



Thank you for purchasing this RKC product. In order to achieve maximum performance and ensure proper operation of your new instrument, carefully read all the instructions in this manual. Please place this manual in a convenient location for easy reference.

This manual shows SRZ data which can be used for communication between the PLC/host computer and COM-MY. For the installation and various function settings, please read if necessary the following separate manuals.

- COM-MY Installation Manual (IMR02E01-E□)      Enclosed with COM-MY
- COM-MY Instruction Manual (IMR02E02-E□)      Enclosed with COM-MY
- COM-MY Communication Data List (IMR02E03-E□)      Enclosed with COM-MY

## 1. Reference to Communication Data List

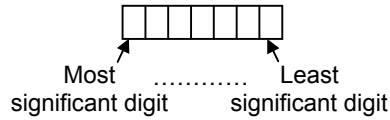
No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
1	Measured value (PV)	M1	CH1 ⋮ CH64	01FC ⋮ 023B	508 ⋮ 571	7	RO	C	Input scale low to Input scale high	—

- (1) **Name:**                      Communication data name
- (2) **Identifier:**                Communication identifier of RKC communication
- (3) **Channel:**                 Channel number of data of one unit
- (4) **Register address:** Register address of Modbus and MECHATROLINK data item specification (HEX: Hexadecimal    DEC: Decimal)
- (5) **Digits:**                    The number of communication data digits in RKC communication
- (6) **Attribute:**                A method of how communication data items are read or written when viewed from the host computer or PLC is described  
 RO: Read only data  

  
 R/W: Read and Write data  

- (7) **Structure:**                C: Data for each channel <sup>1,2</sup>      M: Data for each module  
 U: Data for each SRZ unit  
<sup>1</sup> On a Z-TIO module (2-channel type), the communication data of the CH3 and CH4 becomes invalid.  
<sup>2</sup> Parameters only used for heat/cool control or position proportioning control, therefore data (indicated by ♣ in the name column) for CH2 and CH4 of Z-TIO modules are unused. [Read is possible (0 is shown), but the result of Write is disregarded.]

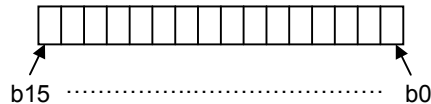
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**(8) Data range:** Read or write range of communication data

- ASCII code data (Example: 7 digits)



- 16-bit data (bit image)



**(9) Factory set value:** Factory set value of communication data



Communication includes both “Normal setting data” and “Engineering setting data.” During RUN (control), the attribute of engineering setting data is RO. To configure engineering setting data, the RUN/STOP switch must be set to STOP (control stopped).

**Z-TIO module:** Normal setting data No. 1 to 85,  
Engineering setting data No. 86 to 208

**Z-DIO module:** Normal setting data No. 1 to 13,  
Engineering setting data No. 14 to 27

**Z-CT module:** Normal setting data No. 1 to 28 \*

\* No. 17 to 28: When the set lock (Identifier:LK, Resister address: 5E0CH to 5E1BH) is set to “0: Unlock,” writing data is possible.

The Engineering setting data should be set according to the application before setting any parameter related to operation. Once the Engineering setting data are set correctly, those datas are not necessary to be changed for the same application under normal conditions. If they are changed unnecessarily, it may result in malfunction or failure of the instrument. RKC will not bear any responsibility for malfunction or failure as a result of improper changes in the Engineering setting.



Data mapping function

When using a COM-MY joined to function modules (Z-TIO, Z-DIO, Z-CT modules of SRZ), the data mapping function cannot be used.

## 2. Communication Data of Z-TIO Module

 For details of Z-TIO module communication data, see **SRZ Instruction Manual (IMS01T04-E□)**.

No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
1	Measured value (PV)	M1	CH1 ⋮ CH64	01FC ⋮ 023B	508 ⋮ 571	7	RO	C	Input scale low to Input scale high	—
2	Comprehensive event state	AJ	CH1 ⋮ CH64	023C ⋮ 027B	572 ⋮ 635	7	RO	C	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>Least significant digit: <ul style="list-style-type: none"> <li>Event 1</li> <li>2nd digit: Event 2</li> <li>3rd digit: Event 3</li> <li>4th digit: Event 4</li> <li>5th digit: Heater break alarm</li> <li>6th digit: Temperature rise completion</li> <li>7th digit: Burnout</li> </ul> </li> <li>Data 0: OFF 1: ON</li> <li>• Modbus/MECHATROLINK</li> <li>Bit data <ul style="list-style-type: none"> <li>b0: Event 1</li> <li>b1: Event 2</li> <li>b2: Event 3</li> <li>b3: Event 4</li> <li>b4: Heater break alarm</li> <li>b5: Temperature rise completion</li> <li>b6: Burnout</li> <li>b7 to b15: Unused</li> </ul> </li> <li>Data 0: OFF 1: ON</li> <li>[Decimal number: 0 to 127]</li> </ul>	—
3	Operation mode state monitor	L0	CH1 ⋮ CH64	027C ⋮ 02BB	636 ⋮ 699	7	RO	C	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>Least significant digit: <ul style="list-style-type: none"> <li>Control STOP</li> <li>2nd digit: Control RUN</li> <li>3rd digit: Manual mode</li> <li>4th digit: Remote mode</li> <li>5th digit to Most significant digit: Unused</li> </ul> </li> <li>Data 0: OFF 1: ON</li> <li>• Modbus/MECHATROLINK</li> <li>Bit data <ul style="list-style-type: none"> <li>b0: Control STOP</li> <li>b1: Control RUN</li> <li>b2: Manual mode</li> <li>b3: Remote mode</li> <li>b4 to b15: Unused</li> </ul> </li> <li>Data 0: OFF 1: ON</li> <li>[Decimal number: 0 to 15]</li> </ul>	—
4	Unused	—	—	02BC ⋮ 02CB	700 ⋮ 715	—	—	—	—	—
5	Manipulated output value (MV) monitor [heat-side] ♣	O1	CH1 ⋮ CH64	02CC ⋮ 030B	716 ⋮ 779	7	RO	C	<ul style="list-style-type: none"> <li>PID control or heat/cool PID control: <ul style="list-style-type: none"> <li>–5.0 to +105.0 %</li> </ul> </li> <li>Position proportioning control with feedback resistance (FBR) input: <ul style="list-style-type: none"> <li>0.0 to 100.0 %</li> </ul> </li> </ul>	—

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
6	Manipulated output value (MV) monitor [cool-side]	O2	CH1 ⋮ CH64	030C ⋮ 034B	780 ⋮ 843	7	RO	C	-5.0 to +105.0 %	—
7	Current transformer (CT) input value monitor	M3	CH1 ⋮ CH64	034C ⋮ 038B	844 ⋮ 907	7	RO	C	CTL-6-P-N: 0.0 to 30.0 A CTL-12-S56-10L-N: 0.0 to 100.0 A	—
8	Set value (SV) monitor	MS	CH1 ⋮ CH64	038C ⋮ 03CB	908 ⋮ 971	7	RO	C	Setting limiter (low) to Setting limiter (high)	—
9	Remote setting (RS) input value monitor	S2	CH1 ⋮ CH64	03CC ⋮ 040B	972 ⋮ 1035	7	RO	C	Setting limiter (low) to Setting limiter (high)	—
10	Burnout state monitor	B1	CH1 ⋮ CH64	040C ⋮ 044B	1036 ⋮ 1099	1	RO	C	0: OFF 1: ON	—
11	Event 1 state monitor	AA	CH1 ⋮ CH64	044C ⋮ 048B	1100 ⋮ 1163	1	RO	C	0: OFF 1: ON	—
12	Event 2 state monitor	AB	CH1 ⋮ CH64	048C ⋮ 04CB	1164 ⋮ 1227	1	RO	C	If the Event 3 type is temperature rise completion, check the temperature rise completion state in the comprehensive event state (Identifier: AJ, Register address: 023C to 027B). (The Event 3 state monitor does not turn ON.)	—
13	Event 3 state monitor	AC	CH1 ⋮ CH64	04CC ⋮ 050B	1228 ⋮ 1291	1	RO	C		—
14	Event 4 state monitor	AD	CH1 ⋮ CH64	050C ⋮ 054B	1292 ⋮ 1355	1	RO	C		—
15	Heater break alarm (HBA) state monitor	AE	CH1 ⋮ CH64	054C ⋮ 058B	1356 ⋮ 1419	1	RO	C		0: OFF 1: ON
16	Output state monitor	Q1	CH1 ⋮ CH16	058C ⋮ 059B	1420 ⋮ 1435	7	RO	M	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>Least significant digit: OUT1</li> <li>2nd digit: OUT2</li> <li>3rd digit: OUT3</li> <li>4th digit: OUT4</li> <li>5th digit to Most significant digit: Unused</li> <li>Data 0: OFF 1: ON</li> <li>• Modbus/MECHATROLINK</li> <li>Bit data</li> <li>b0: OUT1</li> <li>b1: OUT2</li> <li>b2: OUT3</li> <li>b3: OUT4</li> <li>b4 to b15: Unused</li> <li>Data 0: OFF 1: ON</li> <li>[Decimal number: 0 to 15]</li> <li>Valid only for time-proportional control output.</li> </ul>	—

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
17	Memory area soak time monitor	TR	CH1 ⋮ CH64	059C ⋮ 05DB	1436 ⋮ 1499	7	RO	C	0 minutes 00 seconds to 199 minutes 59 seconds: RKC communication: 0:00 to 199:59 (min:sec) Modbus/MECHATROLINK 0 to 11999 seconds 0 hours 00 minutes to 99 hours 59 minutes: RKC communication: 0:00 to 99:59 (hrs:min) Modbus/MECHATROLINK 0 to 5999 minutes Data range of Area soak time can be selected on the Soak time unit.	—
18	Unused	—	—	05DC ⋮ 05EB	1500 ⋮ 1515	—	—	—	—	—
19	Holding peak value ambient temperature monitor	Hp	CH1 ⋮ CH64	05EC ⋮ 062B	1516 ⋮ 1579	7	RO	C	−10.0 to +100.0 °C (14.0 to 212.0 °F)	—
20	Unused	—	—	062C ⋮ 063B	1580 ⋮ 1595	—	—	—	—	—
21	Logic output monitor 1	ED	CH1 ⋮ CH16	063C ⋮ 064B	1596 ⋮ 1611	7	RO	M	<ul style="list-style-type: none"> <li>• RKC communication</li> </ul> Least significant digit: Logic output 1 2nd digit: Logic output 2 3rd digit: Logic output 3 4th digit: Logic output 4 5th digit to Most significant digit: Unused Data 0: OFF    1: ON <ul style="list-style-type: none"> <li>• Modbus/MECHATROLINK</li> </ul> Bit data b0:    Logic output 1 b1:    Logic output 2 b2:    Logic output 3 b3:    Logic output 4 b4:    Logic output 5 b5:    Logic output 6 b6:    Logic output 7 b7:    Logic output 8 b8 to b15: Unused Data 0: OFF    1: ON [Decimal number: 0 to 255]	—
22	Logic output monitor 2	EE	CH1 ⋮ CH16	—	—	7	RO	M	Least significant digit: Logic output 5 2nd digit: Logic output 6 3rd digit: Logic output 7 4th digit: Logic output 8 5th digit to Most significant digit: Unused Data 0: OFF    1: ON	—
23	Unused	—	—	064C ⋮ 080B	1612 ⋮ 2059	—	—	—	—	—
24	PID/AT transfer	G1	CH1 ⋮ CH64	080C ⋮ 084B	2060 ⋮ 2123	1	R/W	C	0: PID control 1: Autotuning (AT)	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
25	Auto/Manual transfer	J1	CH1 ⋮ CH64	084C ⋮ 088B	2124 ⋮ 2187	1	R/W	C	0: Auto mode 1: Manual mode	0
26	Remote/Local transfer	C1	CH1 ⋮ CH64	088C ⋮ 08CB	2188 ⋮ 2251	1	R/W	C	0: Local mode 1: Remote mode When performing remote control by remote setting input and also performing cascade control and ratio setting, transfer to the Remote mode.	0
27	Unused	—	—	08CC ⋮ 08DB	2252 ⋮ 2267	—	—	—	—	—
28	Memory area transfer	ZA	CH1 ⋮ CH64	08DC ⋮ 091B	2268 ⋮ 2331	7	R/W	C	1 to 8	1
29	Interlock release	AR	CH1 ⋮ CH64	091C ⋮ 095B	2332 ⋮ 2395	1	R/W	C	0: Normal state 1: Interlock release execution	0
30	Event 1 set value (EV1) ★	A1	CH1 ⋮ CH64	095C ⋮ 099B	2396 ⋮ 2459	7	R/W	C	Deviation action, Deviation action between channels, Temperature rise completion range: –Input span to +Input span	50
31	Event 2 set value (EV2) ★	A2	CH1 ⋮ CH64	099C ⋮ 09DB	2460 ⋮ 2523	7	R/W	C	Process action, SV action: Input scale low to Input scale high	50
32	Event 3 set value (EV3) ★	A3	CH1 ⋮ CH64	09DC ⋮ 0A1B	2524 ⋮ 2587	7	R/W	C	MV action: –5.0 to +105.0 % If the Event type corresponds to “0: None,” set to RO (Only reading data is possible).	50
33	Event 4 set value (EV4) ★	A4	CH1 ⋮ CH64	0A1C ⋮ 0A5B	2588 ⋮ 2651	7	R/W	C	If Event 3 corresponds to “9: Temperature rise completion,” the Event 3 set value becomes the range for determining temperature rise completion. If Event 4 corresponds to “9: Control loop break alarm (LBA),” the Event 4 set value becomes RO (Only reading data is possible).	50
34	Control loop break alarm (LBA) time ★	A5	CH1 ⋮ CH64	0A5C ⋮ 0A9B	2652 ⋮ 2715	7	R/W	C	0 to 7200 seconds (0: Unused) If Event 4 is other than “9: Control loop break alarm (LBA),” set to RO (Only reading data is possible).	480
35	LBA deadband ★	N1	CH1 ⋮ CH64	0A9C ⋮ 0ADB	2716 ⋮ 2779	7	R/W	C	0 (0.0) to Input span If Event 4 is other than “9: Control loop break alarm (LBA),” set to RO (Only reading data is possible).	0 (0.0)
36	Set value (SV) ★	S1	CH1 ⋮ CH64	0ADC ⋮ 0B1B	2780 ⋮ 2843	7	R/W	C	Setting limiter (low) to Setting limiter (high)	TC/RTD: 0 V/I: 0.0
37	Proportional band [heat-side] ★ ♣	P1	CH1 ⋮ CH64	0B1C ⋮ 0B5B	2844 ⋮ 2907	7	R/W	C	TC/RTD inputs: 0 (0.0) to Input span (Unit: °C [°F]) Varies with the setting of the decimal point position selection. Voltage (V)/current (I) inputs: 0.0 to 1000.0 % of input span 0 (0.0): ON/OFF action (ON/OFF action for both heat and cool actions in case of a heat/cool control type.)	TC/RTD: 30 (30.0) V/I: 30.0

★: Parameters which can be used in multi-memory area function

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
38	Integral time [heat-side] ★ ♣	I1	CH1 ⋮ CH64	0B5C ⋮ 0B9B	2908 ⋮ 2971	7	R/W	C	PID control or heat/cool PID control: 0 to 3600 seconds or 0.0 to 1999.9 seconds (0, 0.0: PD action)  Position proportioning control: 1 to 3600 seconds or 0.1 to 1999.9 seconds  Varies with the setting of the integral/derivative time decimal point position selection.	240
39	Derivative time [heat-side] ★ ♣	D1	CH1 ⋮ CH64	0B9C ⋮ 0BDB	2972 ⋮ 3035	7	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds (0, 0.0: PI action)  Varies with the setting of the integral/derivative time decimal point position selection.	60
40	Control response parameter ★ ♣	CA	CH1 ⋮ CH64	0BDC ⋮ 0C1B	3036 ⋮ 3099	1	R/W	C	0: Slow 1: Medium 2: Fast  When the P or PD action is selected, this setting becomes invalid.	PID control, Position proportioning control: 0 Heat/cool PID control: 2
41	Proportional band [cool-side] ★ ♣	P2	CH1 ⋮ CH64	0C1C ⋮ 0C5B	3100 ⋮ 3163	7	R/W	C	TC/RTD inputs: 1 (0.1) to Input span (Unit: °C [°F])  Varies with the setting of the decimal point position selection.  Voltage (V)/current (I) inputs: 0.1 to 1000.0 % of input span  If control is other than heat/cool PID control, set to RO (Only reading data is possible).	TC/RTD: 30 (30.0) V/I: 30.0
42	Integral time [cool-side] ★ ♣	I2	CH1 ⋮ CH64	0C5C ⋮ 0C9B	3164 ⋮ 3227	7	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds (0, 0.0: PD action)  Varies with the setting of the integral/derivative time decimal point position selection.  If control is other than heat/cool PID control, set to RO (Only reading data is possible).	240
43	Derivative time [cool-side] ★ ♣	D2	CH1 ⋮ CH64	0C9C ⋮ 0CDB	3228 ⋮ 3291	7	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds (0, 0.0: PI action)  Varies with the setting of the integral/derivative time decimal point position selection.  If control is other than heat/cool PID control, set to RO (Only reading data is possible).	60

★: Parameters which can be used in multi-memory area function

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
44	Overlap/Deadband ★ ♣	V1	CH1 ⋮ CH64	0CDC ⋮ 0D1B	3292 ⋮ 3355	7	R/W	C	TC/RTD inputs: –Input span to +Input span (Unit:°C [°F]) Voltage (V)/current (I) inputs: –100.0 to +100.0 % of input span Minus (–) setting results in overlap. However, the overlapping range is within the proportional range. If control is other than heat/cool PID control, set to RO (Only reading data is possible).	0
45	Manual reset ★	MR	CH1 ⋮ CH64	0D1C ⋮ 0D5B	3356 ⋮ 3419	7	R/W	C	–100.0 to +100.0 % If the integral function is valid, set to RO (Only reading data is possible). When integral action (heating or cooling side) is zero, manual reset value is added to the control output.	0.0
46	Setting change rate limiter (up) ★	HH	CH1 ⋮ CH64	0D5C ⋮ 0D9B	3420 ⋮ 3483	7	R/W	C	0 (0.0) to Input span/unit time * 0 (0.0): Unused	0 (0.0)
47	Setting change rate limiter (down) ★	HL	CH1 ⋮ CH64	0D9C ⋮ 0DDB	3484 ⋮ 3547	7	R/W	C	* Unit time: 60 seconds (factory set value)	0 (0.0)
48	Area soak time ★	TM	CH1 ⋮ CH64	0DDC ⋮ 0E1B	3548 ⋮ 3611	7	R/W	C	0 minutes 00 seconds to 199 minutes 59 seconds: RKC communication: 0:00 to 199:59 (min:sec) Modbus/MECHATROLINK 0 to 11999 seconds 0 hours 00 minutes to 99 hours 59 minutes: RKC communication: 0:00 to 99:59 (hrs:min) Modbus/MECHATROLINK 0 to 5999 minutes Data range of Area soak time can be selected on the Soak time unit.	Note1
49	Link area number ★	LP	CH1 ⋮ CH64	0E1C ⋮ 0E5B	3612 ⋮ 3675	7	R/W	C	0 to 8 (0: No link)	0
50	Heater break alarm (HBA) set value	A7	CH1 ⋮ CH64	0E5C ⋮ 0E9B	3676 ⋮ 3739	7	R/W	C	When CT is CTL-6-P-N: 0.0 to 30.0 A (0.0: Not used) When CT is CTL-12-S56-10L-N: 0.0 to 100.0 A (0.0: Not used) If there is no current transformer (CT) or CT is assigned to “0: None,” set to RO (Only reading data is possible).	0.0
51	Heater break determination point	NE	CH1 ⋮ CH64	0E9C ⋮ 0EDB	3740 ⋮ 3803	7	R/W	C	0.0 to 100.0 % of HBA set value (0.0:Heater break determination is invalid) If there is no current transformer (CT) or CT is assigned to “0: None,” set to RO (Only reading data is possible). If Heater break alarm (HBA) corresponds to “0: Type A,” set to RO (Only reading data is possible).	30.0

★: Parameters which can be used in multi-memory area function

Note1 RKC communication: 0:00 Modbus/MECHATROLINK: 0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
52	Heater melting determination point	NF	CH1 ⋮ CH64	0EDC ⋮ 0F1B	3804 ⋮ 3867	7	R/W	C	0.0 to 100.0 % of HBA set value (0.0: Heater melting determination is invalid) If there is no current transformer (CT) or CT is assigned to "0: None," set to RO (Only reading data is possible). If Heater break alarm (HBA) corresponds to "0: Type A," set to RO (Only reading data is possible).	30.0
53	PV bias	PB	CH1 ⋮ CH64	0F1C ⋮ 0F5B	3868 ⋮ 3931	7	R/W	C	-Input span to +Input span	0
54	PV digital filter	F1	CH1 ⋮ CH64	0F5C ⋮ 0F9B	3932 ⋮ 3995	7	R/W	C	0.0 to 100.0 seconds (0.0: Unused)	0.0
55	PV ratio	PR	CH1 ⋮ CH64	0F9C ⋮ 0FDB	3996 ⋮ 4059	7	R/W	C	0.500 to 1.500	1.000
56	PV low input cut-off	DP	CH1 ⋮ CH64	0FDC ⋮ 101B	4060 ⋮ 4123	7	R/W	C	0.00 to 25.00 % of input span If the Square root extraction corresponds to "0: Unused," set to RO (Only reading data is possible).	0.00
57	RS bias *	RB	CH1 ⋮ CH64	101C ⋮ 105B	4124 ⋮ 4187	7	R/W	C	-Input span to +Input span	0
58	RS digital filter *	F2	CH1 ⋮ CH64	105C ⋮ 109B	4188 ⋮ 4251	7	R/W	C	0.0 to 100.0 seconds (0.0: Unused)	0.0
59	RS ratio *	RR	CH1 ⋮ CH64	109C ⋮ 10DB	4252 ⋮ 4315	7	R/W	C	0.001 to 9.999	1.000
60	Output distribution selection	DV	CH1 ⋮ CH64	10DC ⋮ 111B	4316 ⋮ 4379	1	R/W	C	0: Control output 1: Distribution output	0
61	Output distribution bias	DW	CH1 ⋮ CH64	111C ⋮ 115B	4380 ⋮ 4443	7	R/W	C	-100.0 to +100.0 %	0.0
62	Output distribution ratio	DQ	CH1 ⋮ CH64	115C ⋮ 119B	4444 ⋮ 4507	7	R/W	C	-9.999 to +9.999	1.000
63	Proportional cycle time	T0	CH1 ⋮ CH64	119C ⋮ 11DB	4508 ⋮ 4571	7	R/W	C	0.1 to 100.0 seconds This item becomes RO (Only reading data is possible) for the voltage/current output specification. This parameter is valid when "0: control output" has been selected at No.95 "Output assignment."	Relay contact output: 20.0 Voltage pulse output, triac output and open collector output: 2.0
64	Minimum ON/OFF time of proportioning cycle	VI	CH1 ⋮ CH64	11DC ⋮ 121B	4572 ⋮ 4635	7	R/W	C	0 to 1000 ms This item becomes RO (Only reading data is possible) for the voltage/current output specification.	0

\* Data on RS bias, RS ratio and RS digital filter is that in cascade control or ratio setting.

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
65	Manual manipulated output value ♣	ON	CH1 ⋮ CH64	121C ⋮ 125B	4636 ⋮ 4699	7	R/W	C	PID control: Output limiter (low) to Output limiter (high) Heat/cool PID control: –Cool-side output limiter (high) to +Heat-side output limiter (high) Position proportioning control: When there is feedback resistance (FBR) input and it does not break: Output limiter (low) to Output limiter (high) When there is no feedback resistance (FBR) input or the feedback resistance (FBR) input is disconnected: 0: Close-side output OFF, Open-side output OFF 1: Close-side output ON, Open-side output OFF 2: Close-side output OFF, Open-side output ON	0.0
66	Area soak time stop function	RV	CH1 ⋮ CH64	125C ⋮ 129B	4700 ⋮ 4763	1	R/W	C	0: No function 1: Event 1 2: Event 2 3: Event 3 4: Event 4	0
67	EDS mode (for disturbance 1)	NG	CH1 ⋮ CH64	129C ⋮ 12DB	4764 ⋮ 4827	1	R/W	C	0: No function 1: EDS function mode 2: Learning mode 3: Tuning mode	0
68	EDS mode (for disturbance 2)	NX	CH1 ⋮ CH64	12DC ⋮ 131B	4828 ⋮ 4891	1	R/W	C	EDS function: External disturbance suppression function	0
69	EDS value 1 (for disturbance 1)	NI	CH1 ⋮ CH64	131C ⋮ 135B	4892 ⋮ 4955	7	R/W	C	–100.0 to +100.0 %	0.0
70	EDS value 1 (for disturbance 2)	NJ	CH1 ⋮ CH64	135C ⋮ 139B	4956 ⋮ 5019	7	R/W	C		0.0
71	EDS value 2 (for disturbance 1)	NK	CH1 ⋮ CH64	139C ⋮ 13DB	5020 ⋮ 5083	7	R/W	C	–100.0 to +100.0 %	0.0
72	EDS value 2 (for disturbance 2)	NM	CH1 ⋮ CH64	13DC ⋮ 141B	5084 ⋮ 5147	7	R/W	C		0.0
73	EDS transfer time (for disturbance 1)	NN	CH1 ⋮ CH64	141C ⋮ 145B	5148 ⋮ 5211	7	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds	0
74	EDS transfer time (for disturbance 2)	NO	CH1 ⋮ CH64	145C ⋮ 149B	5212 ⋮ 5275	7	R/W	C		0
75	EDS action time (for disturbance 1)	NQ	CH1 ⋮ CH64	149C ⋮ 14DB	5276 ⋮ 5339	7	R/W	C	1 to 3600 seconds	600

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
76	EDS action time (for disturbance 2)	NL	CH1 ⋮ CH64	14DC ⋮ 151B	5340 ⋮ 5403	7	R/W	C	1 to 3600 seconds	600
77	EDS action wait time (for disturbance 1)	NR	CH1 ⋮ CH64	151C ⋮ 155B	5404 ⋮ 5467	7	R/W	C	0.0 to 600.0 seconds	0.0
78	EDS action wait time (for disturbance 2)	NY	CH1 ⋮ CH64	155C ⋮ 159B	5468 ⋮ 5531	7	R/W	C		0.0
79	EDS value learning times	NT	CH1 ⋮ CH64	159C ⋮ 15DB	5532 ⋮ 5595	7	R/W	C	0 to 10 times (0: No learning mode)	1
80	EDS start signal	NU	CH1 ⋮ CH64	15DC ⋮ 161B	5596 ⋮ 5659	1	R/W	C	0: EDS start signal OFF 1: EDS start signal ON (for disturbance 1) 2: EDS start signal ON (for disturbance 2)	0
81	Operation mode	EI	CH1 ⋮ CH64	161C ⋮ 165B	5660 ⋮ 5723	1	R/W	C	0: Unused 1: Monitor 2: Monitor + Event function 3: Control	3
82	Startup tuning (ST)	ST	CH1 ⋮ CH64	165C ⋮ 169B	5724 ⋮ 5787	1	R/W	C	0: ST unused 1: Execute once * 2: Execute always  * When the startup tuning (ST) is finished, the setting will automatically returns to "0: ST unused."  The startup tuning (ST) function is activated according to the ST start condition selected.  If control is position proportioning control, set to RO (Only reading data is possible).	0
83	Automatic temperature rise learning	Y8	CH1 ⋮ CH64	169C ⋮ 16DB	5788 ⋮ 5851	1	R/W	C	0: Unused 1: Learning *  * When the automatic temperature rise learning is finished, the setting will automatically returns to "0: Unused."	0
84	Communication switch for logic	EF	CH1 ⋮ CH16	16DC ⋮ 16EB	5852 ⋮ 5867	7	R/W	M	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>Least significant digit: Communication switch 1</li> <li>2nd digit: Communication switch 2</li> <li>3rd digit: Communication switch 3</li> <li>4th digit: Communication switch 4</li> <li>5th digit to Most significant digit: Unused</li> <li>Data 0: OFF 1: ON</li> <li>• Modbus/MECHATROLINK</li> <li>Bit data</li> <li>b0: Communication switch 1</li> <li>b1: Communication switch 2</li> <li>b2: Communication switch 3</li> <li>b3: Communication switch 4</li> <li>b4 to b15: Unused</li> <li>Data 0: OFF 1: ON</li> <li>[Decimal number: 0 to 15]</li> </ul>	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
85	Unused	—	—	16EC ⋮ 196B	5868 ⋮ 6507	—	—	—	—	—
<b>Set data No. 86 or later are for engineering setting [Writable in the STOP mode]</b>										
86	Input type	XI	CH1 ⋮ CH64	196C ⋮ 19AB	6508 ⋮ 6571	7	R/W	C	0: TC input K 1: TC input J 2: TC input R 3: TC input S 4: TC input B 5: TC input E 6: TC input N 7: TC input T 8: TC input W5Re/W26Re 9: TC input PLII 12: RTD input Pt100 13: RTD input JPt100 14: Current input 0 to 20 mA DC 15: Current input 4 to 20 mA DC 16: Voltage (high) input 0 to 10 V DC 17: Voltage (high) input 0 to 5 V DC 18: Voltage (high) input 1 to 5 V DC 19: Voltage (low) input 0 to 1 V DC 20: Voltage (low) input 0 to 100 mV DC 21: Voltage (low) input 0 to 10 mV DC 22: Feedback resistance input 100 to 150 Ω 23: Feedback resistance input 151 Ω to 6 kΩ  If changed to voltage (high) input from TC/RTD/current/voltage (low)/feedback resistance input, select the hardware by the input selector switch at the side of the module. <b>See SRZ Instruction Manual (IMS01T04-E□).</b>	Depends on model code  When not specifying: 0
87	Display unit	PU	CH1 ⋮ CH64	19AC ⋮ 19EB	6572 ⋮ 6635	7	R/W	C	0: °C 1: °F  Use to select the temperature unit for thermocouple (TC) and RTD inputs.	0
88	Decimal point position	XU	CH1 ⋮ CH64	19EC ⋮ 1A2B	6636 ⋮ 6699	7	R/W	C	0: No decimal place 1: One decimal place 2: Two decimal places 3: Three decimal places 4: Four decimal places TC input: • K, J, T, E: Only 0 or 1 can be set. • R, S, B, N, PLII, W5Re/W26Re: Only 0 can be set. RTD input: Only 0 or 1 can be set. V/I inputs: From 0 to 4 can be set.	Depends on model code  When not specifying: TC/RTD: 1 V/I: 1

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
89	Input scale high	XV	CH1 ⋮ CH64	1A2C ⋮ 1A6B	6700 ⋮ 6763	7	R/W	C	TC/RTD inputs: Input scale low to Maximum value of the selected input range  Voltage (V)/current (I) inputs: -19999 to +19999 (However, a span is 20000 or less.)  Varies with the setting of the decimal point position	TC/RTD: Maximum value of the selected input range  V/I: 100.0
90	Input scale low	XW	CH1 ⋮ CH64	1A6C ⋮ 1AAB	6734 ⋮ 6827	7	R/W	C	TC/RTD inputs: Minimum value of the selected input range to Input scale high  Voltage (V)/current (I) inputs: -19999 to +19999 (However, a span is 20000 or less.)  Varies with the setting of the decimal point position	TC/RTD: Minimum value of the selected input range  V/I: 0.0
91	Input error determination point (high)	AV	CH1 ⋮ CH64	1AAC ⋮ 1AEB	6828 ⋮ 6891	7	R/W	C	Input error determination point (low limit) to (Input range high + 5 % of Input span)	Input range high + (5 % of Input span)
92	Input error determination point (low)	AW	CH1 ⋮ CH64	1AEC ⋮ 1B2B	6892 ⋮ 6955	7	R/W	C	(Input range low - 5 % of Input span) to Input error determination point (high limit)	Input range low - (5 % of Input span)
93	Burnout direction	BS	CH1 ⋮ CH64	1B2C ⋮ 1B6B	6956 ⋮ 7019	1	R/W	C	0: Upscale 1: Downscale  Valid only when the TC input and voltage (low) input are selected.	0
94	Square root extraction	XH	CH1 ⋮ CH64	1B6C ⋮ 1BAB	7020 ⋮ 7083	1	R/W	C	0: Unused 1: Used	0
95	Output assignment (Logic output selection function)	E0	CH1 ⋮ CH64	1BAC ⋮ 1BEB	7084 ⋮ 7147	1	R/W	C	0: Control output 1: Logic output result 2: FAIL output	0
96	Energized/ De-energized (Logic output selection function)	NA	CH1 ⋮ CH64	1BEC ⋮ 1C2B	7148 ⋮ 7211	1	R/W	C	0: Energized 1: De-energized	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
97	Event 1 type	XA	CH1 ⋮ CH64	1C2C ⋮ 1C6B	7212 ⋮ 7275	7	R/W	C	0: None 1: Deviation high (Using SV monitor value) <sup>1</sup> 2: Deviation low (Using SV monitor value) <sup>1</sup> 3: Deviation high/low (Using SV monitor value) <sup>1</sup> 4: Band (Using SV monitor value) <sup>1</sup> 5: Process high <sup>1</sup> 6: Process low <sup>1</sup> 7: SV high 8: SV low 9: Unused 10: MV high [heat-side] <sup>1,2</sup> 11: MV low [heat-side] <sup>1,2</sup> 12: MV high [cool-side] <sup>1</sup> 13: MV low [cool-side] <sup>1</sup> 14: Deviation high (Using local SV value) <sup>1</sup> 15: Deviation low (Using local SV value) <sup>1</sup> 16: Deviation high/low (Using local SV value) <sup>1</sup> 17: Band (Using local SV value) <sup>1</sup> 18: Deviation between channels high <sup>1</sup> 19: Deviation between channels low <sup>1</sup> 20: Deviation between channels high/low <sup>1</sup> 21: Deviation between channels band <sup>1</sup>  <sup>1</sup> Event hold action is available. <sup>2</sup> If there is feedback resistance (FBR) input in position proportioning control, set to the feedback resistance (FBR) input value.	Depends on model code  When not specifying: 0
98	Event 1 channel setting	FA	CH1 ⋮ CH64	1C6C ⋮ 1CAB	7276 ⋮ 7339	1	R/W	C	1: Channel 1 2: Channel 2 3: Channel 3 4: Channel 4  This function is valid when “deviation between channels” is selected.	1
99	Event 1 hold action	WA	CH1 ⋮ CH64	1CAC ⋮ 1CEB	7340 ⋮ 7403	1	R/W	C	0: OFF 1: Hold action ON (When power turned on) 2: Re-hold action ON (When power turned on and SV changed)  This function is valid when input value, deviation or manipulated value action has been selected.  In case of a deviation action, this function is not available while in remote mode and while setting changing rate limiter is working.	Depends on model code  When not specifying: 0
100	Event 1 interlock	LF	CH1 ⋮ CH64	1CEC ⋮ 1D2B	7404 ⋮ 7467	1	R/W	C	0: Unused 1: Used	0
101	Event 1 differential gap	HA	CH1 ⋮ CH64	1D2C ⋮ 1D6B	7468 ⋮ 7531	7	R/W	C	Ⓞ Deviation, process, set value, or Deviation action between channels: 0 to Input span (Unit: °C [°F]) Ⓜ MV: 0.0 to 110.0 %	Ⓞ TC/RTD: 1 V/I: 0.1 Ⓜ: 0.1

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
102	Event 1 delay timer	TD	CH1 ⋮ CH64	1D6C ⋮ 1DAB	7532 ⋮ 7595	7	R/W	C	0 to 18000 seconds	0
103	Force ON of Event 1 action	OA	CH1 ⋮ CH64	1DAC ⋮ 1DEB	7596 ⋮ 7659	7	R/W	C	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>Least significant digit: Event output turned on at input error occurrence</li> <li>2nd digit: Event output turned on in manual mode</li> <li>3rd digit: Event output turned on during the autotuning (AT) function is being executed</li> <li>4th digit: Event output turned on during the setting change rate limiter is being operated</li> <li>5th digit to Most significant digit: Unused</li> <li>Data 0: Invalid 1: Valid</li> <li>• Modbus/MECHATROLINK</li> <li>Bit data</li> <li>b0: Event output turned on at input error occurrence</li> <li>b1: Event output turned on in manual mode</li> <li>b2: Event output turned on during the autotuning (AT) function is being executed</li> <li>b3: Event output turned on during the setting change rate limiter is being operated</li> <li>b4 to b15: Unused</li> <li>Data 0: Invalid 1: Valid</li> <li>[Decimal number: 0 to 15]</li> </ul>	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
104	Event 2 type	XB	CH1 ⋮ CH64	1DEC ⋮ 1E2B	7660 ⋮ 7723	7	R/W	C	0: None 1: Deviation high (Using SV monitor value) <sup>1</sup> 2: Deviation low (Using SV monitor value) <sup>1</sup> 3: Deviation high/low (Using SV monitor value) <sup>1</sup> 4: Band (Using SV monitor value) <sup>1</sup> 5: Process high <sup>1</sup> 6: Process low <sup>1</sup> 7: SV high 8: SV low 9: Unused 10: MV high [heat-side] <sup>1, 2</sup> 11: MV low [heat-side] <sup>1, 2</sup> 12: MV high [cool-side] <sup>1</sup> 13: MV low [cool-side] <sup>1</sup> 14: Deviation high (Using local SV value) <sup>1</sup> 15: Deviation low (Using local SV value) <sup>1</sup> 16: Deviation high/low (Using local SV value) <sup>1</sup> 17: Band (Using local SV value) <sup>1</sup> 18: Deviation between channels high <sup>1</sup> 19: Deviation between channels low <sup>1</sup> 20: Deviation between channels high/low <sup>1</sup> 21: Deviation between channels band <sup>1</sup>  <sup>1</sup> Event hold action is available. <sup>2</sup> If there is feedback resistance (FBR) input in position proportioning control, set to the feedback resistance (FBR) input value.	Depends on model code  When not specifying: 0
105	Event 2 channel setting	FB	CH1 ⋮ CH64	1E2C ⋮ 1E6B	7724 ⋮ 7787	1	R/W	C	1: Channel 1 2: Channel 2 3: Channel 3 4: Channel 4  This function is valid when “deviation between channels” is selected.	1
106	Event 2 hold action	WB	CH1 ⋮ CH64	1E6C ⋮ 1EAB	7788 ⋮ 7851	1	R/W	C	0: OFF 1: Hold action ON (When power turned on) 2: Re-hold action ON (When power turned on and SV changed)  This function is valid when input value, deviation or manipulated value action has been selected.  In case of a deviation action, this function is not available while in remote mode and while setting changing rate limiter is working.	Depends on model code  When not specifying: 0
107	Event 2 interlock	LG	CH1 ⋮ CH64	1EAC ⋮ 1EEB	7852 ⋮ 7915	1	R/W	C	0: Unused 1: Used	0
108	Event 2 differential gap	HB	CH1 ⋮ CH64	1EEC ⋮ 1F2B	7916 ⋮ 7979	7	R/W	C	① Deviation, process, set value, or Deviation action between channels: 0 to Input span (Unit: °C [°F]) ② MV: 0.0 to 110.0 %	①: TC/RTD: 1 V/I: 0.1 ②: 0.1

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
109	Event 2 delay timer	TG	CH1 ⋮ CH64	1F2C ⋮ 1F6B	7980 ⋮ 8043	7	R/W	C	0 to 18000 seconds	0
110	Force ON of Event 2 action	OB	CH1 ⋮ CH64	1F6C ⋮ 1FAB	8044 ⋮ 8107	7	R/W	C	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>Least significant digit: Event output turned on at input error occurrence</li> <li>2nd digit: Event output turned on in manual mode</li> <li>3rd digit: Event output turned on during the autotuning (AT) function is being executed</li> <li>4th digit: Event output turned on during the setting change rate limiter is being operated</li> <li>5th digit to Most significant digit: Unused</li> <li>Data 0: Invalid 1: Valid</li> <li>• Modbus/MECHATROLINK</li> <li>Bit data</li> <li>b0: Event output turned on at input error occurrence</li> <li>b1: Event output turned on in manual mode</li> <li>b2: Event output turned on during the autotuning (AT) function is being executed</li> <li>b3: Event output turned on during the setting change rate limiter is being operated</li> <li>b4 to b15: Unused</li> <li>Data 0: Invalid 1: Valid</li> <li>[Decimal number: 0 to 15]</li> </ul>	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
111	Event 3 type	XC	CH1 ⋮ CH64	1FAC ⋮ 1FEB	8108 ⋮ 8171	7	R/W	C	0: None 1: Deviation high (Using SV monitor value) <sup>1</sup> 2: Deviation low (Using SV monitor value) <sup>1</sup> 3: Deviation high/low (Using SV monitor value) <sup>1</sup> 4: Band (Using SV monitor value) <sup>1</sup> 5: Process high <sup>1</sup> 6: Process low <sup>1</sup> 7: SV high 8: SV low 9: Temperature rise completion 10: MV high [heat-side] <sup>1, 2</sup> 11: MV low [heat-side] <sup>1, 2</sup> 12: MV high [cool-side] <sup>1</sup> 13: MV low [cool-side] <sup>1</sup> 14: Deviation high (Using local SV value) <sup>1</sup> 15: Deviation low (Using local SV value) <sup>1</sup> 16: Deviation high/low (Using local SV value) <sup>1</sup> 17: Band (Using local SV value) <sup>1</sup> 18: Deviation between channels high <sup>1</sup> 19: Deviation between channels low <sup>1</sup> 20: Deviation between channels high/low <sup>1</sup> 21: Deviation between channels band <sup>1</sup> <sup>1</sup> Event hold action is available. <sup>2</sup> If there is feedback resistance (FBR) input in position proportioning control, set to the feedback resistance (FBR) input value.	Depends on model code  When not specifying: 0
112	Event 3 channel setting	FC	CH1 ⋮ CH64	1FEC ⋮ 202B	8172 ⋮ 8235	1	R/W	C	1: Channel 1 2: Channel 2 3: Channel 3 4: Channel 4  This function is valid when “deviation between channels” is selected.	1
113	Event 3 hold action	WC	CH1 ⋮ CH64	202C ⋮ 206B	8236 ⋮ 8299	1	R/W	C	0: OFF 1: Hold action ON (When power turned on) 2: Re-hold action ON (When power turned on and SV changed) This function is valid when input value, deviation or manipulated value action has been selected. In case of a deviation action, this function is not available while in remote mode and while setting changing rate limiter is working.	Depends on model code  When not specifying: 0
114	Event 3 interlock	LH	CH1 ⋮ CH64	206C ⋮ 20AB	8300 ⋮ 8363	1	R/W	C	0: Unused 1: Used	0
115	Event 3 differential gap	HC	CH1 ⋮ CH64	20AC ⋮ 20EB	8364 ⋮ 8427	7	R/W	C	① Deviation, process, set value, Deviation action between channels, or Temperature rise completion: 0 to Input span (Unit: °C [°F]) ② MV: 0.0 to 110.0 %	①: TC/RTD: 1 V/I: 0.1 ②: 0.1

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
116	Event 3 delay timer	TE	CH1 ⋮ CH64	20EC ⋮ 212B	8428 ⋮ 8491	7	R/W	C	0 to 18000 seconds If Event 3 corresponds to "9: Temperature rise completion," the Event 3 delay timer becomes the temperature rise completion soak time.	0
117	Force ON of Event 3 action	OC	CH1 ⋮ CH64	212C ⋮ 216B	8492 ⋮ 8555	7	R/W	C	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>Least significant digit: Event output turned on at input error occurrence</li> <li>2nd digit: Event output turned on in manual mode</li> <li>3rd digit: Event output turned on during the autotuning (AT) function is being executed</li> <li>4th digit: Event output turned on during the setting change rate limiter is being operated</li> <li>5th digit to Most significant digit: Unused</li> <li>Data 0: Invalid 1: Valid</li> <li>• Modbus/MECHATROLINK</li> <li>Bit data</li> <li>b0: Event output turned on at input error occurrence</li> <li>b1: Event output turned on in manual mode</li> <li>b2: Event output turned on during the autotuning (AT) function is being executed</li> <li>b3: Event output turned on during the setting change rate limiter is being operated</li> <li>b4 to b15: Unused</li> <li>Data 0: Invalid 1: Valid</li> </ul> [Decimal number: 0 to 15]	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
118	Event 4 type	XD	CH1 ⋮ CH64	216C ⋮ 21AB	8556 ⋮ 8619	7	R/W	C	0: None 1: Deviation high (Using SV monitor value) <sup>1</sup> 2: Deviation low (Using SV monitor value) <sup>1</sup> 3: Deviation high/low (Using SV monitor value) <sup>1</sup> 4: Band (Using SV monitor value) <sup>1</sup> 5: Process high <sup>1</sup> 6: Process low <sup>1</sup> 7: SV high 8: SV low 9: Control loop break alarm (LBA) 10: MV high [heat-side] <sup>1, 2</sup> 11: MV low [heat-side] <sup>1, 2</sup> 12: MV high [cool-side] <sup>1</sup> 13: MV low [cool-side] <sup>1</sup> 14: Deviation high (Using local SV value) <sup>1</sup> 15: Deviation low (Using local SV value) <sup>1</sup> 16: Deviation high/low (Using local SV value) <sup>1</sup> 17: Band (Using local SV value) <sup>1</sup> 18: Deviation between channels high <sup>1</sup> 19: Deviation between channels low <sup>1</sup> 20: Deviation between channels high/low <sup>1</sup> 21: Deviation between channels band <sup>1</sup>  <sup>1</sup> Event hold action is available. <sup>2</sup> If there is feedback resistance (FBR) input in position proportioning control, set to the feedback resistance (FBR) input value.	Depends on model code  When not specifying: 0
119	Event 4 channel setting	FD	CH1 ⋮ CH64	21AC ⋮ 21EB	8620 ⋮ 8683	1	R/W	C	1: Channel 1 2: Channel 2 3: Channel 3 4: Channel 4  This function is valid when "deviation between channels" is selected.	1
120	Event 4 hold action	WD	CH1 ⋮ CH64	21EC ⋮ 222B	8684 ⋮ 8747	1	R/W	C	0: OFF 1: Hold action ON (When power turned on) 2: Re-hold action ON (When power turned on and SV changed)  This function is valid when input value, deviation or manipulated value action has been selected. In case of a deviation action, this function is not available while in remote mode and while setting changing rate limiter is working.	Depends on model code  When not specifying: 0
121	Event 4 interlock	LI	CH1 ⋮ CH64	222C ⋮ 226B	8748 ⋮ 8811	1	R/W	C	0: Unused 1: Used	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
122	Event 4 differential gap	HD	CH1 ⋮ CH64	226C ⋮ 22AB	8812 ⋮ 8875	7	R/W	C	① Deviation, process, set value, or Deviation action between channels: 0 to Input span (Unit: °C [°F]) ② MV: 0.0 to 110.0 % Becomes invalid when the Event 4 type corresponds to "9: Control loop break alarm (LBA)."	①: TC/RTD: 1 V/I: 0.1 ②: 0.1
123	Event 4 delay timer	TF	CH1 ⋮ CH64	22AC ⋮ 22EB	8876 ⋮ 8939	7	R/W	C	0 to 18000 seconds	0
124	Force ON of Event 4 action	OD	CH1 ⋮ CH64	22EC ⋮ 232B	8940 ⋮ 9003	7	R/W	C	<ul style="list-style-type: none"> <li>RKC communication</li> <li>Least significant digit: Event output turned on at input error occurrence</li> <li>2nd digit: Event output turned on in manual mode</li> <li>3rd digit: Event output turned on during the autotuning (AT) function is being executed</li> <li>4th digit: Event output turned on during the setting change rate limiter is being operated</li> <li>5th digit to Most significant digit: Unused</li> <li>Data 0: Invalid 1: Valid</li> <li>Modbus/MECHATROLINK</li> <li>Bit data</li> <li>b0: Event output turned on at input error occurrence</li> <li>b1: Event output turned on in manual mode</li> <li>b2: Event output turned on during the autotuning (AT) function is being executed</li> <li>b3: Event output turned on during the setting change rate limiter is being operated</li> <li>b4 to b15: Unused</li> <li>Data 0: Invalid 1: Valid</li> <li>[Decimal number: 0 to 15]</li> </ul>	0
125	CT ratio	XS	CH1 ⋮ CH64	232C ⋮ 236B	9004 ⋮ 9067	7	R/W	C	0 to 9999	CTL-6-P-N: 800 CTL-12-S56-10L-N: 1000
126	CT assignment	ZF	CH1 ⋮ CH64	236C ⋮ 23AB	9068 ⋮ 9131	1	R/W	C	0: None 1: OUT1 2: OUT2 3: OUT3 4: OUT4	1
127	Heater break alarm (HBA) type	ND	CH1 ⋮ CH64	23AC ⋮ 23EB	9132 ⋮ 9195	1	R/W	C	0: Heater break alarm (HBA) type A (Time-proportional control output) 1: Heater break alarm (HBA) type B (Continuous control output and time-proportional control output)	1
128	Number of heater break alarm (HBA) delay times	DH	CH1 ⋮ CH64	23EC ⋮ 242B	9196 ⋮ 9259	7	R/W	C	0 to 255 times	5

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
129	Hot/Cold start	XN	CH1 ⋮ CH64	242C ⋮ 246B	9260 ⋮ 9323	1	R/W	C	0: Hot start 1 1: Hot start 2 2: Cold start	0
130	Start determination point	SX	CH1 ⋮ CH64	246C ⋮ 24AB	9324 ⋮ 9387	7	R/W	C	0 to Input span (The unit is the same as input value.) (0: Action depending on the Hot/Cold start selection)	Depends on specification
131	SV tracking	XL	CH1 ⋮ CH64	24AC ⋮ 24EB	9388 ⋮ 9451	1	R/W	C	0: Unused 1: Used	1
132	MV transfer function [Action taken when changed to Manual mode from Auto mode]	OT	CH1 ⋮ CH64	24EC ⋮ 252B	9452 ⋮ 9515	1	R/W	C	0: MV in Auto mode is used. [Balanceless-bumpless function] 1: MV in previous Manual mode is used.	0
133	Control action	XE	CH1 ⋮ CH64	252C ⋮ 256B	9516 ⋮ 9579	1	R/W	C	0: Brilliant II PID control (Direct action) 1: Brilliant II PID control (Reverse action) 2: Brilliant II Heat/Cool PID control [Water cooling type] 3: Brilliant II Heat/Cool PID control [Air cooling type] 4: Brilliant II Heat/Cool PID control [Cooling gain linear type] 5: Position proportioning control Odd channel: From 0 to 5 can be set. Even channel: Only 0 or 1 can be set. * * In heat/cool control and position proportioning control, control action is not performed. Only PV monitor and event action is performed.	Depends on model code  When not specifying: 1
134	Integral/derivative time decimal point position ♣	PK	CH1 ⋮ CH64	256C ⋮ 25AB	9580 ⋮ 9643	1	R/W	C	0: 1 second setting (No decimal place) 1: 0.1 seconds setting (One decimal place)	0
135	Derivative action ♣	KA	CH1 ⋮ CH64	25AC ⋮ 25EB	9644 ⋮ 9707	1	R/W	C	0: Measured value derivative 1: Deviation derivative	0
136	Undershoot suppression factor ♣	KB	CH1 ⋮ CH64	25EC ⋮ 262B	9708 ⋮ 9771	7	R/W	C	0.000 to 1.000	Water cooling: 0.100 Air cooling: 0.250 Cooling gain linear type: 1.000
137	Derivative gain ♣	DG	CH1 ⋮ CH64	262C ⋮ 266B	9772 ⋮ 9835	7	R/W	C	0.1 to 10.0	6.0
138	ON/OFF action differential gap (upper) ♣	IV	CH1 ⋮ CH64	266C ⋮ 26AB	9836 ⋮ 9899	7	R/W	C	TC/RTD inputs: 0 to Input span (Unit: °C [°F]) Voltage (V)/current (I) inputs: 0.0 to 100.0 % of input span	TC/RTD: 1 V/I: 0.1
139	ON/OFF action differential gap (lower) ♣	IW	CH1 ⋮ CH64	26AC ⋮ 26EB	9900 ⋮ 9963	7	R/W	C		TC/RTD: 1 V/I: 0.1

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
140	Action (high) at input error ♣	WH	CH1 ⋮ CH64	26EC ⋮ 272B	9964 ⋮ 10027	1	R/W	C	0: Normal control 1: Manipulated output value at Input error	0
141	Action (low) at input error ♣	WL	CH1 ⋮ CH64	272C ⋮ 276B	10028 ⋮ 10091	1	R/W	C		0
142	Manipulated output value at input error ♣	OE	CH1 ⋮ CH64	276C ⋮ 27AB	10092 ⋮ 10155	7	R/W	C	–105.0 to +105.0 %  Actual output values become those restricted by the output limiter.  Position proportioning control: If there is no feedback resistance (FBR) input or the feedback resistance (FBR) input is disconnected, an action taken when abnormal is in accordance with the value action setting during STOP.	0.0
143	Manipulated output value at STOP mode [heat-side] ♣	OF	CH1 ⋮ CH64	27AC ⋮ 27EB	10156 ⋮ 10219	7	R/W	C	–5.0 to +105.0 %  Position proportioning control: Only when there is feedback resistance (FBR) input and it does not break, the manipulated output value [heat-side] at STOP is output.	–5.0
144	Manipulated output value at STOP mode [cool-side] ♣	OG	CH1 ⋮ CH64	27EC ⋮ 282B	10220 ⋮ 10283	7	R/W	C		–5.0
145	Output change rate limiter (up) [heat-side] ♣	PH	CH1 ⋮ CH64	282C ⋮ 286B	10284 ⋮ 10347	7	R/W	C	0.0 to 100.0 %/seconds (0.0: OFF)  Becomes invalid when in position proportioning control.	0.0
146	Output change rate limiter (down) [heat-side] ♣	PL	CH1 ⋮ CH64	286C ⋮ 28AB	10348 ⋮ 10411	7	R/W	C		0.0
147	Output limiter (high) [heat-side] ♣	OH	CH1 ⋮ CH64	28AC ⋮ 28EB	10412 ⋮ 10475	7	R/W	C	Output limiter (low) to 105.0 %  Position proportioning control: Becomes valid only when there is feedback resistance (FBR) input and it does not break.	105.0
148	Output limiter (low) [heat-side] ♣	OL	CH1 ⋮ CH64	28EC ⋮ 292B	10476 ⋮ 10539	7	R/W	C	–5.0 % to Output limiter (high)  Position proportioning control: Becomes valid only when there is feedback resistance (FBR) input and it does not break.	–5.0
149	Output change rate limiter (up) [cool-side] ♣	PX	CH1 ⋮ CH64	292C ⋮ 296B	10540 ⋮ 10603	7	R/W	C	0.0 to 100.0 %/seconds (0.0: OFF)  Becomes invalid when in position proportioning control.	0.0
150	Output change rate limiter (down) [cool-side] ♣	PY	CH1 ⋮ CH64	296C ⋮ 29AB	10604 ⋮ 10667	7	R/W	C		0.0
151	Output limiter (high) [cool-side] ♣	OX	CH1 ⋮ CH64	29AC ⋮ 29EB	10668 ⋮ 10731	7	R/W	C	Output limiter (low) [cool-side] to 105.0 %	105.0
152	Output limiter (low) [cool-side] ♣	OY	CH1 ⋮ CH64	29EC ⋮ 2A2B	10732 ⋮ 10795	7	R/W	C	–5.0 % to Output limiter (high) [cool-side]	–5.0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
153	AT bias ♣	GB	CH1 ⋮ CH64	2A2C ⋮ 2A6B	10796 ⋮ 10859	7	R/W	C	-Input span to +Input span	0
154	AT cycles ♣	G3	CH1 ⋮ CH64	2A6C ⋮ 2AAB	10860 ⋮ 10923	1	R/W	C	0: 1.5 cycles 1: 2.0 cycles 2: 2.5 cycles 3: 3.0 cycles	1
155	Output value with AT turned on ♣	OP	CH1 ⋮ CH64	2AAC ⋮ 2AEB	10924 ⋮ 10987	7	R/W	C	Output value with AT turned off to +105.0 %  Actual output values become those restricted by the output limiter. Position proportioning control: Becomes valid only when there is feedback resistance (FBR) input and it does not break (high limit of feedback resistance input at AT).	105.0
156	Output value with AT turned off ♣	OQ	CH1 ⋮ CH64	2AEC ⋮ 2B2B	10988 ⋮ 11051	7	R/W	C	-105.0 % to Output value with AT turned on  Actual output values become those restricted by the output limiter. Position proportioning control: Becomes valid only when there is feedback resistance (FBR) input and it does not break (low limit of feedback resistance input at AT).	-105.0
157	AT differential gap time ♣	GH	CH1 ⋮ CH64	2B2C ⋮ 2B6B	11052 ⋮ 11115	7	R/W	C	0.0 to 50.0 seconds	10.0
158	Proportional band adjusting factor [heat-side] ♣	KC	CH1 ⋮ CH64	2B6C ⋮ 2BAB	11116 ⋮ 11179	7	R/W	C	0.01 to 10.00 times	1.00
159	Integral time adjusting factor [heat-side] ♣	KD	CH1 ⋮ CH64	2BAC ⋮ 2BEB	11180 ⋮ 11243	7	R/W	C	0.01 to 10.00 times	1.00
160	Derivative time adjusting factor [heat-side] ♣	KE	CH1 ⋮ CH64	2BEC ⋮ 2C2B	11244 ⋮ 11307	7	R/W	C	0.01 to 10.00 times	1.00
161	Proportional band adjusting factor [cool-side] ♣	KF	CH1 ⋮ CH64	2C2C ⋮ 2C6B	11308 ⋮ 11371	7	R/W	C	0.01 to 10.00 times	1.00
162	Integral time adjusting factor [cool-side] ♣	KG	CH1 ⋮ CH64	2C6C ⋮ 2CAB	11372 ⋮ 11435	7	R/W	C	0.01 to 10.00 times	1.00
163	Derivative time adjusting factor [cool-side] ♣	KH	CH1 ⋮ CH64	2CAC ⋮ 2CEB	11436 ⋮ 11499	7	R/W	C	0.01 to 10.00 times	1.00

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
164	Proportional band limiter (high) [heat-side] ♣	P6	CH1 ⋮ CH64	2CEC ⋮ 2D2B	11500 ⋮ 11563	7	R/W	C	TC/RTD inputs: 0 (0.0) to Input span (Unit: °C [°F])  Varies with the setting of the decimal point position selection.	TC/RTD: Input span V/I: 1000.0
165	Proportional band limiter (low) [heat-side] ♣	P7	CH1 ⋮ CH64	2D2C ⋮ 2D6B	11564 ⋮ 11627	7	R/W	C	Voltage (V)/current (I) inputs: 0.0 to 1000.0 % of input span  0 (0.0): ON/OFF action (ON/OFF action for both heat and cool actions in case of a heat/cool control type.)	TC/RTD: 0 (0.0) V/I: 0.0
166	Integral time limiter (high) [heat-side] ♣	I6	CH1 ⋮ CH64	2D6C ⋮ 2DAB	11628 ⋮ 11691	7	R/W	C	PID control or heat/cool PID control: 0 to 3600 seconds or 0.0 to 1999.9 seconds	3600
167	Integral time limiter (low) [heat-side] ♣	I7	CH1 ⋮ CH64	2DAC ⋮ 2DEB	11692 ⋮ 11755	7	R/W	C	Position proportioning control: 1 to 3600 seconds or 0.1 to 1999.9 seconds  Varies with the setting of the integral/derivative time decimal point position selection.	PID control, Heat/cool PID control: 0 Position proportioning control: 1
168	Derivative time limiter (high) [heat-side] ♣	D6	CH1 ⋮ CH64	2DEC ⋮ 2E2B	11756 ⋮ 11819	7	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds  Varies with the setting of the integral/derivative time decimal point position selection.	3600
169	Derivative time limiter (low) [heat-side] ♣	D7	CH1 ⋮ CH64	2E2C ⋮ 2E6B	11820 ⋮ 11883	7	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds  Varies with the setting of the integral/derivative time decimal point position selection.	0
170	Proportional band limiter (high) [cool-side] ♣	P8	CH1 ⋮ CH64	2E6C ⋮ 2EAB	11884 ⋮ 11947	7	R/W	C	TC/RTD inputs: 1 (1.0) to Input span (Unit: °C [°F])  Varies with the setting of the decimal point position selection.	TC/RTD: Input span V/I: 1000.0
171	Proportional band limiter (low) [cool-side] ♣	P9	CH1 ⋮ CH64	2EAC ⋮ 2EEB	11948 ⋮ 12011	7	R/W	C	Voltage (V)/current (I) inputs: 0.1 to 1000.0 % of input span	TC/RTD: 1 (0.1) V/I: 0.1
172	Integral time limiter (high) [cool-side] ♣	I8	CH1 ⋮ CH64	2EEC ⋮ 2F2B	12012 ⋮ 12075	7	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds  Varies with the setting of the integral/derivative time decimal point position selection.	3600
173	Integral time limiter (low) [cool-side] ♣	I9	CH1 ⋮ CH64	2F2C ⋮ 2F6B	12076 ⋮ 12139	7	R/W	C	If control is other than heat/cool PID control, set to RO (Only reading data is possible).	0
174	Derivative time limiter (high) [cool-side] ♣	D8	CH1 ⋮ CH64	2F6C ⋮ 2FAB	12140 ⋮ 12203	7	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds  Varies with the setting of the integral/derivative time decimal point position selection.	3600
175	Derivative time limiter (low) [cool-side] ♣	D9	CH1 ⋮ CH64	2FAC ⋮ 2FEB	12204 ⋮ 12267	7	R/W	C	If control is other than heat/cool PID control, set to RO (Only reading data is possible).	0
176	Open/Close output neutral zone ♣	V2	CH1 ⋮ CH64	2FEC ⋮ 301C	12268 ⋮ 12331	7	R/W	C	0.1 to 10.0 %	2.0
177	Action at feedback resistance (FBR) input error ♣	SY	CH1 ⋮ CH64	302C ⋮ 306B	12332 ⋮ 12395	1	R/W	C	0: Action depending on the valve action at STOP 1: Control action continued	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
178	Feedback adjustment ♣	FV	CH1 ⋮ CH64	306C ⋮ 30AB	12396 ⋮ 12459	1	R/W	C	0: Adjustment end 1: Open-side adjustment start 2: Close-side adjustment start	—
179	Control motor time ♣	TN	CH1 ⋮ CH64	30AC ⋮ 30EB	12460 ⋮ 12523	7	R/W	C	5 to 1000 seconds	10
180	Integrated output limiter ♣	OI	CH1 ⋮ CH64	30EC ⋮ 312B	12524 ⋮ 12587	7	R/W	C	0.0 to 200.0 % of control motor time (0.0: OFF)  Becomes invalid when there is feedback resistance (FBR) input.	150.0
181	Valve action at STOP ♣	VS	CH1 ⋮ CH64	312C ⋮ 316B	12588 ⋮ 12651	1	R/W	C	0: Close-side output OFF, Open-side output OFF 1: Close-side output ON, Open-side output OFF 2: Close-side output OFF, Open-side output ON  Becomes valid when there is no feedback resistance (FBR) input or the feedback resistance (FBR) input is disconnected.	0
182	ST proportional band adjusting factor ♣	KI	CH1 ⋮ CH64	316C ⋮ 31AB	12652 ⋮ 12715	7	R/W	C	0.01 to 10.00 times	1.00
183	ST integral time adjusting factor ♣	KJ	CH1 ⋮ CH64	31AC ⋮ 31EB	12716 ⋮ 12779	7	R/W	C	0.01 to 10.00 times	1.00
184	ST derivative time adjusting factor ♣	KK	CH1 ⋮ CH64	31EC ⋮ 322B	12780 ⋮ 12843	7	R/W	C	0.01 to 10.00 times	1.00
185	ST start condition ♣	SU	CH1 ⋮ CH64	322C ⋮ 326B	12844 ⋮ 12907	1	R/W	C	0: Activate the startup tuning (ST) function when the power is turned on; when transferred from STOP to RUN; or when the set value (SV) is changed. 1: Activate the startup tuning (ST) function when the power is turned on; or when transferred from STOP to RUN. 2: Activate the startup tuning (ST) function when the set value (SV) is changed.	0
186	Automatic temperature rise group ♣	Y7	CH1 ⋮ CH64	326C ⋮ 32AB	12908 ⋮ 12971	7	R/W	C	0 to 16 (0: Automatic temperature rise function OFF)	0
187	Automatic temperature rise dead time ♣	RT	CH1 ⋮ CH64	32AC ⋮ 32EB	12972 ⋮ 13035	7	R/W	C	0.1 to 1999.9 seconds	10.0
188	Automatic temperature rise gradient data ♣	R2	CH1 ⋮ CH64	32EC ⋮ 332B	13036 ⋮ 13099	7	R/W	C	0.1 to Input span/minutes	1.0
189	EDS transfer time decimal point position ♣	NS	CH1 ⋮ CH64	332C ⋮ 336B	13100 ⋮ 13163	1	R/W	C	0: 1 second setting (No decimal place) 1: 0.1 seconds setting (One decimal place)	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
190	Output average processing time for EDS ♣	NV	CH1 ⋮ CH64	336C ⋮ 33AB	13164 ⋮ 13227	7	R/W	C	0.1 to 200.0 seconds	1.0
191	Responsive action trigger point for EDS ♣	NW	CH1 ⋮ CH64	33AC ⋮ 33EB	13228 ⋮ 13291	7	R/W	C	TC/RTD inputs: 0 (0.0) to Input span (Unit: °C [°F])  Varies with the setting of the decimal point position selection. Voltage (V)/current (I) inputs: 0.0 to Input span (Unit: %)	TC/RTD: 1 (1.0) V/I: 1.0
192	Setting change rate limiter unit time	HU	CH1 ⋮ CH64	33EC ⋮ 342B	13292 ⋮ 13355	7	R/W	C	1 to 3600 seconds	60
193	Soak time unit	RU	CH1 ⋮ CH64	342C ⋮ 346B	13356 ⋮ 13419	7	R/W	C	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>0: 0:00 to 99:59 (hrs:min) [0 hours 00 minutes to 99 hours 59 minutes]</li> <li>1: 0:00 to 199:59 (min:sec) [0 minutes 00 seconds to 199 minutes 59 seconds]</li> <li>• Modbus/MECHATROLINK</li> <li>0: 0 to 5999 minutes [0 hours 00 minutes to 99 hours 59 minutes]</li> <li>1: 0 to 11999 seconds [0 minutes 00 seconds to 199 minutes 59 seconds]</li> </ul> Set the data range of Memory area soak time monitor and Area soak time.	1
194	Setting limiter (high)	SH	CH1 ⋮ CH64	346C ⋮ 34AB	13420 ⋮ 13483	7	R/W	C	Setting limiter (low) to Input scale high	Input scale high
195	Setting limiter (low)	SL	CH1 ⋮ CH64	34AC ⋮ 34EB	13484 ⋮ 13547	7	R/W	C	Input scale low to Setting limiter (high)	Input scale low
196	PV transfer function ♣	TS	CH1 ⋮ CH64	34EC ⋮ 352B	13548 ⋮ 13611	1	R/W	C	0: Unused 1: Used	0
197	Operation mode assignment 1 (Logic output selection function) Logic output 1 to 4	EA	CH1 ⋮ CH64	352C ⋮ 356B	13612 ⋮ 13675	7	R/W	C	0: No assignment 1: Operation mode (monitor, control) 2: Operation mode (monitor, event function, control) 3: Auto/Manual 4: Remote/Local 5: Unused (Don't set this one)	0
198	Operation mode assignment 2 (Logic output selection function) Logic output 5 to 8	EB	CH1 ⋮ CH64	356C ⋮ 35AB	13676 ⋮ 13739	7	R/W	C	0: No assignment 1: Operation mode (monitor, control) 2: Operation mode (monitor, event function, control) 3: Auto/Manual 4: Remote/Local 5: Unused (Don't set this one)	0
199	SV select function	KM	CH1 ⋮ CH64	35AC ⋮ 35EB	13740 ⋮ 13803	1	R/W	C	0: Remote SV function 1: Cascade control function 2: Ratio setting function 3: Cascade control 2 function	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
200	Remote SV function master channel module address	MC	CH1 ⋮ CH64	35EC ⋮ 362B	13804 ⋮ 13867	7	R/W	C	-1 (Master channel is selected from itself) 0 to 99 (Master channel is selected from other modules)	-1
201	Remote SV function master channel selection	MN	CH1 ⋮ CH64	362C ⋮ 366B	13868 ⋮ 13931	7	R/W	C	1 to 99	1
202	Output distribution master channel module address	DY	CH1 ⋮ CH64	366C ⋮ 36AB	13932 ⋮ 13995	7	R/W	C	-1 (Master channel is selected from itself) 0 to 99 (Master channel is selected from other modules)	-1
203	Output distribution master channel selection	DZ	CH1 ⋮ CH64	36AC ⋮ 36EB	13996 ⋮ 14059	7	R/W	C	1 to 99	1
204	Address of interacting modules	RL	CH1 ⋮ CH64	36EC ⋮ 372B	14060 ⋮ 14123	7	R/W	C	-1 (Interact with its own module address) 0 to 99 (Interact with the addresses of other modules)	-1
205	Channel selection of interacting modules	RM	CH1 ⋮ CH64	372C ⋮ 376B	14124 ⋮ 14187	7	R/W	C	1 to 99 Becomes valid when the selected module is "Z-TIO module."	1
206	Selection switch of interacting modules	RN	CH1 ⋮ CH64	376C ⋮ 37AB	14188 ⋮ 14251	7	R/W	C	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>Least significant digit: <ul style="list-style-type: none"> <li>Memory area number</li> <li>2nd digit: Operation mode</li> <li>3rd digit: Auto/Manual</li> <li>4th digit: Remote/Local</li> <li>5th digit: EDS start signal</li> <li>6th digit: Interlock release</li> </ul> </li> <li>Most significant digit: <ul style="list-style-type: none"> <li>Suspension of area soak time</li> </ul> </li> <li>Data 0: No interaction 1: Interact with other channels</li> <li>• Modbus/MECHATROLINK</li> <li>Bit data <ul style="list-style-type: none"> <li>b0: Memory area number</li> <li>b1: Operation mode</li> <li>b2: Auto/Manual</li> <li>b3: Remote/Local</li> <li>b4: EDS start signal</li> <li>b5: Interlock release</li> <li>b6: Suspension of area soak time</li> <li>b7 to b15: Unused</li> </ul> </li> <li>Data 0: No interaction 1: Interact with other channels</li> </ul> [Decimal number: 0 to 127]	0
207	TIO Interval time	VG	CH1 ⋮ CH16	37AC ⋮ 37BB	14252 ⋮ 14267	7	R/W	M	0 to 250 ms	10
208	Unused	—	—	37BC ⋮ 386B	14268 ⋮ 14443	—	—	—	—	—

### 3. Communication Data of Z-DIO Module

 For details of Z-DIO module communication data, see **SRZ Instruction Manual (IMS01T04-E□)**.

No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
1	Digital input (DI) state 1	L1	CH1 ⋮ CH16	3E6C ⋮ 3E7B	15980 ⋮ 15995	7	RO	M	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>Least significant digit: DI1</li> <li>2nd digit: DI2</li> <li>3rd digit: DI3</li> <li>4th digit: DI4</li> <li>5th digit to Most significant digit: Unused</li> <li>Data 0: Contact open</li> <li>1: Contact closed</li> <li>• Modbus/MECHATROLINK</li> <li>Bit data</li> <li>b0: DI1</li> <li>b1: DI2</li> <li>b2: DI3</li> <li>b3: DI4</li> <li>b4: DI5</li> <li>b5: DI6</li> <li>b6: DI7</li> <li>b7: DI8</li> <li>b8 to b15: Unused</li> <li>Data 0: Contact open</li> <li>1: Contact closed</li> <li>[Decimal number: 0 to 255]</li> </ul>	—
2	Digital input (DI) state 2	L6	CH1 ⋮ CH16	—	—	7	RO	M	<ul style="list-style-type: none"> <li>Least significant digit: DI5</li> <li>2nd digit: DI6</li> <li>3rd digit: DI7</li> <li>4th digit: DI8</li> <li>5th digit to Most significant digit: Unused</li> <li>Data 0: Contact open</li> <li>1: Contact closed</li> </ul>	—
3	Digital output (DO) state 1	Q2	CH1 ⋮ CH16	3E7C ⋮ 3E8B	15996 ⋮ 16011	7	RO	M	<ul style="list-style-type: none"> <li>• RKC communication</li> <li>Least significant digit: DO1</li> <li>2nd digit: DO2</li> <li>3rd digit: DO3</li> <li>4th digit: DO4</li> <li>5th digit to Most significant digit: Unused</li> <li>Data 0: OFF 1: ON</li> <li>• Modbus/MECHATROLINK</li> <li>Bit data</li> <li>b0: DO1</li> <li>b1: DO2</li> <li>b2: DO3</li> <li>b3: DO4</li> <li>b4: DO5</li> <li>b5: DO6</li> <li>b6: DO7</li> <li>b7: DO8</li> <li>b8 to b15: Unused</li> <li>Data 0: OFF 1: ON</li> <li>[Decimal number: 0 to 255]</li> </ul>	—

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
4	Digital output (DO) state 2	Q3	CH1 ⋮ CH16	—	—	7	RO	M	Least significant digit: DO5 2nd digit: DO6 3rd digit: DO7 4th digit: DO8 5th digit to Most significant digit: Unused Data 0: OFF 1: ON	—
5	Unused	—	—	3E8C ⋮ 3FDB	16012 ⋮ 16347	—	—	—	—	—
6	DO manual output 1	Q4	CH1 ⋮ CH16	3FDC ⋮ 3FEB	16348 ⋮ 16363	7	R/W	M	<ul style="list-style-type: none"> <li>RKC communication</li> </ul> Least significant digit: DO1 manual output 2nd digit: DO2 manual output 3rd digit: DO3 manual output 4th digit: DO4 manual output 5th digit to Most significant digit: Unused Data 0: OFF 1: ON <ul style="list-style-type: none"> <li>Modbus/MECHATROLINK</li> </ul> Bit data b0: DO1 manual output b1: DO2 manual output b2: DO3 manual output b3: DO4 manual output b4: DO5 manual output b5: DO6 manual output b6: DO7 manual output b7: DO8 manual output b8 to b15: Unused Data 0: OFF 1: ON [Decimal number: 0 to 255]	0
7	DO manual output 2	Q5	CH1 ⋮ CH16	—	—	7	R/W	M	Least significant digit: DO5 manual output 2nd digit: DO6 manual output 3rd digit: DO7 manual output 4th digit: DO8 manual output 5th digit to Most significant digit: Unused Data 0: OFF 1: ON	0
8	DO output distribution selection	DO	CH1 ⋮ CH128	3FEC ⋮ 406B	16364 ⋮ 16491	1	R/W	C	0: DO output 1: Distribution output	0
9	DO output distribution bias	O8	CH1 ⋮ CH128	406C ⋮ 40EB	16492 ⋮ 16619	7	R/W	C	-100.0 to +100.0 %	0.0
10	DO output distribution ratio	O9	CH1 ⋮ CH128	40EC ⋮ 416B	16620 ⋮ 16747	7	R/W	C	-9.999 to +9.999	1.000
11	DO proportional cycle time	V0	CH1 ⋮ CH128	416C ⋮ 41EB	16748 ⋮ 16875	7	R/W	C	0.1 to 100.0 seconds	Relay contact output: 20.0 Open collector output: 2.0
12	DO minimum ON/OFF time of proportioning cycle	VJ	CH1 ⋮ CH128	41EC ⋮ 426B	16876 ⋮ 17003	7	R/W	C	0 to 1000 ms	0

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No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
13	Unused	—	—	426C ⋮ 433B	17004 ⋮ 17211	—	—	—	—	—
<b>Set data No. 14 or later are for engineering setting [Writable in the STOP mode]</b>										
14	DI function assignment	H2	CH1 ⋮ CH16	433C ⋮ 434B	17212 ⋮ 17227	7	R/W	M	0 to 29 (see P. 33.)	Depends on model code. When not specifying: 0
15	Memory area setting signal	E1	CH1 ⋮ CH16	434C ⋮ 435B	17228 ⋮ 17243	1	R/W	M	0: Valid 1: Invalid	1
16	DO signal assignment module address 1	LQ	CH1 ⋮ CH16	435C ⋮ 436B	17244 ⋮ 17259	7	R/W	M	–1, 0 to 99 When “–1” is selected, all of the signals of the same type (except temperature rise completion and DO manual output value) are OR-operated and produced as outputs from DO.	–1
17	DO signal assignment module address 2	LR	CH1 ⋮ CH16	436C ⋮ 437B	17260 ⋮ 17275	7	R/W	M	–1, 0 to 99 When “–1” is selected, all of the signals of the same type (except temperature rise completion and DO manual output value) are OR-operated and produced as outputs from DO.	–1
18	DO output assignment 1 [DO1 to DO4]	LT	CH1 ⋮ CH16	437C ⋮ 438B	17276 ⋮ 17291	7	R/W	M	0 to 13 (see P. 34.)	Depends on model code. When not specifying: 0
19	DO output assignment 2 [DO5 to DO8]	LX	CH1 ⋮ CH16	438C ⋮ 439B	17292 ⋮ 17307	7	R/W	M	0 to 13 (see P. 34.)	Depends on model code. When not specifying: 0
20	DO energized/de-energized	NB	CH1 ⋮ CH128	439C ⋮ 441B	17308 ⋮ 17435	7	R/W	C	0: Energized 1: De-energized	0
21	DO output distribution master channel module address	DD	CH1 ⋮ CH128	441C ⋮ 449B	17436 ⋮ 17563	7	R/W	C	–1 (Master channel is selected from itself) 0 to 99 (Master channel is selected from other modules)	–1
22	DO output distribution master channel selection	DJ	CH1 ⋮ CH128	449C ⋮ 451B	17564 ⋮ 17691	7	R/W	C	1 to 99	1
23	DO manipulated output value (MV) at STOP mode	OJ	CH1 ⋮ CH128	451C ⋮ 459B	17692 ⋮ 17819	7	R/W	C	–5.0 to +105.0 %	–5.0
24	DO output limiter (high)	D3	CH1 ⋮ CH128	459C ⋮ 461B	17820 ⋮ 17947	7	R/W	C	DO output limiter (low) to 105.0 %	105.0
25	DO output limiter (low)	D4	CH1 ⋮ CH128	461C ⋮ 469B	17948 ⋮ 18075	7	R/W	C	–5.0 % to DO output limiter (high)	–5.0

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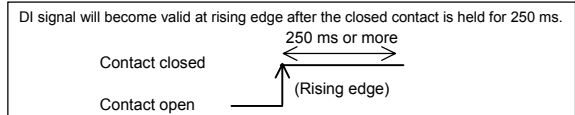
No.	Name	Identifier	Channel	Register address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
26	Z-DIO Interval time	VF	CH1 ⋮ CH16	469C ⋮ 46AB	18076 ⋮ 18091	7	R/W	M	0 to 250 ms	10
27	Unused	—	—	46AC ⋮ 46BB	18092 ⋮ 18107	—	—	—	—	—



Table 1: DI assignment table

Set value	DI1	DI2	DI3	DI4	DI5	DI6	DI7	DI8	
0	No assignment								
1	Memory area transfer (1 to 8) <sup>1</sup>				Area set <sup>2</sup>		Operation mode <sup>3</sup>		AUTO/MAN <sup>4</sup>
2									REM/LOC <sup>4</sup>
3									EDS start signal 1
4									Soak stop
5									RUN/STOP <sup>4</sup>
6									REM/LOC <sup>4</sup>
7									EDS start signal 1
8									Soak stop
9									RUN/STOP <sup>4</sup>
10									EDS start signal 1
11									Soak stop
12									RUN/STOP <sup>4</sup>
13									EDS start signal 1
14									Soak stop
15									RUN/STOP <sup>4</sup>
16	Interlock release		AUTO/MAN <sup>4</sup>		REM/LOC <sup>4</sup>		EDS start signal 1		
17	Interlock release		AUTO/MAN <sup>4</sup>		REM/LOC <sup>4</sup>		Soak stop		
18	Interlock release		AUTO/MAN <sup>4</sup>		REM/LOC <sup>4</sup>		RUN/STOP <sup>4</sup>		
19	Interlock release		AUTO/MAN <sup>4</sup>		REM/LOC <sup>4</sup>		Soak stop		
20	Interlock release		AUTO/MAN <sup>4</sup>		REM/LOC <sup>4</sup>		RUN/STOP <sup>4</sup>		
21	Interlock release		AUTO/MAN <sup>4</sup>		REM/LOC <sup>4</sup>		Soak stop		
22	Interlock release		AUTO/MAN <sup>4</sup>		REM/LOC <sup>4</sup>		RUN/STOP <sup>4</sup>		
23	Interlock release		AUTO/MAN <sup>4</sup>		REM/LOC <sup>4</sup>		Soak stop		
24	Interlock release		AUTO/MAN <sup>4</sup>		REM/LOC <sup>4</sup>		RUN/STOP <sup>4</sup>		
25	Interlock release		AUTO/MAN <sup>4</sup>		REM/LOC <sup>4</sup>		Soak stop		
26	Memory area transfer (1, 2) <sup>1</sup>	Area set <sup>2</sup>	Interlock release	RUN/STOP <sup>4</sup>	AUTO/MAN <sup>4</sup>	REM/LOC <sup>4</sup>	Operation mode <sup>3</sup>		
27	Memory area transfer (1 to 8) <sup>1</sup>			Area set <sup>2</sup>	Operation mode <sup>3</sup>				
28	Memory area transfer (1, 2) <sup>1</sup>	Area set <sup>2</sup>	Interlock release	RUN/STOP <sup>4</sup>	AUTO/MAN <sup>4</sup>	REM/LOC <sup>4</sup>	EDS start signal 1	EDS start signal 2	
29	EDS start signal 1	EDS start signal 2					Operation mode <sup>3</sup>		

RUN/STOP: RUN/STOP transfer (Contact closed: RUN)  
 AUTO/MAN: Auto/Manual transfer (Contact closed: Manual mode)  
 REM/LOC: Remote/Local transfer (Contact closed: Remote mode)  
 Interlock release (Interlock release when rising edge is detected)  
 EDS start signal 1 (EDS start signal ON when rising edge is detected [for disturbance 1])  
 EDS start signal 2 (EDS start signal ON when rising edge is detected [for disturbance 2])  
 Soak stop (Contact closed: Soak stop)



<sup>1</sup> Memory area transfer

(x: Contact open - : Contact closed)

	Memory area number							
	1	2	3	4	5	6	7	8
DI1	x	-	x	-	x	-	x	-
DI2	x	x	-	-	x	x	-	-
DI3	x	x	x	x	-	-	-	-

<sup>2</sup> Area set becomes invalid prior to factory shipment.

<sup>3</sup> Operation mode transfer

(x: Contact open - : Contact closed)

	Operation mode			
	Unused	Monitor	Monitor + Event function	Control
DI5 (DI7)	x	-	x	-
DI6 (DI8)	x	x	-	-

<sup>4</sup> Actual device states (AUTO/MAN, REM/LOC, RUN/STOP)

	DI-switched state	Communication-switched state	Actual device state
Auto/Manual transfer <sup>a</sup> (AUTO/MAN)	Manual (Contact closed)	Manual → Auto	Manual mode
		Auto → Manual	
	Auto (Contact open)	Manual → Auto	Auto mode
		Auto → Manual	
Remote/Local transfer <sup>a</sup> (REM/LOC)	Remote (Contact closed)	Remote → Local	Remote mode
		Local → Remote	
	Local (Contact open)	Remote → Local	Local mode
		Local → Remote	
RUN/STOP <sup>b</sup>	RUN (Contact closed)	STOP → RUN	RUN
		RUN → STOP	
	STOP (Contact open)	STOP → RUN	STOP

<sup>a</sup> Device state when AUTO/MAN or REM/LOC assigned to DI is set so that the Z-TIO module and Z-DIO module are linked using the Master-slave mode of the Z-TIO module.

<sup>b</sup> STOP of RUN/STOP switching is given priority regardless of communication or DI switching.

**Table 2: DO assignment table**

[DO1 to DO4]

Set value	DO1	DO2	DO3	DO4
0	No assignment			
1	DO1 manual output	DO2 manual output	DO3 manual output	DO4 manual output
2	Event 1 comprehensive output <sup>1</sup>	Event 2 comprehensive output <sup>2</sup>	Event 3 comprehensive output <sup>3</sup>	Event 4 comprehensive output <sup>4</sup>
3	Event 1 (CH1)	Event 2 (CH1)	Event 3 (CH1)	Event 4 (CH1)
4	Event 1 (CH2)	Event 2 (CH2)	Event 3 (CH2)	Event 4 (CH2)
5	Event 1 (CH3)	Event 2 (CH3)	Event 3 (CH3)	Event 4 (CH3)
6	Event 1 (CH4)	Event 2 (CH4)	Event 3 (CH4)	Event 4 (CH4)
7	Event 1 (CH1)	Event 1 (CH2)	Event 1 (CH3)	Event 1 (CH4)
8	Event 2 (CH1)	Event 2 (CH2)	Event 2 (CH3)	Event 2 (CH4)
9	Event 3 (CH1)	Event 3 (CH2)	Event 3 (CH3)	Event 3 (CH4)
10	Event 4 (CH1)	Event 4 (CH2)	Event 4 (CH3)	Event 4 (CH4)
11	HBA (CH1) of Z-TIO module	HBA (CH2) of Z-TIO module	HBA (CH3) of Z-TIO module	HBA (CH4) of Z-TIO module
12	Burnout status (CH1)	Burnout status (CH2)	Burnout status (CH3)	Burnout status (CH4)
13	Temperature rise completion <sup>5</sup>	HBA comprehensive output <sup>6</sup>	Burnout state comprehensive output <sup>7</sup>	DO4 manual output

[DO5 to DO8]

Set value	DO5	DO6	DO7	DO8
0	No assignment			
1	DO5 manual output	DO6 manual output	DO7 manual output	DO8 manual output
2	Event 1 comprehensive output <sup>1</sup>	Event 2 comprehensive output <sup>2</sup>	Event 3 comprehensive output <sup>3</sup>	Event 4 comprehensive output <sup>4</sup>
3	Event 1 (CH1)	Event 2 (CH1)	Event 3 (CH1)	Event 4 (CH1)
4	Event 1 (CH2)	Event 2 (CH2)	Event 3 (CH2)	Event 4 (CH2)
5	Event 1 (CH3)	Event 2 (CH3)	Event 3 (CH3)	Event 4 (CH3)
6	Event 1 (CH4)	Event 2 (CH4)	Event 3 (CH4)	Event 4 (CH4)
7	Event 1 (CH1)	Event 1 (CH2)	Event 1 (CH3)	Event 1 (CH4)
8	Event 2 (CH1)	Event 2 (CH2)	Event 2 (CH3)	Event 2 (CH4)
9	Event 3 (CH1)	Event 3 (CH2)	Event 3 (CH3)	Event 3 (CH4)
10	Event 4 (CH1)	Event 4 (CH2)	Event 4 (CH3)	Event 4 (CH4)
11	HBA (CH1) of Z-TIO module	HBA (CH2) of Z-TIO module	HBA (CH3) of Z-TIO module	HBA (CH4) of Z-TIO module
12	Burnout status (CH1)	Burnout status (CH2)	Burnout status (CH3)	Burnout status (CH4)
13	Temperature rise completion <sup>5</sup>	HBA comprehensive output <sup>6</sup>	Burnout state comprehensive output <sup>7</sup>	DO8 manual output

<sup>1</sup> Logical OR of Event 1 (ch1 to ch4)

<sup>2</sup> Logical OR of Event 2 (ch1 to ch4)

<sup>3</sup> Logical OR of Event 3 (ch1 to ch4)

<sup>4</sup> Logical OR of Event 4 (ch1 to ch4)

<sup>5</sup> Temperature rise completion status (ON when temperature rise completion occurs for all channels for which event 3 is set to temperature rise completion.)

<sup>6</sup> The following signals are output depending on the setting of the DO signal assignment module address.

- Logical OR of HBA (ch1 to ch4) of Z-TIO module
- Logical OR of HBA (ch1 to ch12) of Z-CT module
- Logical OR of HBA (ch1 to ch4) of Z-TIO module and HBA (ch1 to ch12) of Z-CT module


<sup>7</sup> Logical OR of burnout state (ch1 to ch4)



To output the HBA signal of a Z-CT module from DO, set “13.”

For details of the Z-CT module, see **Z-CT Instruction Manual (IMS01T21-E□)**.

## 4. Communication Data of Z-CT Module

 For details of Z-CT module communication data, see **Z-CT Instruction Manual [Detailed version]** (IMS01T21-E□).

No.	Name	Identifier	Channel	Resister address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
1	Current transformer (CT) input value monitor	M4	CH1 ⋮ CH192	46BC ⋮ 477B	18108 ⋮ 18299	7	RO	C	CTL-6-P-Z: 0.0 to 10.0 A CTL-6-P-N: 0.0 to 30.0 A CTL-12-S56-10L-N: 0.0 to 100.0 A	—
2	Load factor conversion CT monitor	M5	CH1 ⋮ CH192	477C ⋮ 483B	18300 ⋮ 18491	7	RO	C	0.0 to 100.0 A	—
3	Heater break alarm (HBA) state monitor	AF	CH1 ⋮ CH192	483C ⋮ 48FB	18492 ⋮ 18683	1	RO	C	0: Normal 1: Break 2: Melting	—
4	Heater overcurrent alarm state monitor	AG	CH1 ⋮ CH192	48FC ⋮ 49BB	18684 ⋮ 18875	1	RO	C	0: Normal 1: Heater overcurrent	—
5	Automatic setting state monitor <sup>1</sup>	CJ	CH1 ⋮ CH16	49BC ⋮ 49CB	18876 ⋮ 18891	1	RO	M	0: Normal state 1: Automatic setting execution 2: Automatic setting failure	—
6	Unused	—	—	49CC ⋮ 4FCB	18892 ⋮ 20427	—	—	—	—	—
7	Heater break/Heater overcurrent alarm automatic setting selection	BT	CH1 ⋮ CH192	4FCC ⋮ 508B	20428 ⋮ 20619	1	R/W	C	0: Automatic setting is disabled. (Alarm set value cannot be automatically set by the push button and communication.) 1: Automatic setting for heater break alarm is enabled. 2: Automatic setting for heater overcurrent alarm set value is enabled. 3: Automatic setting for heater break alarm (HBA) and heater overcurrent alarm set values are enabled.	1
8	Automatic setting transfer <sup>2</sup>	BU	CH1 ⋮ CH192	508C ⋮ 514B	20620 ⋮ 20811	1	R/W	C	0: Normal state 1: Automatic setting execution When automatic setting ends normally, this reverts to “0: Normal state.” 2: Automatic setting failure (RO)	0
9	Heater break alarm (HBA) set value	A8	CH1 ⋮ CH192	514C ⋮ 520B	20812 ⋮ 21003	1	R/W	C	0.0 to 100.0 A 0.0: Heater break alarm function (HBA) OFF (HBA function OFF: The current transformer (CT) input value monitoring is available.)	0.0
10	Heater break alarm (HBA) selection	BZ	CH1 ⋮ CH192	520C ⋮ 52CB	21004 ⋮ 21195	1	R/W	C	0: Heater break alarm (HBA) unused 1: Heater break alarm (HBA) 2: Heater break alarm (HBA) (With alarm interlock function)	1

<sup>1</sup> This is linked to the solid lighting or blinking state of the automatic setting state indication lamp (SET).

<sup>2</sup> Automatic setting is only possible for channels that have been set to other than “0: Automatic setting is disabled” in heater break/heater overcurrent alarm automatic setting selection.

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No.	Name	Identifier	Channel	Resister address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
11	Heater overcurrent alarm set value	A6	CH1 ⋮ CH192	52CC ⋮ 538B	21196 ⋮ 21387	7	R/W	C	0.0 to 105.0 A 0.0: Heater overcurrent alarm function OFF	0.0
12	Heater overcurrent alarm selection	BO	CH1 ⋮ CH192	538C ⋮ 544B	21388 ⋮ 21579	1	R/W	C	0: Heater overcurrent alarm unused 1: Heater overcurrent alarm 2: Heater overcurrent alarm (With alarm interlock function)	1
13	Heater break alarm (HBA) interlock release	CX	CH1 ⋮ CH192	544C ⋮ 550B	21580 ⋮ 21771	1	R/W	C	0: Normal state 1: Interlock release execution After the interlock is released, this automatically returns to "0."	0
14	Heater overcurrent alarm interlock release	CY	CH1 ⋮ CH192	550C ⋮ 55CB	21772 ⋮ 21963	1	R/W	C	0: Normal state 1: Interlock release execution After the interlock is released, this automatically returns to "0."	0
15	Unused	—	—	55CC ⋮ 5E0B	21964 ⋮ 24075	—	—	—	—	—
16	Set lock	LK	CH1 ⋮ CH16	5E0C ⋮ 5E1B	24076 ⋮ 24091	1	R/W	M	0: Unlock 1: Lock	0
17	CT type <sup>1</sup>	BV	CH1 ⋮ CH192	5E1C ⋮ 5EDB	24092 ⋮ 24283	1	R/W <sup>2</sup>	C	0: CTL-6-P-N (0.0 to 30.0 A) 1: CTL-12-S56-10L-N (0.0 to 100.0 A) 2: CTL-6-P-Z (0.0 to 10.0 A)	Depends on model code. When not specifying: 0
18	CT ratio <sup>3</sup> (CT number of winds)	XT	CH1 ⋮ CH192	5EDC ⋮ 5F9B	24284 ⋮ 24475	7	R/W <sup>2</sup>	C	0 to 9999	CTL-6-P-N, CTL-6-P-Z: 800 CTL-12-S56-10L-N: 1000
19	Number of heater break alarm (HBA) delay times	DI	CH1 ⋮ CH192	5F9C ⋮ 605B	24476 ⋮ 24667	7	R/W <sup>2</sup>	C	0 to 255 times	5
20	Automatic setting factor for heater break alarm (HBA)	BW	CH1 ⋮ CH192	605C ⋮ 611B	24668 ⋮ 24859	7	R/W <sup>2</sup>	C	1 to 100 %	75
21	Automatic setting factor for heater overcurrent alarm	B9	CH1 ⋮ CH192	611C ⋮ 61DB	24860 ⋮ 25051	7	R/W <sup>2</sup>	C	100 to 1000 %	200
22	Determination current value for automatic setting	BP	CH1 ⋮ CH192	61DC ⋮ 629B	25052 ⋮ 25243	7	R/W <sup>2</sup>	C	0.0 to 100.0 A	1.0
23	Automatic setting time	BQ	CH1 ⋮ CH192	629C ⋮ 635B	25244 ⋮ 25435	7	R/W <sup>2</sup>	C	10 to 250 seconds	60
24	Module address assignments for CT input	BX	CH1 ⋮ CH192	635C ⋮ 641B	25436 ⋮ 25627	7	R/W <sup>2</sup>	C	0 to 99	0

<sup>1</sup> When using a non-specified CT, set to "1: CTL-12-S56-10L-N (0.0 to 100.0 A)."

<sup>2</sup> When the set lock (Identifier:LK, Resister address: 5E0CH to 5E1BH) is set to "0: Unlock," writing data is possible.

<sup>3</sup> When using a non-specified CT, set the number of winds of the CT.

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No.	Name	Identifier	Channel	Resister address		Digits	Attribute	Structure	Data range	Factory set value
				HEX	DEC					
25	Module channel assignments for CT input	BY	CH1 ⋮ CH192	641C ⋮ 64DB	25628 ⋮ 25819	7	R/W <sup>2</sup>	C	1 to 99	1
26	Load factor conversion method <sup>1</sup>	IC	CH1 ⋮ CH192	64DC ⋮ 659B	25820 ⋮ 26011	1	R/W <sup>2</sup>	C	0: Mean conversion 1: Root mean squared value conversion	0
27	CT Interval time	VH	CH1 ⋮ CH16	659C ⋮ 65AB	26012 ⋮ 26027	7	R/W <sup>2</sup>	M	0 to 250 ms	10
28	Unused	—	—	65AC ⋮ 666B	26028 ⋮ 26219	—	—	—	—	—

<sup>1</sup> For monitoring using “0: Mean conversion” or “1: Root mean squared value conversion,” the following settings are required:

- Module address assignments for CT input must be set.
- Module channel assignments for CT input must be set.
- The heater break alarm (HBA) value must be set to other than “0.0.”

<sup>2</sup> When the set lock (Identifier:LK, Resister address: 5E0CH to 5E1BH) is set to “0: Unlock,” writing data is possible.

## 5. Memory Area Data Address (Z-TIO Module)

The register addresses, 386CH to 3DABH are used for checking and changing each set value belonging to the memory area.

No.	Name	Chan- nel	Register address		Attri- bute	Struc- ture	Data range	Factory set value
			HEX	DEC				
1	Setting memory area number	CH1 ⋮ CH64	386C ⋮ 38AB	14444 ⋮ 14507	R/W	C	1 to 8	1
2	Event 1 set value (EV1)	CH1 ⋮ CH64	38AC ⋮ 38EB	14508 ⋮ 14571	R/W	C	Deviation action, Deviation action between channels, Temperature rise completion range: –Input span to +Input span  Process action, SV action: Input scale low to Input scale high  MV action: –5.0 to +105.0 %	50
3	Event 2 set value (EV2)	CH1 ⋮ CH64	38EC ⋮ 392B	14572 ⋮ 14635	R/W	C		50
4	Event 3 set value (EV3)	CH1 ⋮ CH64	392C ⋮ 396B	14636 ⋮ 14699	R/W	C		50
5	Event 4 set value (EV4)	CH1 ⋮ CH64	396C ⋮ 39AB	14700 ⋮ 14763	R/W	C		50
6	Control loop break alarm (LBA) time	CH1 ⋮ CH64	39AC ⋮ 39EB	14764 ⋮ 14827	R/W	C		0 to 7200 seconds (0: Unused)
7	LBA deadband	CH1 ⋮ CH64	39EC ⋮ 3A2B	14828 ⋮ 14791	R/W	C	0 (0.0) to Input span	0 (0.0)
8	Set value (SV)	CH1 ⋮ CH64	3A2C ⋮ 3A6B	14892 ⋮ 14955	R/W	C	Setting limiter (low) to Setting limiter (high)	TC/RTD: 0 V/I: 0.0
9	Proportional band [heat-side]	CH1 ⋮ CH64	3A6C ⋮ 3AAB	14956 ⋮ 15019	R/W	C	TC/RTD inputs: 0 (0.0) to Input span (Unit: °C [°F]) Voltage (V)/current (I) inputs: 0.0 to 1000.0 % of input span 0 (0.0): ON/OFF action (ON/OFF action for both heat and cool actions in case of a heat/cool control type.)	TC/RTD: 30 (30.0) V/I: 30.0
10	Integral time [heat-side]	CH1 ⋮ CH64	3AAC ⋮ 3AEB	15020 ⋮ 15083	R/W	C	PID control or heat/cool PID control: 0 to 3600 seconds or 0.0 to 1999.9 seconds (0, 0.0: PD action) Position proportioning control: 1 to 3600 seconds or 0.1 to 1999.9 seconds	240
11	Derivative time [heat-side]	CH1 ⋮ CH64	3AEC ⋮ 3B2B	15084 ⋮ 15147	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds (0, 0.0: PI action)	60
12	Control response parameter	CH1 ⋮ CH64	3B2C ⋮ 3B6B	15148 ⋮ 15211	R/W	C	0: Slow 1: Medium 2: Fast  When the P or PD action is selected, this setting becomes invalid.	PID control, Position proportioning control: 0 Heat/cool PID control: 2

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Continued from the previous page.

No.	Name	Chan- nel	Register address		Attri- bute	Struc- ture	Data range	Factory set value
			HEX	DEC				
13	Proportional band [cool-side]	CH1 ⋮ CH64	3B6C ⋮ 3BAB	15212 ⋮ 15275	R/W	C	TC/RTD inputs: 1 to Input span or 0.1 to Input span (Unit: °C [°F]) Voltage (V)/current (I) inputs: 0.1 to 1000.0 % of input span	TC/RTD: 30 (30.0) V/I: 30.0
14	Integral time [cool-side]	CH1 ⋮ CH64	3BAC ⋮ 3BEB	15276 ⋮ 15339	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds (0, 0.0: PD action)	240
15	Derivative time [cool-side]	CH1 ⋮ CH64	3BEC ⋮ 3C2B	15340 ⋮ 15403	R/W	C	0 to 3600 seconds or 0.0 to 1999.9 seconds (0, 0.0: PI action)	60
16	Overlap/Deadband	CH1 ⋮ CH64	3C2C ⋮ 3C6B	15404 ⋮ 15467	R/W	C	TC/RTD inputs: -Input span to +Input span (Unit:°C [°F]) Voltage (V)/current (I) inputs: -100.0 to +100.0 % of input span	0
17	Manual reset	CH1 ⋮ CH64	3C6C ⋮ 3CAB	15468 ⋮ 15531	R/W	C	-100.0 to +100.0 %	0.0
18	Setting change rate limiter (up)	CH1 ⋮ CH64	3CAC ⋮ 3CEB	15532 ⋮ 15595	R/W	C	0 (0.0) to Input span/unit time * 0 (0.0): Unused	0 (0.0)
19	Setting change rate limiter (down)	CH1 ⋮ CH64	3CEC ⋮ 3D2B	15596 ⋮ 15659	R/W	C	* Unit time: 60 seconds (factory set value)	0 (0.0)
20	Area soak time	CH1 ⋮ CH64	3D2C ⋮ 3D6B	15660 ⋮ 15723	R/W	C	0 minutes 00 seconds to 199 minutes 59 seconds: 0 to 11999 seconds 0 hours 00 minutes to 99 hours 59 minutes: 0 to 5999 minutes	0
21	Link area number	CH1 ⋮ CH64	3D6C ⋮ 3DAB	15724 ⋮ 15787	R/W	C	0 to 8 (0: No link)	0
22	Unused	—	3DAC ⋮ 3E6B	15788 ⋮ 15979	—	—	—	—

## 6. How to Use Memory Area Data

Memory area function can store up to 8 individual sets of SVs and parameters. One of the areas is used for control, and the currently selected area is “Control area.”

Memory area data can be used to check and change settings that belong to memory areas other than the control area. Reading and writing of memory area data is performed by channel.

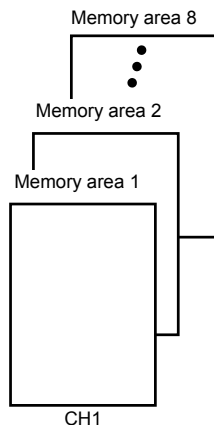
### ■ Read and write of memory area data

If any memory area number to perform data read and write is specified by the setting memory area number (386CH to 38ABH), data corresponding to the specified memory area number is called up to the register addresses from 38ACH to 3DABH. By using these register addresses from 38ACH to 3DABH, it becomes possible to read and write data in any memory area.

	Register address				
	CH1	CH2	.....	CH64	
Setting memory area number	386CH	386DH	.....	38ABH	← Register address to specify memory area
Event 1 set value (EV1)	38ACH	38ADH	.....	38EBH	} Register address of memory area data
Event 2 set value (EV2)	38ECH	38EDH	.....	392BH	
Event 3 set value (EV3)	392CH	392DH	.....	396BH	
Event 4 set value (EV4)	396CH	396DH	.....	39ABH	
Control loop break alarm (LBA) time	39ACH	39ADH	.....	39EBH	
LBA deadband	39ECH	39EDH	.....	3A2BH	
Set value (SV)	3A2CH	3A2DH	.....	3A6BH	
Proportional band [heat-side]	3A6CH	3A6DH	.....	3AABH	
Integral time [heat-side]	3AACH	3AADH	.....	3AEBH	
Derivative time [heat-side]	3AECH	3AEDH	.....	3B2BH	
Control response parameter	3B2CH	3B2DH	.....	3B6BH	
Proportional band [cool-side]	3B6CH	3B6DH	.....	3BABH	
Integral time [cool-side]	3BACH	3BADH	.....	3BEBH	
Derivative time [cool-side]	3BECH	3BEDH	.....	3C2BH	
Overlap/Deadband	3C2CH	3C2DH	.....	3C6BH	
Manual reset	3C6CH	3C6DH	.....	3CABH	
Setting change rate limiter (up)	3CACH	3CADH	.....	3CEBH	
Setting change rate limiter (down)	3CECH	3CEDH	.....	3D2BH	
Area soak time	3D2CH	3D2DH	.....	3D6BH	
Link area number	3D6CH	3D6DH	.....	3DABH	

☞ For the Memory area data list, see **5. Memory area data address (P. 38)**.

Data corresponding to a specified memory area number is called up to the CH1 register addresses.



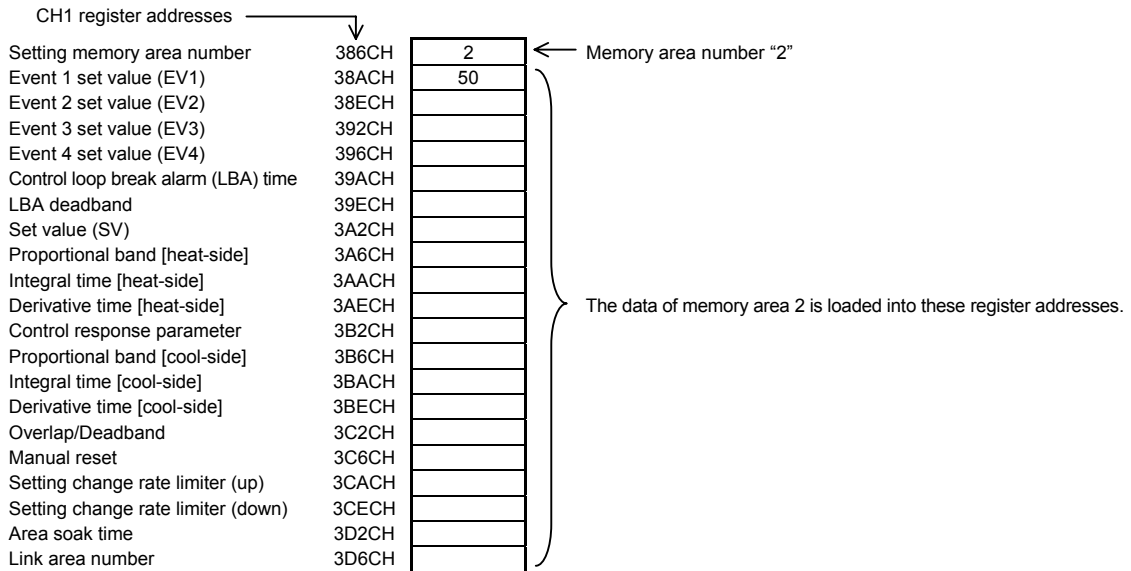
A memory area number which data is read/written is written to the register address, 386CH (for CH1).

Event 1 set value (EV1) (38ACH)
Event 2 set value (EV2) (38ECH)
Event 3 set value (EV3) (392CH)
Event 4 set value (EV4) (396CH)
Control loop break alarm (LBA) time (39ACH)
LBA deadband (39ECH)
Set value (SV) (3A2CH)
Proportional band [heat-side] (3A6CH)
Integral time [heat-side] (3AACH)
Derivative time [heat-side] (3AECH)
Control response parameter (3B2CH)
Proportional band [cool-side] (3B6CH)
Integral time [cool-side] (3BACH)
Derivative time [cool-side] (3BECH)
Overlap/Deadband (3C2CH)
Manual reset (3C6CH)
Setting change rate limiter (up) (3CACH)
Setting change rate limiter (down) (3CECH)
Area soak time (3D2CH)
Link area number (3D6CH)



[Example 1] When data on the Event 1 set value in Memory area 2 of CH1 is read

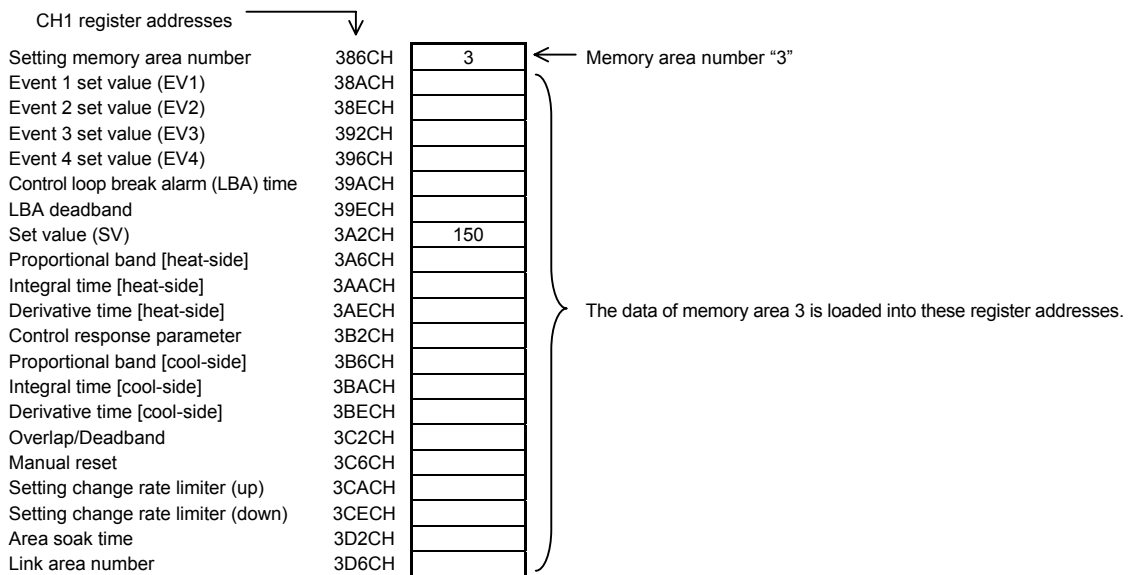
1. The memory area number, "2" is written to the CH1 setting memory area number (386CH).  
Data in Memory area 2 is called up to the CH1 register addresses.



2. Data "50" on Event 1 set value (38ACH) is read.

[Example 2] When the set value (SV) in Memory area 3 of CH1 is changed to 200

1. The memory area number, "3" is written to the CH1 setting memory area number (386CH).  
Data in Memory area 3 is called up to the CH1 register addresses.



2. "200" is written to the set value (SV) (3A2CH).

## ■ Control area transfer

Any memory area used for control is specified by the memory area transfer (08DCH to 091BH). The area (095CH to 0E5BH) now used for control is called “Control area.”



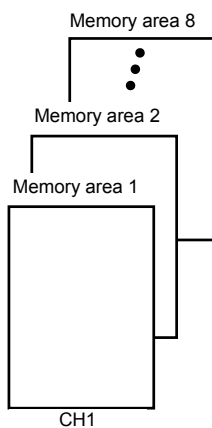
The memory area number (control area) can be changed at either RUN or STOP.

	Register address			
	CH1	CH2	.....	CH64
Memory area transfer	08DCH	08DDH	.....	091BH
Event 1 set value (EV1)	095CH	095DH	.....	099BH
Event 2 set value (EV2)	099CH	099DH	.....	09DBH
Event 3 set value (EV3)	09DCH	09DDH	.....	0A1BH
Event 4 set value (EV4)	0A1CH	0A1DH	.....	0A5BH
Control loop break alarm (LBA) time	0A5CH	0A5DH	.....	0A9BH
LBA deadband	0A9CH	0A9DH	.....	0ADBH
Set value (SV)	0ADCH	0ADDH	.....	0B1BH
Proportional band [heat-side]	0B1CH	0B1DH	.....	0B5BH
Integral time [heat-side]	0B5CH	0B5DH	.....	0B9BH
Derivative time [heat-side]	0B9CH	0B9DH	.....	0BDBH
Control response parameter	0BDCH	0BDDH	.....	0C1BH
Proportional band [cool-side]	0C1CH	0C1DH	.....	0C5BH
Integral time [cool-side]	0C5CH	0C5DH	.....	0C9BH
Derivative time [cool-side]	0C9CH	0C9DH	.....	0CDBH
Overlap/Deadband	0CDCH	0CDDH	.....	0CDCH
Manual reset	0D1CH	0D1DH	.....	0D5BH
Setting change rate limiter (up)	0D5CH	0D5DH	.....	0D9BH
Setting change rate limiter (down)	0D9CH	0D9DH	.....	0ddbH
Area soak time	0DDCH	0DDDH	.....	0E1BH
Link area number	0E1CH	0E1DH	.....	0E5BH

Register address to specify control area

Register address of memory area data

Data corresponding to a specified memory area number is called up to the CH1 register addresses.

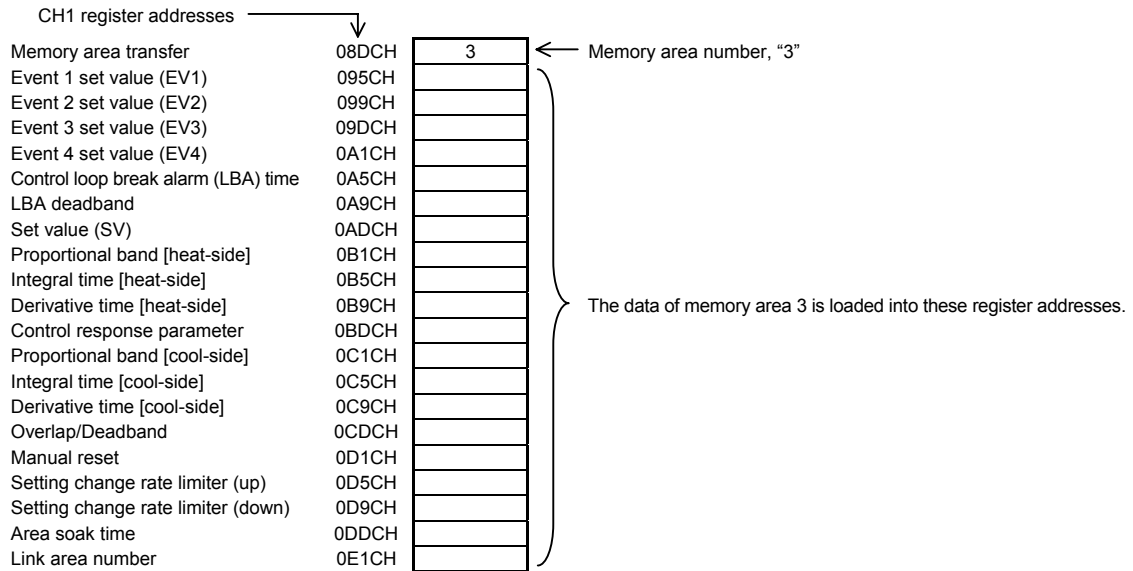


Any memory area number used for control is written to the register address, 08DCH (for CH1).

- Control area —
- Event 1 set value (EV1) (095CH)
  - Event 2 set value (EV2) (099CH)
  - Event 3 set value (EV3) (09DCH)
  - Event 4 set value (EV4) (0A1CH)
  - Control loop break alarm (LBA) time (0A5CH)
  - LBA deadband (0A9CH)
  - Set value (SV) (0ADCH)
  - Proportional band [heat-side] (0B1CH)
  - Integral time [heat-side] (0B5CH)
  - Derivative time [heat-side] (0B9CH)
  - Control response parameter (0BDCH)
  - Proportional band [cool-side] (0C1CH)
  - Integral time [cool-side] (0C5CH)
  - Derivative time [cool-side] (0C9CH)
  - Overlap/Deadband (0CDCH)
  - Manual reset (0D1CH)
  - Setting change rate limiter (up) (0D5CH)
  - Setting change rate limiter (down) (0D9CH)
  - Area soak time (0DDCH)
  - Link area number (0E1CH)

[Example] When performing control by calling up data in Memory area 3 of CH1

1. The memory area number, "3" is written to the memory area transfer (08DCH).  
Data in Memory area 3 is called up to the CH1 register addresses.



2. Control of CH1 is performed by using data in the register addresses.



If the memory area transfer (08DCH to 091BH) and the setting memory area number (386CH to 38ABH) are set to the same memory area number, the respective data can be synchronized.

- Values in the control areas (095CH to 0E5BH) and the setting memory area number (38ACH to 3DABH) are set to the same memory area number, the respective data can be synchronized.
- If data in the control area is changed, data in the memory area is also changed.
- If data in the memory area is changed, data in the control area is also changed.

