Digital indicator
with alarm function

AE500

Initial Setting Manual

RKC® RKC INSTRUMENT INC.

IMAE03-E2

Thank you for purchasing the **RKC** product.
Before operating this instrument, please carefully read this manual and fully understand its contents. And always keep it around you to make it available easily anytime.

SYMBOL

WARNING : If there are possible dangers such as electric shock, fire (burns), etc. which may result in operator's loss of life or injury, precautions to avoid such dangers are described.

CAUTION : In case instrument damages may be caused if operating procedures are not strictly followed, precautions to avoid such damages are described.

 : This mark is used when great care is needed especially for safety.

 : This mark is used when careful operation or handling is especially needed.

 : This mark is used when a supplemental description of operation or handling is needed.

 : This mark is used when detailed or related information needs to be referred to.

⚠ WARNING

- If failure or error of this instrument could result in a critical accident of the system, install an external protection circuit to prevent such an accident.
- Do not turn on the power supply until all of the wiring is completed. Otherwise electric shock, fire or malfunction may result.
- Use this instrument within the scope of its specifications. Otherwise fire or malfunction may result.
- Do not use this instrument in the places subject to flammable or explosive gas.
- Do not touch high-voltage blocks such as power supply terminals, etc. Otherwise electric shock may result.
- Never disassemble, repair or modify the instrument. This may cause electric shock, fire or malfunction.

CAUTION

- This is a Class A instrument. In a domestic environment this instrument may cause radio interference, in which case the user is required to take adequate measures.
- This instrument is protected from electric shock by reinforced insulation.
  So please arrange reinforced insulation to the wire for input signal against the wires for instrument power supply, source of power and loads as far as possible.
- This instrument is manufactured on the assumption that it is used in the condition of being mounted on the instrumentation panel. Therefore, take the necessary measures on the equipment side mounted with this instrument so that the operator or other personnel are not accessible to high-voltage blocks in this instrument such as power supply terminals, etc.
- Always observe precautions described in this manual. Otherwise serious injury or accident may result.
- Conduct all of the wiring in accordance with the local codes and regulations.
- Install a protection device such as a fuse, etc. in the power supply, input or output line, if necessary.
- Do not allow metal fragments or lead wire scraps to fall inside this instrument. This may cause electric shock, fire or malfunction.
- Firmly tighten each terminal screw at the specified torque. Otherwise electric shock or fire may result.
- Do not place any obstacle around this instrument in order not to impede radiation of heat. And do not close ventilation holes.
- Do not connect wires to unused terminals.
- Before cleaning the instrument, always turn off the power supply.
- Remove stains from this instrument using a soft, dry cloth. Do not use a volatile solvent such as thinner in order to avoid deformation or discoloration.
- Do not rub nor strike the display unit of this instrument with a hard object.

NOTICE

- This manual is written for **RKC** service engineers or qualified technicians. This manual is also prepared especially for readers who already have a fundamental knowledge of electricity, control, computer and communication.
- This manual is subject to change without prior notice.
- Examples of figures, diagrams and numeric values used in this manual are for a better understanding of the text, but not for assuring the resultant operation.
- This manual may not be reproduced or copied in whole or in part without **RKC**'s prior consent.
- **RKC** assumes no responsibility for any of the following damage which the user or third party may suffer.
  - Damage incurred as a result of using this product.
  - Damage caused by product failure which cannot be predicted by **RKC**.
  - Other indirect damage.
- In order to use this instrument continuously and safely, periodic maintenance is required. Some of components and parts used in this instrument have a limited service life, or deteriorate over time.
- This manual is carefully prepared. However, if any mistake or omission is found, please contact **RKC**.

CONTENTS

MEMO

1. MODE TRANSFER

Initialization is to set parameters relating to instrument specifications (input type, input range, alarm type, etc.) and those relating to instrument characteristics (setting limiter, etc.).

1.1 Transfer to Initialization Mode

The ▭ section in each picture is dimly lit.

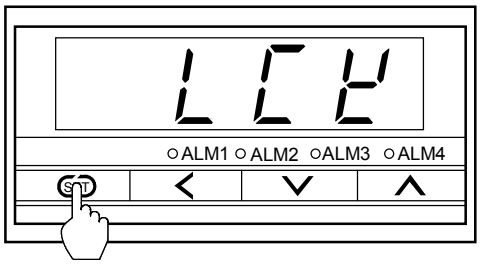
1. Turn on the power to this instrument. Thus, the input type and PV display change in this order.

2. Press the SET key for 2 sec with the instrument set to PV display to change the instrument to parameter setting mode.

☞ For details on parameter setting mode, see the **AE500 Instruction Manual (IMAE01-E□)**.

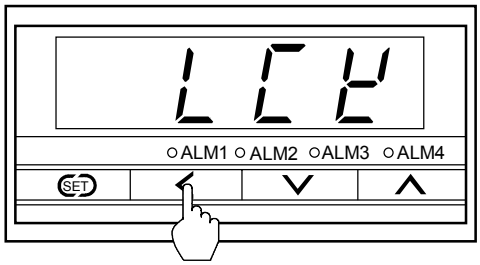
3. Press the SET key to change to the set data lock function display screen.

Set data lock function

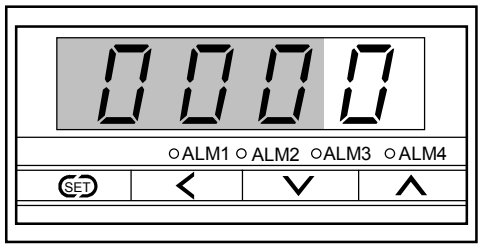


4. Press the shift key to change the display from character to set value.

Character display of set data



Set value display of set data



Continued on the next page.

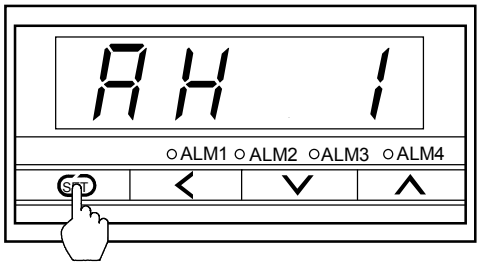
5. Press the shift key to light brightly the thousands digit.

6. Press the UP key to change "0" to "1" in the thousands digit.

Set value
0: Initialization mode locked
1: Initialization mode

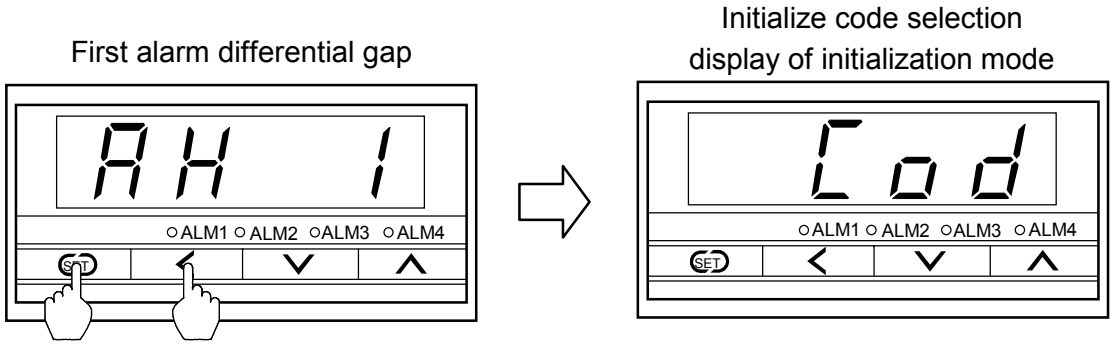
7. Press the SET key to change to the next parameter. Thus, the data in initialization mode is unlocked.

First alarm differential gap



In the above figure, the first alarm differential gap is displayed. However, the parameter to be displayed varies depending on the specification.

8. Press the SET key while pressing the shift key for 2 sec. to change the instrument to initialization mode.
Thus, the symbol (Cod) for selecting the initialize code is displayed first.



1.2 End of Initialization Mode

1. Press the SET key while pressing the shift key for 2 sec. to transfer to PV display after each parameter is set.

2. Press the SET key for 2 sec in the PV display state to transfer to parameter setting mode.

3. Press the SET key to transfer to the set data lock function display (LCK).

4. Press the shift key to change the display from character to set value. (See ***4*** on P.1.)

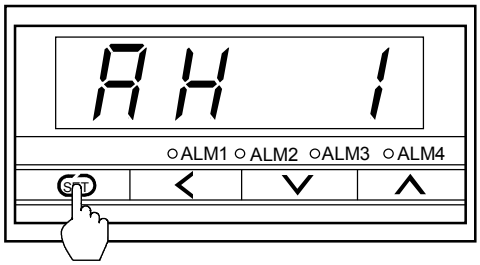
5. Press the shift key to brightly light the thousands digit. (See ***5*** on P.2.)

6. Press the DOWN key to set the numeric value corresponding to the thousands digit to "0" from "1."

Set value
0 : Initialization mode locked

7. Press the SET key to transfer to the next parameter. As a result, the "Initialization mode lock state" setting becomes effective.

First alarm differential gap



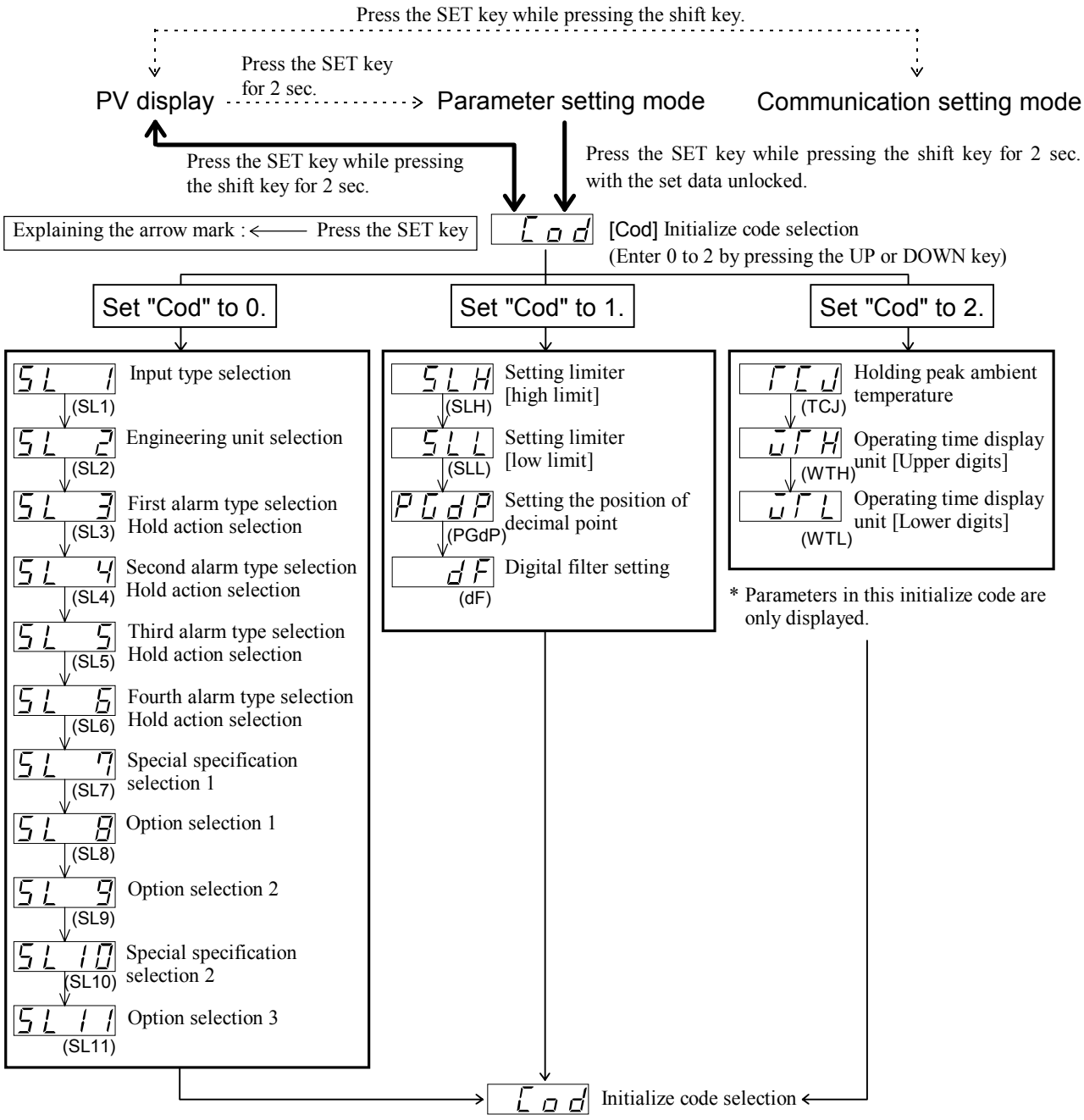
In the above figure, the first alarm differential gap is displayed. However, the parameter to be displayed varies depending on the specification.

2. SETTING

2.1 Display Flowcharts in Initialization Mode

If the instrument is changed to initialization mode, the symbol (Cod) for selecting the initialize code is displayed first. Initializing items are classified into 3 initialize code groups in initialization mode.

There are parameters which are not displayed depending on the specification.



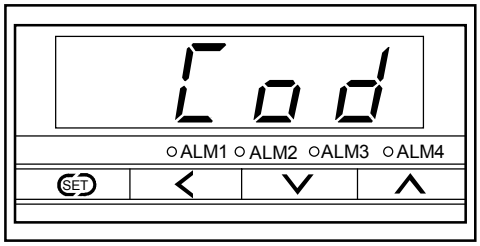
2.2 Procedure for Setting Each Parameter

[Example of changing the setting]
When the display unit shows "SL1 (Input type selection)" in initialize code "0," the following procedure is for changing the input type from "K" to "J."

The ▭ section in each picture is dimly lit.

1. Change the instrument to the initialize code selection display.
☞ See **1.1 Transfer to Initialization Mode** on page 1.

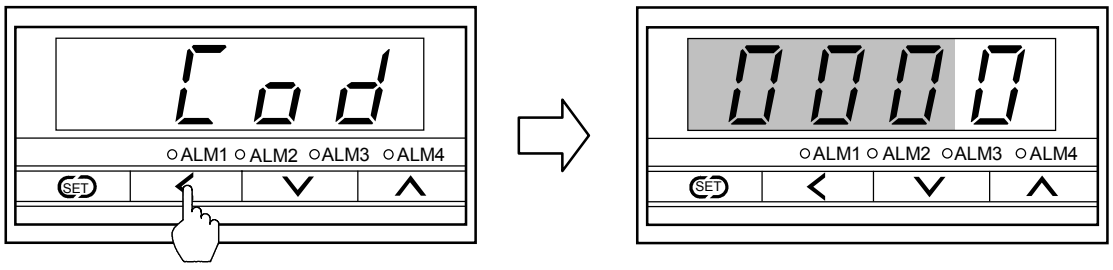
Initialize code selection



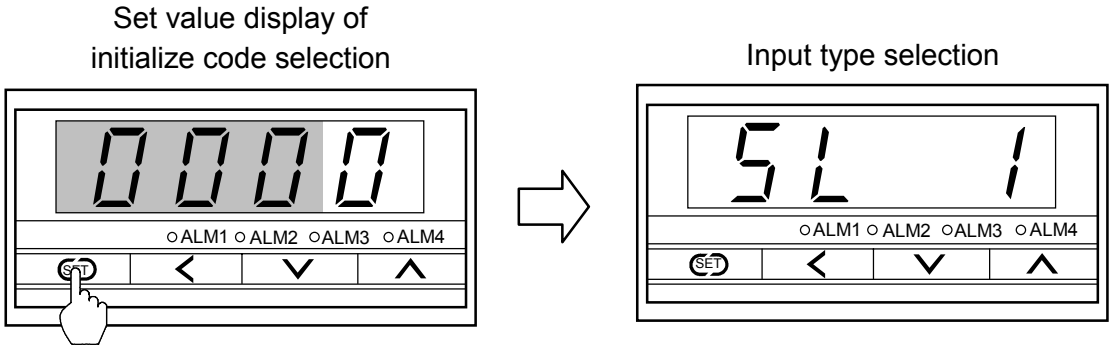
2. Press the shift key to change the display from character to set value.

Character display of initialize code selection

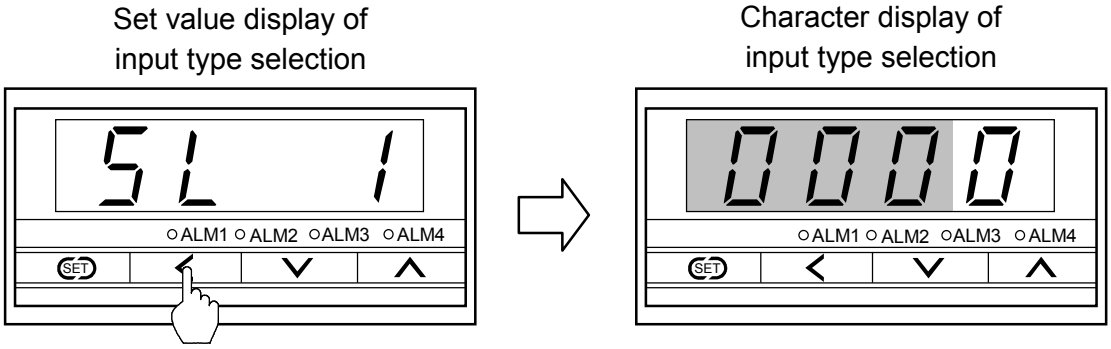
Set value display of initialize code selection



3. As "SL1 (Input type selection)" belongs to the group of initialize code "0," do not change the initialize code (the units digit) but press the SET key to change to "SL1 (Input type selection)."



4. Press the shift key to change the display from character to set value.



5. Press the UP key to enter "1" in the units digit.

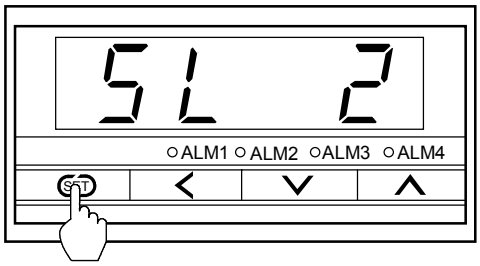
List of parameters

Set value	Input type
0 0 0 0	K
0 0 0 1	J
0 0 1 0	L

Continued on the next page.

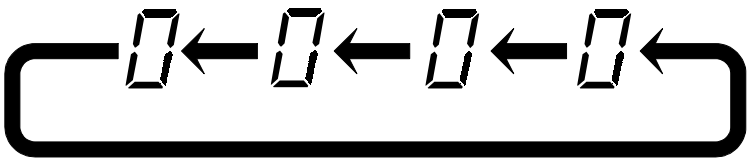
6. Press the SET key to change to the next parameter. Thus, the set value is registered.

Engineering unit selection



If the initialize code is set to "1" or "2," first press the shift key to display the set value, then press the UP or DOWN key to inter "1" or "2" in the units digit.

If the set value corresponds to any digit other than the units digit, press the shift key to move the brightly lit digit. The brightly lit digit moves as follows every time the shift key is pressed.



2.3 List of Parameters in Initialize Code 0 (Cod = 0)

(1) SL1 (Input type selection)

Conduct the setting so that it matches the instrument specification (input type). If the setting is changed, always re-set the setting limits (SLH and SLL). (See P.15, 16)

Factory set value varies depending on the input type.

Set value	Input type	
0 0 0 0	K	TC input ***1**
0 0 0 1	J	
0 0 1 0	L	
0 0 1 1	E	
0 1 0 0	N	
0 1 1 1	R	
1 0 0 0	S	
1 0 0 1	B	
1 0 1 0	W5Re/W26Re	
1 0 1 1	PL II	
0 1 0 1	T	
0 1 1 0	U	
1 1 0 0	Pt100 Ω (JIS/IEC)	RTD input ***1**
1 1 0 1	JPt100 Ω (JIS)	
1 1 1 0	0 to 5 V DC	Voltage input ***1**
1 1 1 0	0 to 10 V DC ***3**	
1 1 1 1	1 to 5 V DC	
1 1 1 0	0 to 20 mA DC	Current input ***1**, ***2**
1 1 1 1	4 to 20 mA DC	

***1**: No input type (TC/RTD input to voltage/current input or voltage/current input to TC/RTD input) cannot be changed.

***2**: For the current input specification, a resistor of 250 Ω must be connected between the input terminals.

***3**: To be fixed to "1110" for the 0 to 10 V DC (Z-1010 specification). No input type cannot be changed as the hardware differs.

(2) SL2 (Engineering unit selection)

Any digits other than the unit digit are not used. As malfunction may result, do not change any of other digits.

Factory set value varies depending on the instrument specification.

Set value				Description
			0	°C
			1	°F
0	0	0		"000□" Fixed

(3) SL3 (First alarm type selection, hold action selection)

Factory set value: "0001"

Set value				Description	
			0	First alarm not provided	First alarm type selection
			1	First alarm provided *	
		0		Process high alarm	
		1		Process low alarm	
	0			Energized alarm	
	1			De-energized alarm	
0				Without alarm hold action	First alarm hold action selection
1				With alarm hold action	

*Cannot be selected for the controller that does not have a first alarm.

(4) SL4 (Second alarm type selection, hold action selection)

Factory set value: "0001"

Set value				Description	
			0	Second alarm not provided	Second alarm type selection
			1	Second alarm provided *	
		0		Process high alarm	
		1		Process low alarm	
	0			Energized alarm	
	1			De-energized alarm	
0				Without alarm hold action	Second alarm hold action selection
1				With alarm hold action	

*Cannot be selected for the controller that does not have a second alarm.

(5) SL5 (Third alarm type selection, hold action selection)

If "Analog output provided" is selected for SL8 (Option selection 1), "Third alarm provided" do not be set. Because, malfunction may result.

Factory set value: "0001"

Set value				Description	
			0	Third alarm not provided	Third alarm type selection
			1	Third alarm provided *	
		0		Process high alarm	
		1		Process low alarm	
	0			Energized alarm	
	1			De-energized alarm	
0				Without alarm hold action	Third alarm hold action selection
1				With alarm hold action	

*Cannot be selected for the controller that does not have a third alarm.

(6) SL6 (Fourth alarm type selection, hold action selection)

If "Power supply for LED provided" is selected for SL9 (Option selection 2), "Fourth alarm provided" do not be set. Because, malfunction may result.

Factory set value: "0001"

Set value				Description	
			0	Fourth alarm not provided	Fourth alarm type selection
			1	Fourth alarm provided *	
		0		Process high alarm	
		1		Process low alarm	
	0			Energized alarm	
	1			De-energized alarm	
0				Without alarm hold action	Fourth alarm hold action selection
1				With alarm hold action	

*Cannot be selected for the controller that does not have a fourth alarm.

(7) SL7 (Special specification selection 1)

Factory set value: "0000"

Set value				Description	
			0	First alarm interlock not provided	First alarm interlock selection
			1	First alarm interlock provided	
		0		Second alarm interlock not provided	Second alarm interlock selection
		1		Second alarm interlock provided	
	0			Third alarm interlock not provided	Third alarm interlock selection
	1			Third alarm interlock provided	
0				Fourth alarm interlock not provided	Fourth alarm interlock selection
1				Fourth alarm interlock provided	

(8) SL8 (Option selection 1)

If "Third alarm provided" is selected for SL5 (Third alarm type selection, hold action selection), "Analog output provided" do not be set. Because, malfunction may result.

Any digits other than the unit digit are not used. As malfunction may result, do not change any of other digits.

Factory set value: "0000"

Set value				Description	
			0	Analog output not provided	Analog output selection
			1	Analog output provided *	
0	0	0		"000□" Fixed	

*Cannot be selected for the controller that does not have a analog output.

(9) SL9 (Option selection 2)

If "Fourth alarm provided" is selected for SL6 (Fourth alarm type selection, hold action selection), "Power supply for LED provided" do not be set. Because, malfunction may result.

Any digits other than the unit digit are not used. As malfunction may result, do not change any of other digits.

Factory set value: "0000"

Set value				Description	
			0	Power supply for LED not provided	Power supply for LED selection
			1	Power supply for LED provided *	
0	0	0		"000□" Fixed	

*Cannot be selected for the controller that does not have a power supply for LED.

(10) SL10 (Special specification selection 2)

Factory set value: "0000"

Set value				Description	
			0	First alarm Z-124 specification not provided	First alarm special specification
			1	First alarm Z-124 specification provided	
		0		Second alarm Z-124 specification not provided	Second alarm special specification
		1		Second alarm Z-124 specification provided	
	0			Third alarm Z-124 specification not provided	Third alarm special specification
	1			Third alarm Z-124 specification provided	
0				Fourth alarm Z-124 specification not provided	Fourth alarm special specification
1				Fourth alarm Z-124 specification provided	

Z-124 specification not provided:

The alarm output is forcibly turned ON when the burnout function is activated.

Z-124 specification provided:

No alarm action is taken by the burnout function. (Same as the normal alarm action.)

(11) SL11 (Option selection 3)

The upper 2 digits are not used. As malfunction may result, do not change these digits.

Factory set value: "0000"

Set value				Description	
			0	Communication function not provided	Communication function selection
			1	Communication function provided ***1**	
		0		Contact input function not provided	Contact input function selection
		1		Contact input function provided ***2**	
0	0			"00□□" Fixed	

***1**: Cannot be selected for the controller that does not have a communication function.

***2**: Cannot be selected for the controller that does not have a contact input function.

2.4 List of Parameters in Initialize Code 1 (Cod = 1)

(1) SLH (Setting limiter [high limit])

Set the limiter by referring to **Input range table** (P.17)

■ Setting method

Press the shift key to move the digit, then enter the high limit of input range by pressing the UP or DOWN key.

Factory set value varies depending on the instrument specification.

Input type			Setting range
Thermocouple input (TC)	K		SLL to 1372 °C (SLL to 2502 °F)
	J		SLL to 1200 °C (SLL to 2192 °F)
	R		SLL to 1769 °C (SLL to 3216 °F)
	S		SLL to 1769 °C (SLL to 3216 °F)
	B		SLL to 1820 °C (SLL to 3308 °F)
	E		SLL to 1000 °C (SLL to 1832 °F)
	N		SLL to 1300 °C (SLL to 2372 °F)
	T		SLL to +400.0 °C (SLL to +752.0 °F)
	W5Re/W26Re		SLL to 2320 °C (SLL to 4208 °F)
	PL II		SLL to 1390 °C (SLL to 2534 °F)
	U		SLL to +600.0 °C (SLL to +999.9 °F)
	L		SLL to 900 °C (SLL to 1652 °F)
RTD input	Pt100 Ω (JIS/IEC)	***1**	SLL to +649.0 °C (SLL to +999.9 °F)
	JPt100 Ω (JIS)		SLL to +649.0 °C (SLL to +999.9 °F)
Voltage input	0 to 5 V DC		SLL to +9999 (programmable scale)
	0 to 10 V DC	***2**	
	1 to 5 V DC		
Current input	0 to 20 mA DC	***3**	SLL to +9999 (programmable scale)
	4 to 20 mA DC	***3**	

SLL : Setting limiter [low limit]

***1**: IEC (International Electrotechnical Commission) is equivalent to JIS, DIN and ANSI.

***2**: For the 0 to 10 V DC (Z-1010 specification), no input type cannot be changed as the hardware differs.

***3**: For the current input specification, a resistor of 250 Ω must be connected between the input terminals.

(2) SLL (Setting limiter [low limit])

Set the limiter by referring to **Input range table** (P.17)

■ Setting method

Press the shift key to move the digit, then enter the low limit value of input range by pressing the UP or DOWN key.

Factory set value varies depending on the instrument specification.

Input type			Setting range
Thermocouple input (TC)	K		0 to SLH °C (0 to SLH °F)
	J		0 to SLH °C (0 to SLH °F)
	R		0 to SLH °C (0 to SLH °F)
	S		0 to SLH °C (0 to SLH °F)
	B		0 to SLH °C (0 to SLH °F)
	E		0 to SLH °C (0 to SLH °F)
	N		0 to SLH °C (0 to SLH °F)
	T		-199.9 to SLH °C (-199.9 to SLH °F)
	W5Re/W26Re		0 to SLH °C (0 to SLH °F)
	PL II		0 to SLH °C (0 to SLH °F)
	U		-199.9 to SLH °C (-199.9 to SLH °F)
	L		0 to SLH °C (0 to SLH °F)
RTD input	Pt100 Ω (JIS/IEC)	***1**	-199.9 to SLH °C (-199.9 to SLH °F)
	JPt100 Ω (JIS)		-199.9 to SLH °C (-199.9 to SLH °F)
Voltage input	0 to 5 V DC		-1999 to SLH (programmable scale)
	0 to 10 V DC	***2**	
	1 to 5 V DC		
Current input	0 to 20 mA DC	***3**	-1999 to SLH (programmable scale)
	4 to 20 mA DC	***3**	

SLH : Setting limiter [high limit]

***1**: IEC (International Electrotechnical Commission) is equivalent to JIS, DIN and ANSI.

***2**: For the 0 to 10 V DC (Z-1010 specification), no input type cannot be changed as the hardware differs.

***3**: For the current input specification, a resistor of 250 Ω must be connected between the input terminals.

■ Input range table

Thermocouple input (TC)

Type	Input range	Type	Input range
K	0 to 200 °C	B	400 to 1800 °C
K	0 to 400 °C	B	0 to 1820 °C ***1**
K	0 to 600 °C	B	800 to 3200 °F
K	0 to 800 °C	B	0 to 3308 °F ***1**
K	0 to 1000 °C	E	0 to 800 °C
K	0 to 1200 °C	E	0 to 1000 °C
K	0 to 1372 °C	E	0 to 1600 °F
K	0 to 100 °C	E	0 to 1832 °F
K	0 to 300 °C	N	0 to 1200 °C
K	0 to 450 °C	N	0 to 1300 °C
K	0 to 500 °C	N	0 to 2300 °F
K	0 to 800 °F	N	0 to 2372 °F
K	0 to 1600 °F	T	-199.9 to +400.0 °C ***2**
K	0 to 2502 °F	T	-199.9 to +100.0 °C ***2**
K	20 to 70 °F	T	-100.0 to +200.0 °C
J	0 to 200 °C	T	0.0 to 350.0 °C
J	0 to 400 °C	T	-199.9 to +752.0 °F ***2**
J	0 to 600 °C	T	-100.0 to +200.0 °F
J	0 to 800 °C	T	-100.0 to +400.0 °F
J	0 to 1000 °C	T	0.0 to 450.0 °F
J	0 to 1200 °C	T	0.0 to 752.0 °F
J	0 to 450 °C	W5Re/W26Re	0 to 2000 °C
J	0 to 800 °F	W5Re/W26Re	0 to 2320 °C
J	0 to 1600 °F	W5Re/W26Re	0 to 4000 °F
J	0 to 2192 °F	PL II	0 to 1300 °C
J	0 to 400 °F	PL II	0 to 1390 °C
J	0 to 300 °F	PL II	0 to 1200 °C
R	0 to 1600 °C ***1**	PL II	0 to 2400 °F
R	0 to 1769 °C ***1**	PL II	0 to 2534 °F
R	0 to 1350 °C ***1**	U	-199.9 to +600.0 °C ***2**
R	0 to 3200 °F ***1**	U	-199.9 to +100.0 °C ***2**
R	0 to 3216 °F ***1**	U	0.0 to 400.0 °C ***2**
S	0 to 1600 °C ***1**	U	-199.9 to +999.9 °F ***2**
S	0 to 1769 °C ***1**	U	-100.0 to +200.0°F ***2**
S	0 to 3200 °F ***1**	U	0.0 to 999.9 °F
S	0 to 3216 °F ***1**	Continued on the next page.	

Type	Input range
L	0 to 400 °C
L	0 to 800 °C
L	0 to 800 °F
L	0 to 1600 °F

***1** ···· 0 to 399 °C/0 to 799 °F : Accuracy is not guaranteed.

***2** ···· -199.9 to -100.0 °C/-199.9 to -158.0 °F : Accuracy is not guaranteed.

RTD input

Type	Input range
Pt100 (JIS/IEC)	-199.9 to +649.0 °C
Pt100 (JIS/IEC)	-199.9 to +200.0 °C
Pt100 (JIS/IEC)	-100.0 to +50.0 °C
Pt100 (JIS/IEC)	-100.0 to +100.0 °C
Pt100 (JIS/IEC)	-100.0 to +200.0 °C
Pt100 (JIS/IEC)	0.0 to 50.0 °C
Pt100 (JIS/IEC)	0.0 to 100.0 °C
Pt100 (JIS/IEC)	0.0 to 200.0 °C
Pt100 (JIS/IEC)	0.0 to 300.0 °C
Pt100 (JIS/IEC)	0.0 to 500.0 °C
Pt100 (JIS/IEC)	-199.9 to +999.9 °F
Pt100 (JIS/IEC)	-199.9 to +400.0 °F
Pt100 (JIS/IEC)	-199.9 to +200.0 °F
Pt100 (JIS/IEC)	-100.0 to +100.0 °F
Pt100 (JIS/IEC)	-100.0 to +300.0 °F
Pt100 (JIS/IEC)	0.0 to 100.0 °F
Pt100 (JIS/IEC)	0.0 to 200.0 °F
Pt100 (JIS/IEC)	0.0 to 400.0 °F
Pt100 (JIS/IEC)	0.0 to 500.0 °F
JPt100 (JIS)	-199.9 to +649.0 °C
JPt100 (JIS)	-199.9 to +200.0 °C
JPt100 (JIS)	-100.0 to +50.0 °C
JPt100 (JIS)	-100.0 to +100.0 °C
JPt100 (JIS)	-100.0 to +200.0 °C
JPt100 (JIS)	0.0 to 50.0 °C
JPt100 (JIS)	0.0 to 100.0 °C
JPt100 (JIS)	0.0 to 200.0 °C
JPt100 (JIS)	0.0 to 300.0 °C
JPt100 (JIS)	0.0 to 500.0 °C

Voltage input

Type	Input range
0 to 5 V DC	0.0 to 100.0 %
0 to 10 V DC *	
1 to 5 V DC	

*For the 0 to 10 V DC (Z-1010 specification), no input type cannot be changed as the hardware differs.

Current input

Type	Input range
0 to 20 mA DC	0.0 to 100.0 %
4 to 20 mA DC	

*For the current input specification, a resistor of 250 Ω must be connected between the input terminals.

(3) PGdP (Setting the position of decimal point)

The set position of the decimal point is displayed only for current or voltage input.

Factory set value: "0001"

Set value				Description	
			0	No digit below decimal point	Setting the position of decimal point
			1	1 digit below decimal point	
			2	2 digits below decimal point	
			3	3 digits below decimal point	
0	0	0		"000□" Fixed	

(8) dF (Digital filter setting)

Setting range: 0 to 100 sec (If "0" is set, the PV digital filter is turned off.)
Factory set value : 1

2.5 List of parameters in initialize code 2 (Cod=2)

Parameters in initialize code 2 are only displayed.

(1) TCJ (Holding peak ambient temperature)

The maximum ambient temperature on the rear terminal board of the instrument is stored and displayed on the set value (SV) display unit. Display only for TC input.

Display range: -10.0 to +100 °C
Display resolution: 1 °C (1 °F)

(2) WTH (Operating time display unit [Upper digits])

The integrated value (upper 2 digits) of power ON time is shown on the set value (SV) display unit.
If the total operating time exceeds 100,000 hours, the integrated operating time is reset.

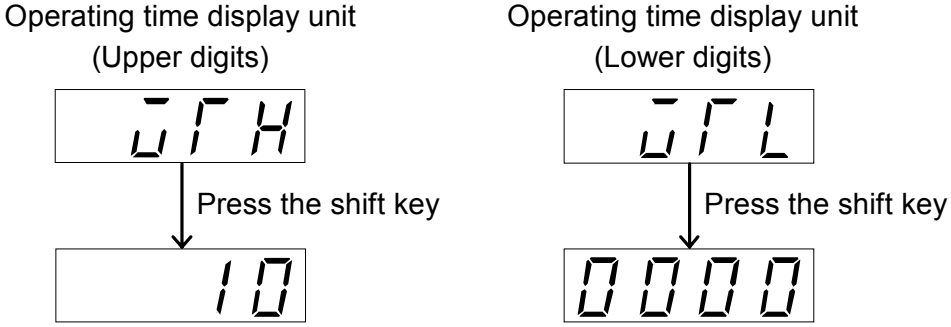
Display range: 0 to 10 (Operating time from 0 to 100,000 hours can be displayed for both the upper and lower digits.)
Display resolution: 10,000 hours

(3) WTL (Operating time display unit [Lower digits])

The integrated value (lower 4 digits) of power ON time is shown on the set value (SV) display unit.
If the total operating time exceeds 9,999 hours, these digits move to the operating time display unit [Upper digits] (WTH).

Display range: 0000 to 9999
Display resolution: 1 hours

■ Example : When the integrated value of operating time equals to 100,000 hours.
The upper 2 digits of 100,000 hours are shown on the operating time display unit [upper digits] (WTH) and the lower 4 digits are shown on the operating time display unit [lower digits].



3. COMMUNICATION INITIALIZE IDENTIFIER

📖 Note that there are identifiers which cannot be communicated depending on the specification. For details on the structure of communication data, see the **AE500 Communication Instruction Manual [IMAE02-E□]**.

📖 The number of digits is 6 for all data.

(Attributes RO: Read only, R/W: Read/Write)

Name	Identifier	Data range	Factory set value	Attribute
Initialization mode selection	IO	0: Initialization setting item RO 1: Initialization setting item R/W	0	R/W
Cod setting [Cod]	IP	0 to 2	0	R/W
Input type selection [SL1]	XI	0 to 15 ***1**	To vary depending on the specification	R/W
Engineering unit selection [SL2]	PU	0: °C 1: °F	To vary depending on the specification	R/W
First alarm type selection [SL3]	XA	0 to 15 ***2**	To vary depending on the specification	R/W
Second alarm type selection [SL4]	XB			
Third alarm type selection [SL5]	XC			
Fourth alarm type selection [SL6]	XD			
Special specification selection 1 [SL7]	QA	0 to 15 ***3**	0	R/W
Option selection 1 [SL8]	FC	0: Analog output not provided 1: Analog output provided ***4**	To vary depending on the specification	R/W

Continued on the next page.

Name	Iden-tifier	Data range	Factory set value	Attribute
Option selection 2 [SL9]	FD	0: Power supply for LED not provided 1: Power supply for LED provided ***5**	To vary depending on the specification	R/W
Special specification selection 2 [SL10]	Z1	0 to 15 ***6**	0	R/W
Option selection 3 [SL11]	SI	0: Communication function not provided 1: Communication function provided 2: Contact input function provided ***7**	To vary depending on the specification	R/W
Setting limiter (high limit) [SLH]	XV	See **Input range table** on page 17 to 19.	To vary depending on the specification	R/W
Setting limiter (low limit) [SLL]	XW			
Setting the position of decimal point [PGdP]	XU	0: No digit below decimal point 1: 1 digit below decimal point 2: 2 digits below decimal point 3: 3 digits below decimal point	1	R/W
Digital filter setting [Df]	F1	0 to 100 sec.	1	R/W
Holding peak ambient temperature [TCJ]	Hp	-10 to +100 °C (0 to 200 °F)	–––––	RO
Operating time display unit (Upper digits) [WTH]	UT	0 to 100	–––––	RO
Operating time display unit (Lower digits) [WTL]	UU	0 to 9999	–––––	RO

***1**...

Input type		Set value
Thermocouple input (TC)	K	0
	J	1
	L	2
	E	3
	N	4
	T	5
	U	6
	R	7
	S	8
	B	9
	W5Re/W26Re	10
	PL II	11
RTD input (RTD)	Pt100 Ω (JIS/IEC)	12
	JPt100 Ω (JIS)	13
Voltage input	0 to 5 V DC	14
	0 to 10 V DC *	14
	1 to 5 V DC	15
Current input	0 to 20 mA DC	14
	4 to 20 mA DC	15

*To be fixed to "14" for the 0 to 10 V DC (Z-1010 specification). No input type cannot be changed as the hardware differs.

***2**... 0 : No alarm
1 : High alarm
3 : Low alarm
5 : De-energized high alarm
7 : De-energized low alarm
9 : High alarm with hold action
11 : Low alarm with hold action
13 : De-energized high alarm with hold action
15 : De-energized low alarm with hold action

Do not set 2, 4, 6, 8, 10, 12 or 14. Malfunction may result.

***3**... Special specification selection 1

(× : Interlock provided – : Interlock not provided)

Set value	First alarm interlock	Second alarm interlock	Third alarm interlock	Fourth alarm interlock
0	–	–	–	–
1	×	–	–	–
2	–	×	–	–
3	×	×	–	–
4	–	–	×	–
5	×	–	×	–
6	–	×	×	–
7	×	×	×	–
8	–	–	–	×
9	×	–	–	×
10	–	×	–	×
11	×	×	–	×
12	–	–	×	×
13	×	–	×	×
14	–	×	×	×
15	×	×	×	×

***4**... Only either the third alarm or analog output is selected.

***5**... Only either the fourth alarm or power supply for LED is selected.

***6**... Special specification selection 2

(× : Z-124 specification provided – : Z-124 specification not provided)

Set value	First alarm Z-124 specification	Second alarm Z-124 specification	Third alarm Z-124 specification	Fourth alarm Z-124 specification
0	–	–	–	–
1	×	–	–	–
2	–	×	–	–
3	×	×	–	–
4	–	–	×	–
5	×	–	×	–
6	–	×	×	–
7	×	×	×	–
8	–	–	–	×
9	×	–	–	×
10	–	×	–	×
11	×	×	–	×
12	–	–	×	×
13	×	–	×	×
14	–	×	×	×
15	×	×	×	×

***7**... Only either the communication function or contact input function is selected.

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RKC INSTRUMENT INC.

HEADQUARTERS: 16-6, KUGAHARA 5-CHOME, OHTA-KU TOKYO 146-8515 JAPAN
PHONE: 03-3751-9799 (+81 3 3751 9799)
E-mail: info@rkcinst.co.jp
FAX: 03-3751-8585 (+81 3 3751 8585)

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