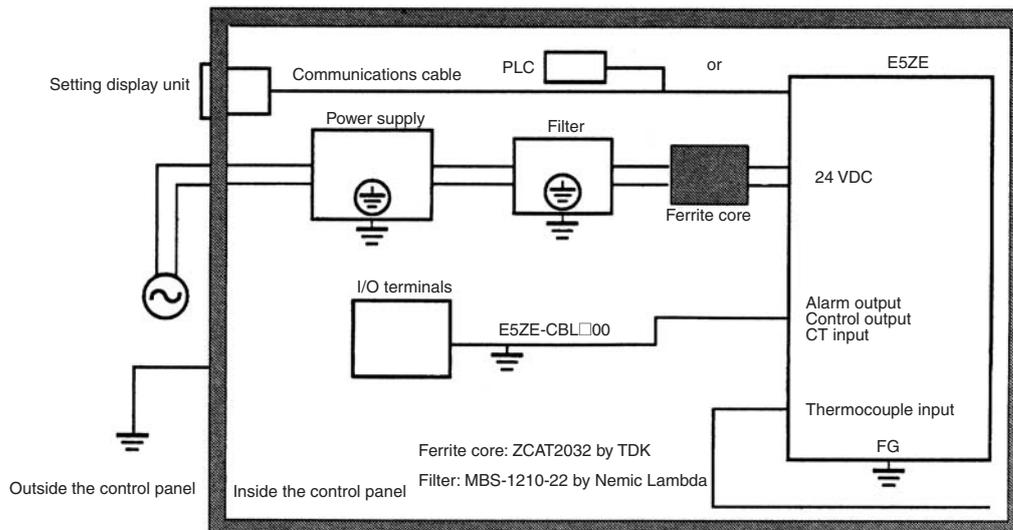
Platinum Resistance Thermometer Input Model
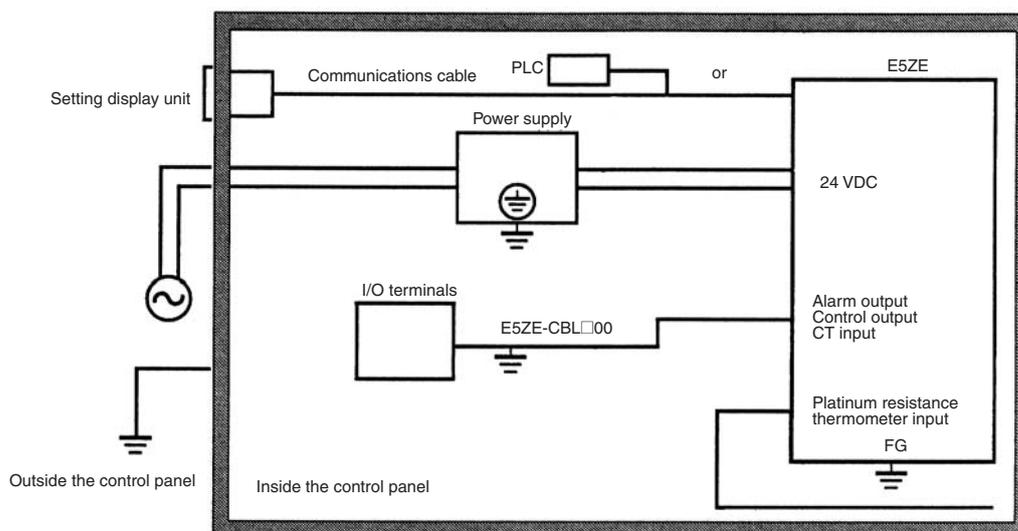
Note: 1. Place the power supply, filter, input sensor, I/O terminals, and communications cable inside the control panel when wiring them.

2. If the communications cable between devices extends outside the control panel, satisfy the following conditions when wiring them.
   • Use shielded cables for communications cables and ground to the FG.
   • Insert at least five ferrite cores close to the E5ZE.

Installation

■ I/O Units

I/O Units are not mounted on the E5ZE.

Mount the appropriate I/O Units according to the specification of the E5ZE.

The diagram below is the view from the back of component side.

Type of I/O Units

Communication Unit

E53-E01 for
RS-232C

or

E53-E04 for
RS-422/RS-485
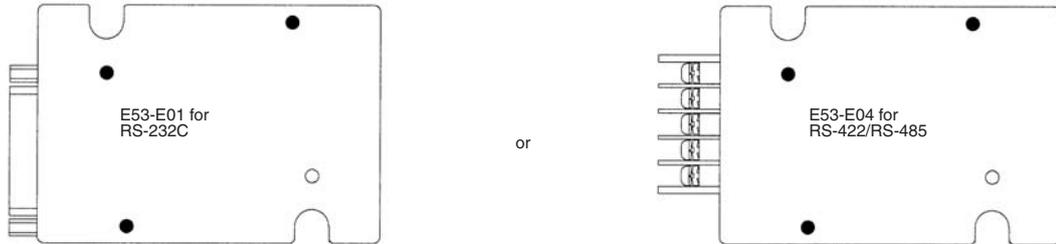
CT Input Unit

CT INPUT

E54-E8CT

Use this CT input unit in combination
with the E53-E8Q voltage output unit.

Output Unit

CONTROL

ALARM

E53-E8Q for voltage
output

or

CONTROL

ALARM

E53-E8C for current
output
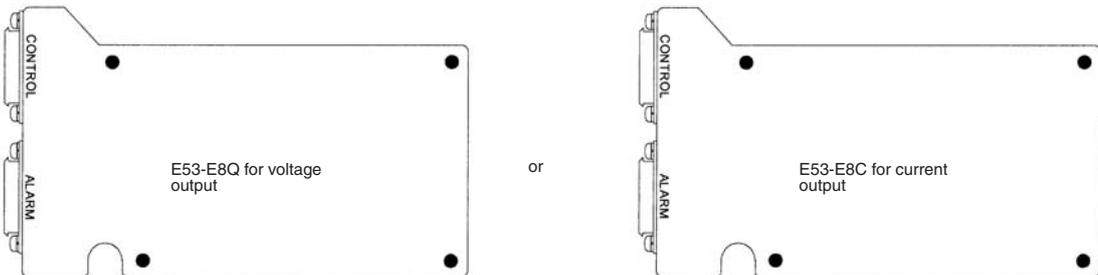
Tighten the screws through the holes marked with a black dot (●) to the fixing studs of the E5ZE.

Mounting Position of I/O Units

Communication Unit

CT Input Unit

Output Unit

Connector

Communication
Unit

CT Input Unit

Connector

Output Unit

Connector

With Casing

Without Casing

Remove this screw when the Unit is
mounted on the model with casing.
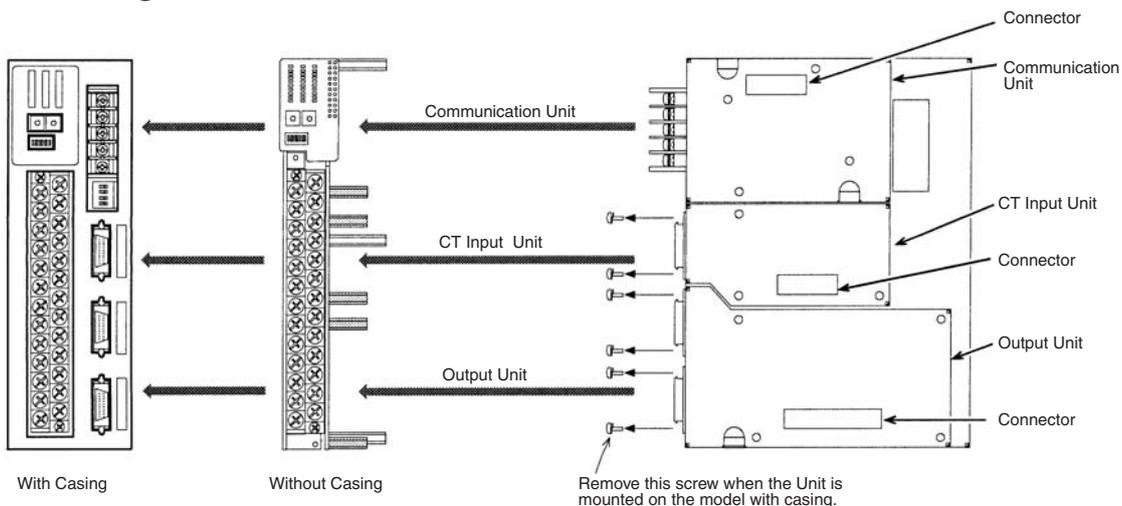
Mounting the Units

Use appropriate Phillips screwdriver for the screws. Use of an inappropriate screwdriver may damage the screws and cause insufficient tightening.

Mount the Units in an environment where anti-static electricity countermeasures have been taken.

Store the removed screws carefully and use them again when required.

Model With Casing

1. Remove the connector fixing screws (2 screws each for a connector) from the Units (except for communication unit).
2. Remove the casing fixing screws (6 screws).
3. Remove the casing.
4. Mount the Units in the same manner as the model without casing.
5. Fix the connector to the case using the connector fixing screws with a torque of 0.34 to 0.39 N·m.
6. Replace the casing in its original position using six casing fixing screws.
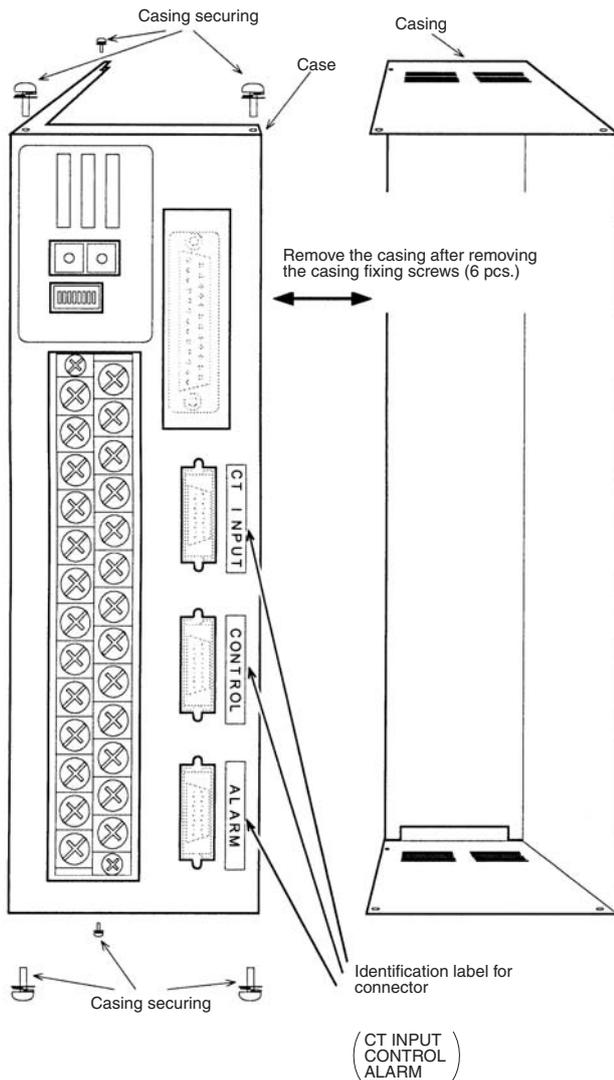
Model Without Casing

1. Remove the Unit fixing screws.
   When CT Input Unit is not required, do not touch the corresponding screws. To prevent the studs from loosening, use a wrench to fix the studs.
2. Fix the Units in the designated position.
   Connect the Units and the E5ZE connector properly.
3. Fix the Units to the studs with fixing screws with a torque of 0.43 to 0.58 N·m.

Casing securing

Casing

Case

Remove the casing after removing the casing fixing screws (6 pcs.)

Identification label for connector

Casing securing

(CT INPUT
CONTROL
ALARM)

Communication Unit
(sold separately)
E53-E01 or E53-E04
(The diagram shows
E53-E04)

CT Input Unit
(sold separately)
E54-E8CT

Output Unit
(sold separately)
E53-E8Q or E53-E8C

The Unit fixing screws are mounted on the fixing studs at the factory.

Fixing studs for the Units

(Communication Unit : 3 pcs.
CT Input Unit : 3 pcs.
Output Unit : 4 pcs.)

■ Mounting the Controllers

E5ZE-8☐AAM☐B-E (Casing Type)

Side-by-side, Close Mounting

Saves space and improves wiring efficiency.

Control panel

Upside
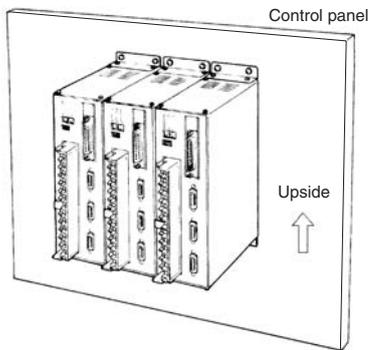
Wall Mounting

Can be mounted to places with limited depth.

Control panel

Upside
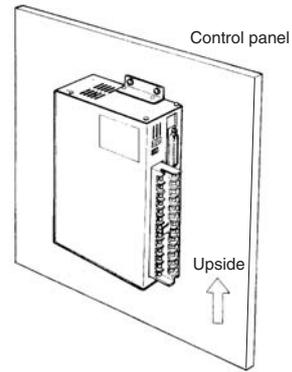
Precautions

■ Correct Use

⚠ **WARNING**

A lithium battery is used in the Temperature Controller.
Do not take the Temperature Controller apart or allow it to be deformed under pressure, heated to 100° C or higher, or incinerated. The battery may ignite or erupt.

■ General Mounting Precautions

E5ZE-8☐AAM☐B-E (Casing Type)

The side of the E5ZE with the terminal block and connectors must not face up, otherwise operating errors may result.

Prepare four M4 screws to mount the E5ZE to control panels. Use flat washers and spring washers with screws to mount the E5ZE to control panels so that the screws will not loosen.

The mounting brackets must be attached to the E5ZE with the four M3 x 6 screws provided with the E5ZE and each of the screws should be tightened to a torque of 0.43 to 0.58 N·m, or 4.4 to 5.9 kgf·cm.

Upside
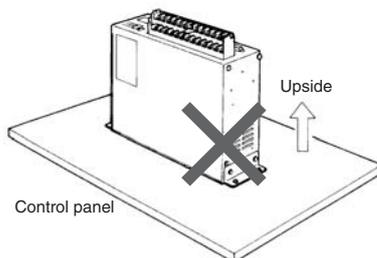
Control panel

E5ZE-8☐AAM☐-E (Open Type)

The side of the E5ZE with the terminal block and connectors must not face up, otherwise operating errors may result.

Use flat washers and spring washers with screws to mount the E5ZE to control panels so that the screws will not loosen.

Each of the screws should be tightened to a torque of 0.43 to 0.58 N·m, or 4.4 to 5.9 kgf·cm.

Do not use any mounting stud or screw other than the ones provided with the E5ZE.

If the stud screws are loose, tighten each of them to a torque of 0.43 to 0.58 N·m, or 4.4 to 5.9 kgf·cm.

Control panel

Upside