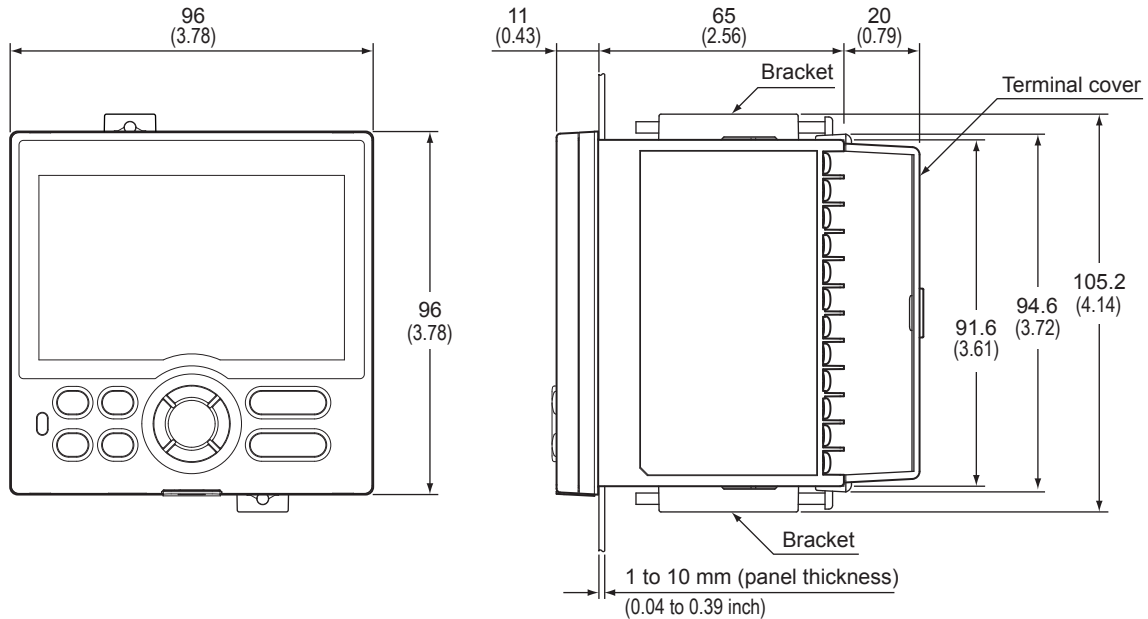


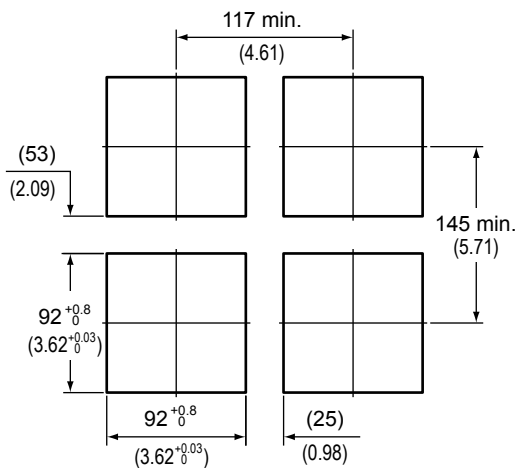
### External Dimensions

Unit: mm  
(approx. inch)

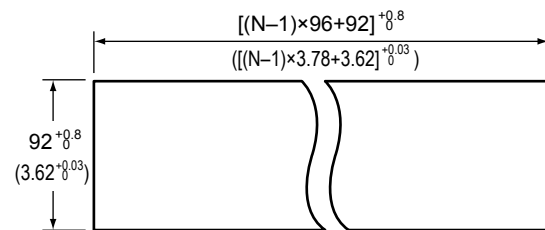


### Panel Cutout Dimensions

#### General mounting



#### Side-by-side close mounting



"N" stands for the number of controllers to be installed.  
However, the measured value applies if  $N \geq 5$ .

Normal tolerance:  $\pm$ (value of JIS B 0401-1998 tolerance grade IT18) / 2

# Terminal Wiring Diagrams

**Suffix code: Type1=-0 or -2**

**Control output**

Relay contact output

In Heating/cooling control, relay contact output is heating-side output. Factory default: Control output is relay.

Contact rating: 250 V AC, 3 A  
30 V DC, 3 A (resistance load)

**Equipped as standard**

**Contact output**

External contact output (relay)

Alarm-3 output (PV high limit) AL3  
Common 105  
Alarm-2 output (PV low limit) AL2  
Common 107  
Alarm-1 output PV high limit AL1  
Common 109

Relay contact rating: 240 V AC, 1 A  
30 V DC, 1 A (resistance load)

**Power supply**

100-240 V AC power supply

24 V AC/DC power supply

Allowable range:  
100-240 V AC (±10%)  
(free voltage)  
50/60 Hz shared

**24 V AC/DC power supply:**  
Optional suffix code /DC

**Suffix code: Type1=-1**

**Position proportional control output**

Relay contact output

High (direct) 507  
Low (reverse) 508  
Common 509

Contact rating: 250 V AC, 3 A  
30 V DC, 3 A (resistance load)

Feedback input

100% 510  
0% 512

Resistance: 100 Ω to 2.5 kΩ When feedback input is current

**Suffix code: Type 1=-2**

**Cooling-side control output**

Relay contact output

NC 507  
NO 508  
COM 509

Contact rating: 250 V AC, 3 A  
30 V DC, 3 A (resistance load)

Current/voltage pulse output

0-20 mA DC, 4-20 mA DC, Voltage pulse (12V)

Retransmission output

Default: Undefined  
0-20 mA DC, 4-20 mA DC  
Default: 4-20 mA DC

15 V DC loop power supply

14.5-18.0 V DC (Max. 21 mA DC)

Factory default: Cooling-side control output is relay.  
Can be used for retransmission output or 15 V DC loop power supply when current/voltage pulse output is not used for control output. Range can be changed when current output.

**Equipped as standard**

**PV input**

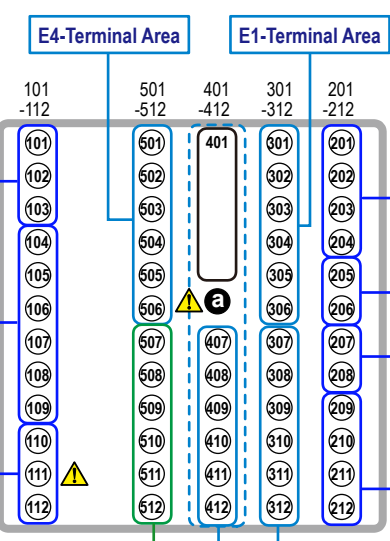
TC input

RTD input

Current (mA) input

Voltage (mV, V) input

Factory default: PV input type is undefined.



**Equipped as standard**

**Retransmission output**

Retransmission output

Default: PV retransmission  
4-20 mA DC or 0-20 mA DC  
Load resistance 600 Ω or less  
Default: 4-20 mA DC

15 V DC loop power supply

14.5-18.0 V DC (Max. 21 mA DC)

Can be used for 15 V DC loop power supply when not used for retransmission output.

**Suffix code: Type1=-0, -1 or -2**

**Control output**

Current/voltage pulse output

0-20 mA DC, 4-20 mA DC, Voltage pulse (12 V)

Retransmission output

Default: Undefined  
0-20 mA DC, 4-20 mA DC  
Default: 4-20 mA DC

15 V DC loop power supply

14.5-18.0 V DC (Max. 21 mA DC)

Can be used for retransmission output or 15 V DC loop power supply when current/voltage pulse output is not used for control output.

Current output range can be changed.  
In Position proportional type, can be used for retransmission output or 15 V DC loop power supply.

**WARNING**

Do not touch the screw in location (a) shown in the wiring diagrams. It is an essential part of the structure of the UT55A. Loosening or tightening it may cause a malfunction or failure of the unit.

**CAUTION**

Do not use a 100-240 V AC power supply for the 24 V AC/DC model; otherwise, the instrument will malfunction.

**Equipped as standard**

**Contact input**

External contact input

No-voltage contact (UT) 209 DI3  
STOP when DI2=ON  
RUN when DI2=OFF  
AUTO when DI1=ON  
MAN when DI1=OFF  
Common 212 COM

Transistor contact (UT) 209 DI3 +5V  
210 DI2 +5V  
211 DI1 +5V  
212 COM

Contact rating: 12 V DC, 10 mA or more  
Function can be assigned to the terminal with no function.

**Optional suffix code /HA**

**Heater break alarm**

External contact output (transistor)

Heater break alarm-1 output HAL1 507  
Heater break alarm-2 output HAL2 508  
Common 509 COM

Heater current detection input

CT1 510  
CT2 511  
COM 512

Transistor contact rating: 24 V DC, 50 mA

## Terminal Wiring Diagrams (E1-Terminal Area and E2-Terminal Area)

**Suffix code: Type 2=1, 2, 4, 5, or 7 and without optional suffix code /DR**

**Remote input / Contact input**

External contact input	
Common	No-voltage contact (UT) Transistor contact (UT)
REMOTE when DI16=ON LOCAL when DI16=OFF	
Contact rating: 12 V DC, 10 mA or more	

**Remote input**

Specify within a range of 1-5 V DC, 0-2 V DC, 0-10 V DC  
Default: 1-5 V DC

**Suffix code: Type 2=1, 2, 4, 5, or 7 and with optional suffix code /DR**

**Universal input**

TC input	RTD input	Current (mA) input	Voltage (mV, V) input

**Suffix code: Type 2=3**

**Contact input**

External contact input	
Common	No-voltage contact (UT) Transistor contact (UT)
Factory default: No function	
Factory default: No function	
Factory default: No function	
Factory default: No function	
Factory default: No function	
Contact rating: 12 V DC, 10 mA or more	
Function can be assigned to the terminals with no function.	

**Suffix code: Type 2=6**

**Contact output**

External contact output (transistor)	
Factory default: No function	DO15 301
Factory default: No function	DO14 302
Factory default: No function	DO13 303
Factory default: No function	DO12 304
Factory default: No function	DO11 305
Common	COM 306

Transistor contact rating: 24 V DC, 50 mA  
Function can be assigned to the terminal with no function.

**Suffix code: Type 2=1, 2, 4, 5, or 6**

**Contact output**

External contact output	
Factory default: No function	DO25 307
Factory default: No function	DO24 308
Factory default: No function	DO23 309
Factory default: No function	DO22 310
Alarm 4 (PV low limit)	DO21 311
Common	COM 312

Transistor contact rating: 24 V DC, 50 mA  
Function can be assigned to the terminals with no function.

**Suffix code: Type 2=7**

**Aux. analog input / Contact input**

External contact input	
Common	No-voltage contact (UT) Transistor contact (UT)
Factory default: No function	
Contact rating: 12 V DC, 10 mA or more	
Function can be assigned to the terminals with no function.	

**Aux. analog input**

Specify within a range of 1-5 V DC, 0-2 V DC, 0-10 V DC  
Default: 1-5 V DC

Aux. analog input can be used for feedforward input in Single-loop control and Single-loop position proportional control.

### Terminal Wiring Diagrams (E3-Terminal Area and E4-Terminal Area)

**Suffix code: Type 2=1 or 2 and without optional suffix code /LP**

**RS-485 communication**

**Suffix code: Type 2=1 or 2 and with optional suffix code /LP**

**RS-485 communication/ 24 V DC loop power supply**

**Suffix code: Type 2=5 or 6**

**Contact input**

**E4-Terminal Area**

**Suffix code: Type 2=7**

**Aux. analog input/Contact input**

**Suffix code: Type 2=other than 1, 2, 5, 6, or 7 and with optional suffix code /LP**

**24 V DC loop power supply**

**Suffix code: Type 3=2, except Type 2= -1 or -6**

**Ethernet communication (with gateway function)**

10BASE-T/100BASE-TX RJ45 connector

Upper side LED (baud rate)	
Color	Amber
Lit	100M bps
Unlit	10M bps
Lower side LED (link activity)	
Color	Green
Lit	Linked
Blink	Active
Unlit	Link failure

**Suffix code: Type 3=4, except Type 2= -1 or -6**

**PROFIBUS-DP communication (with Modbus slave)**

Pin	Signal name	Description
1	VP	+5V bus power
2	RxD/TxD-P	Data signal (positive data receive/transmit)
3	RxD/TxD-N	Data signal (negative data receive/transmit)
4	DGND	Signal ground
5	SHIELD	Shield ground

**Suffix code: Type 3=1, except Type 2= -1 or -6**

**RS-485 communication**

**Suffix code: Type 2=1**

**Contact input**

**Suffix code: Type 2=6**

**Contact output**