

	Input type	Input	Setting	Setting range		
t)	Platinum resistance thermometer	Pt100	0	-200 to 850 (°C)	/-300 to 1500 (°F)	
			1	-199.9 to 500.0 (°C)	/-199.9 to 900.0 (°F)	
ā			2	0.0 to 100.0 (°C)	/0.0 to 210.0 (°F)	
- <u>-</u>		JPt100	3	-199.9 to 500.0 (°C)	/-199.9 to 900.0 (°F)	
兽		JF1100	4	0.0 to 100.0 (°C)	/0.0 to 210.0 (°F)	
(multi-input)		K	5	-200 to 1300 (°C)	/-300 to 2300 (°F)	
			6	-20.0 to 500.0 (°C)	/0.0 to 900.0 (°F)	
ete	Thermocouple	J	7	-100 to 850 (°C)	/-100 to 1500 (°F)	
Ĕ			8	-20.0 to 400.0 (°C)	/0.0 to 750.0 (°F)	
Ĕ		Т	9	-200 to 400 (°C)	/-300 to 700 (°F)	
ĕ			10	-199.9 to 400.0 (°C)	/-199.9 to 700.0 (°F)	
Thermocouple/platinum-resistance thermometer		E	11	-200 to 600 (°C)	/-300 to 1100 (°F)	
		L	12	-100 to 850 (°C)	/-100 to 1500 (°F)	
		U	13	-200 to 400 (°C)	/-300 to 700 (°F)	
			14	-199.9 to 400.0 (°C)	/-199.9 to 700.0 (°F)	
ē		N	15	-200 to 1300 (°C)	/-300 to 2300 (°F)	
Ė		R	16	0 to 1700 (°C)	/0 to 3000 (°F)	
2		S	17	0 to 1700 (°C)	/0 to 3000 (°F)	
<u>a</u>		В	18	100 to 1800 (°C)	/300 to 3200 (°F)	
d	Infrared	10 -70°C	19	0 to 90 (°C)	/0 to 190 (°F)	
퓜	Thermosensor	60 -120°C	20	0 to 120 (°C)	/0 to 240 (°F)	
8	ES1B	115 -165°C	21	0 to 165 (°C)	/0 to 320 (°F)	
8		140 -260°C	22	0 to 260 (°C)	/0 to 500 (°F)	
herm	Analog input	0 to 50mV	23	Use the following ranges for scaling: -1999 to 9999,-199.9 to 999.9		
\vdash		w	24	0 to 2300 (°C)	/0 to 3200 (°F)	
	Thermocouple	PL II	25	0 to 1300 (°C)	/0 to 2300 (°F)	
*The	default is "5".					

*5.ERR will be displayed when a platinum resistance thermometer is mistakenly connected while

input type is not set for it. To clear the $\exists \mathcal{E}^{RR}$ display, correct the wiring and cycle the power supplies the power su					
	Input type	Input	Setting	Setting range	
Ф	Current input	4 to 20mA	0		
g g		0 to 20mA	1	Use the following ranges for scaling: -1999	
Analog put typ	Voltage input	1 to 5V	2	to 9999, -199.9 to 999.9, -19.99 to 99.99	
An		0 to 5V	3	-1.999 to 9.999	
		0 to 10V	4		
. The default is "0"					

Alarms

	Setting	Alarm type	Alarm output function				
	Setting	Alailli type	Positive alarm value (X)	Negative alarm value (X)			
	0	No alarm function	Outp	out off			
*1	1	Deviation upper/lower limit	ON SP	Vary with "L", "H" values			
	2	Deviation upper limit	ON OFF SP	ON OFF SP			
	3	Deviation lower limit	ON SP	ON OFF SP			
*1	4	Deviation upper/lower range	ON OFF SP	Vary with "L", "H" values			
*1	5	Deviation upper/lower limit standby sequence ON	ON OFF SP	Vary with "L", "H" values			
	6	Deviation upper limit standby sequence ON	ON → X ►	ON X SP			
	7	Deviation lower limit standby sequence ON	ON SP	ON SP			
	8	Absolute value upper limit	ON OFF 0	ON OFF 0			
	9	Absolute value lower limit	ON OFF 0	ON OFF			
	10	Absolute value upper limit standby sequence ON	ON OFF 0	ON OFF 0			
	11	Absolute value lower limit standby sequence ON	ON OFF 0	ON OFF			
	12	LBA (only for alarm 1)					
	13	PV Change Rate Alarm					
*	*1: Upper and lower limits can be set for parameters 1, 4 and 5 to provide for						

- different types of alarm. These are indicated by the letter "L" and "H".
- The default alarm type is "2"

Error display (troubleshooting)

When an error has occurred, the No.1 display shows the error code. Take necessary measure according to the error code, referring the table below.

		A =41==	Status at error	
No.1 display	splay Meaning Action		Control output	Alarm
5.ERR (S. Err)	Input error *2	Check the setting of the Input Type parameter, check the input wiring, and check for broken or shorts in the temperature sensor.	OFF	Operates as above the upper limit.
E 333 (E333)	A/D converter error *2	After the correction of A/D converter error, turn the power OFF then back ON again. If the display remains the same, the controller must be repaired. If the display is restored to normal, then a probable cause can be external noise affecting the control system. Check for external noise	OFF	OFF
E (E111)	Memory error	Turn the power OFF then back ON again. If the display remains the same, the controller must be repaired. If the display is restored to normal, then a probable cause can be external noise affecting the control system. Check for external noise.	OFF	OFF

If the input value exceeds the display limit (-1999 to 9999), though it is within the control range, [cccc] will be displayed under -1999 and [533] above 9999. Under these conditions control output and alarm output will operate normally.Refer to ESCNESAN/ESGN/ESGN Digital Controllers User's Manual Basic Type (Cat. No. H156) for details of control range. *2: Error shown only for "Process value / Set point". Not shown for other status

SP Lower Limit ₩ -200 PID ON/OFF In ON/OFF control = ON OFF In 2-PID control = PLd Standard or Heating/Cooling

Standard control = St.Nd

Standard control = H-C

Standard control = H-C

(Select standard control or heating

→ Tool

Standard control or heating

and cooling control as required)

St. (Self-tuning)

St. ST ON = GN

ST ON = GN ST ON = ON ST OFF = OFF 888 PLRN Program Pattern #© FP Control Period (Heating)
(Unit: Seconds) (Unit: Seconds)

Control Period (Cooling)

(Unit: Seconds) B GREV in Reverse Operation (Heating) = $\frac{1}{\alpha}R - R$ In Direct Operation (Cooling) = $\frac{1}{\alpha}R - R$ BALLI <u>*</u> B RLH I Alarm 1 Hysteresis 0.2 B RLEZ # RL H2 B RLE3 **##** 2 Alarm 3 Hysteresis B LR-E ēss ēFF

₩ 1300 ₽ *ER-H* 100.0 B LR-L 0.0 B 0 1-E 888 4-20 ♦ © SOR Extra BBB GFF

RL - 3 E™RL 3H ******* B°RL3L 0 æ Hold 🖸 and 🔄 keys Hold ☐ and ☐ keys down for at least down for at least 1 second 3 seconds Protect Level E CEPE • B WEPE ## iFF ₽ PFPŁ PRLP,

for at least

B SKŁR

ERL - I

B AL IH

E RL IL

B" RL - 2

B"RLZL

E RLZH

RUN/STOP
When control start = RUN
When control start = S L OF

*3: Refer to the adjoining tables for details of input types and alarm types.

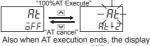
*4: Applicable only to models with alarm functions. *5: Operation is stopped when moved to the initial setting level (control/alarm are both stopped.)

*6: The grayed-out setting items may not be displayed according to the models

This function is supported only by models with heater burnout detection ■Other functions

For details about advanced function setting level, monitor/setting item level, or manual control level, refer to E5CN/E5AN/E5EN/E5GN Digital Controllers User's Manual Basic Type (Cat. No. H156). For communications details, refer to E5CN/E5AN/E5EN/E5GN Digital Controllers Communications Manual Basic Type (Cat. No. H158).

signate "RE - 2: 100% AT execute" or "RE - 1: 40% AT execute" to execute AT and "oFF: AT cancel" to cancel AT.



automatically returns to "oFF"

AT (auto-tuning) AT in Adjustment level

"Rt" flashes

Selection of the control of the cont Soak Time ₩ ₩ ₩ HS Alarm 1 B"WE-b in in its angle in the interest of the interes ₹@ [N5 BT 5PRL SP Ramp Set Value 0.0 # ⊕ FF Upper Limit Temperatu Input Shift Value when 2 point input shift is selected MV Upper Limit Bee 105.0 Lower Limit Temperatur Input Shift Value when 2 point input shift is selected

Derivative Time (Unit: secs) Adjustment level is for entering servalues and shift values for control. Protection function Protection function, to prevent unwanted settings, restricts the setting items to be used or designates if operation of the key is valid or invalid.

=== -5.0

0.0

MV Change Rate Lim

Extraction of Square Root Low-cut Point

Operation / Adjustment protection

Integral Time (Unit: secs)

P 8.0

The following table shows the relationship between settings and protect limits related to Operation level and Adjustment level.

Set value Can be displayed and change O: Can be displayed × : Display or shifting to another level is not possible. Operation level Others 0 0 × × Adjustment level ⊚ × × × Default setting: 0

■ Initial setting/Communications protection
This protect level restricts movement to the initial setting level, communications setting level and advanced function setting level.

Set value	Initial setting level	Communications setting level	Advanced function setting level	O : Change to other levels possible	
0	0	0	0	× : Change to other levels	
1	0	0	×		
2	×	×	×	not possible Default setting:	
Setting	change protection	on .			

Setting changes by key operation are restricted.

OFF "ōFF": Setting can be changed by key operation

ON "ōN" : Setting cannot be changed by key operation (" Οπ " will light.)

(Protect level settings can all be changed.)

PF key protection

PF Key operation can be enabled or disabled OFF "aFF": PF Key enabled.

ON "aN" : PF Key disabled

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