








Chapter 7. LIST OF SIMPLE CONFIGURATION DISPLAY ITEMS

7 - 1 List of Operation Displays

Display	Item	Contents	Initial value	Remarks
Display No.1: PV Display No.2: SP	SP (Target value)	SP low limit (C07) to SP high limit (C08)	0	
 Display No.2: SP	LSP No. (1st digit: Value at the right end digit)	1 to LSP system group (Max. 4)	1	Displayed when [LSP system group] (C30) is 2 or more. The display No. 2 shows the SP set value corresponding to the LSP No.
	MV (Manipulated Variable)	-10.0 to 110.0% Setting is disabled in AUTO mode. (Numeric value does not flash.) Setting is enabled in MANUAL mode. (Numeric value flashes.)	—	In the ON/OFF control, "100.0" is displayed at ON and "0.0" is displayed at OFF.
	Heat MV (Manipulated Variable)	Setting is disabled.	—	Displayed when using the heat cool control (C26=1).
	Cool MV (Manipulated Variable)	Setting is disabled.	—	Displayed when using the heat/cool control (C26=1).
Display No. 1: PV 	AT progress display (1st digit = Numeric value at right end digit)	Setting is disabled. 1 - : During execution of AT (Value is decreased.) 0: Completion of AT	—	The display mode is changed to the AT progress display mode only when the AT is running in this unit.
	CT (Current transformer) current value 1	Setting is disabled.	—	Displayed when the optional model has two current transformer points.
	CT (Current transformer) current value 2	Setting is disabled.	—	Displayed when the optional model has two current transformer points.


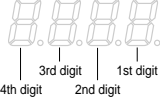








7 - 2 List of Setup Setting Displays

Display	Item	Contents	Initial value	Remarks
0.000	PV input range type	When the PV input type is thermocouple: 1 to 6, 9 to 11, 13 to 18, 20, 21, 24, 25	1	For details, refer to the PV input range table (on page 5-3).
		When the PV input type is RTD: 41 to 46, 51 to 54, 63, 64, 67, 68	41	
		When the PV input type is DC current/voltage: 84, 86 to 90	88	
0.002	Temperature unit	0: Centigrade (°C) 1: Fahrenheit (°F)	0	Displayed when the PV input type is thermocouple or RTD.
0.004	Decimal point position	0: No decimal point 1 to 3: Digits after decimal point	0	Displayed when the PV input type is DC current/voltage or RTD having the range with the decimal point.
0.005	PV input range low limit	When the PV input type is thermocouple or RTD, the setting is disabled and the input range low limit selected with the PV input type (C01) is displayed.	—	
		When the PV input type is DC current/voltage, a value ranging from -1999 to +9999 is set.	0	
0.006	PV input range high limit	When the PV input type is thermocouple or RTD, the setting is disabled and the input range high limit selected with the PV input type (C01) is displayed.	—	
		When the PV input type is DC current/voltage, a value ranging from -1999 to +9999 is set.	1000	
0.004	Control action (Direct/Reverse)	0: Reverse action (Heat control) 1: Direct action (Cool control)	0	Displayed when the heat/cool control selection is not used (C26=0).
0.026	Heat/Cool control selection	0: Disabled. 1: Enabled.	0	Displayed when two control output points or event output is provided.
0.028	Heat/Cool control dead zone	-100.0 to +100.0%	0.0	Displayed when using the heat/cool control selection (C26=0).
0.030	LSP system group	1 to 4	1	
0.036	CT1 operation type	0: Heater burnout detection 1: Current value measurement	0	Displayed when the optional model has two current transformer input points.
0.037	CT1 output	0: Control output 1 1: Control output 2 2: Event output 1 3: Event output 2 4: Event output 3	0	Displayed when the optional model has two current transformer input points and the CT1 operation type is set at "heater burnout detection" (C36 = 0).
0.038	CT1 measurement wait time	30 to 300 ms.	30	Displayed when the optional model has two current transformer input points and the CT1 operation type is set at "heater burnout detection" (C36=0).
0.039	CT2 operation type	0: Heater burnout detection 1: Current value measurement	0	Displayed when the optional model has two current transformer input points.
0.040	CT2 output	0: Control output 1 1: Control output 2 2: Event output 1 3: Event output 2 4: Event output 3	0	Displayed when the optional model has two current transformer input points and the CT2 operation type is set at "heater burnout detection" (C39 = 0).










Display	Item	Contents	Initial value	Remarks
0041	CT2 measurement wait time	30 to 300 ms.	30	Displayed when the optional model has two current transformer input points and the CT2 operation type is set at "heater burnout detection" (C39=0).
0042	Output 1 range	1: 4 to 20 mA 2: 0 to 20 mA	1	Displayed when the control output 1 of the model is the current output.
0043	Output 1 type	0: MV 1: Heat MV 2: Cool MV 3: PV 4: PV value before bias 5: SP 6: Deviation 7: CT1 current value 8: CT2 current value 9: Invalid	0	Displayed when the control output 1 of the model is the current output. The decimal point position of the output 1 low limit/high limit becomes 1 digit after the decimal point when the output 1 type is related to the MV and CT. When the output 1 type is related to the PV, SP, and deviation, the decimal point position becomes the same as that of the PV.
0044	Output 1 scaling low limit	-1999 to +9999 (The decimal point position may vary depending on the output 1 type.)	0.0	
0045	Output 1 scaling high limit	-1999 to +9999 (The decimal point position may vary depending on the output 1 type.)	100.0	
0047	Output 2 range	1: 4 to 20 mA 2: 0 to 20 mA	1	Displayed when the control output 2 of the model is the current output.
0048	Output 2 type	0: MV 1: Heat MV 2: Cool MV 3: PV 4: PV value before bias 5: SP 6: Deviation 7: CT1 current value 8: CT2 current value 9: Invalid	3	Displayed when the control output 2 of the model is the current output. The decimal point position of the output 2 input range low limit/high limit becomes 1 digit after the decimal point when the output 2 type is related to the MV and CT. When the output 2 type is related to the PV, SP, and deviation, the decimal point position becomes the same as that of the PV.
0049	Output 2 scaling low limit	-1999 to +9999 (The decimal point position may vary depending on the output 2 type.)	0	
0050	Output 2 scaling high limit	-1999 to +9999 (The decimal point position may vary depending on the output 2 type.)	1000	
0064	Communication mode	0: CPL 1: MODBUS (ASCII format) 2: MODBUS (RTU format)	0	Displayed when the optional model has RS-485.
0065	Station address	0 to 127 Communication is disabled when "0" is set	0	Displayed when the optional model has RS-485.
0066	Transmission speed	0: 4800bps 1: 9600bps 2: 19200bps 3: 38400bps	2	Displayed when the optional model has RS-485.
0067	Data format (Data length)	0: 7 bits 1: 8 bits	1	Displayed when the optional model has RS-485 and the communication mode is not MODBUS (RTU) (C65 ≠ 2).

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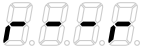






















Display	Item	Contents	Initial value	Remarks
0.0.6.8	Data format (Parity)	0: Even parity 1: Odd parity 2: No parity	0	Displayed when the optional model has RS-485.
0.0.6.9	Data format (Stop bit)	0: 1 bit 1: 2 bits	0	Displayed when the optional model has RS-485.
0.0.7.2	[mode] key function	0: Invalid 1: AUTO/MANUAL selection 2: RUN/READY selection 3: AT Stop/Start 4: LSP group selection 5: Release all DO latches 6: Invalid 7: Communication DI1 selection 8: Invalid	0	
0.0.7.9	User level	0: Simple configuration 1: Standard configuration 2: Multi-function configuration	0	
0.0.0.0	Operation type of internal event 1	0: No event 1: PV high limit 2: PV low limit 3: PV high/low limit 4: Deviation high limit 5: Deviation low limit 6: Deviation high/low limit 7: Deviation high limit (Final SP reference) 8: Deviation low limit (Final SP reference) 9: Deviation high/low limit (Final SP reference) 10: SP high limit 11: SP low limit 12: SP high/low limit 13: MV high limit 14: MV low limit 15: MV high/low limit 16: CT1 heater burnout/over-current 17: CT1 heater short-circuit 18: CT2 heater burnout/over-current 19: CT2 heater short-circuit 20: Loop diagnosis 1 21: Loop diagnosis 2 22: Loop diagnosis 3 23: Alarm (status) 24: READY (status) 25: MANUAL (status) 26: Invalid 27: During AT execution (status) 28: During SP ramp (status) 29: Control direct action (status) 30: During ST execution (status) 31: Invalid 32: Timer (status)	0	

Display	Item	Contents	Initial value	Remarks
	Internal event 1 	As described below.	0000	
	1st digit: Direct/Reverse	0: Direct 1: Reverse	0	
	2nd digit: Standby	0: None 1: Standby 2: Standby + Standby at SP change	0	
	3rd digit: Operation at READY	0: Continue 1: Forced OFF	0	
	4th digit: Undefined	0	0	
	Operation type of internal event 2	Same as operation type of internal event 1.	0	
	Internal event 2 1st digit: Direct/Reverse 2nd digit: Standby 3rd digit: Operation at READY 4th digit: Undefined	Same as internal event 1.	0000	
	Operation type of internal event 3	Same as operation type of internal event 1.	0	
	Internal event 3 1st digit: Direct/Reverse 2nd digit: Standby 3rd digit: Operation at READY 4th digit: Undefined	Same as internal event 1.	0000	
	Operation type of internal event 4	Same as operation type of internal event 1.	0	
	Internal event 4 1st digit: Direct/Reverse 2nd digit: Standby 3rd digit: Operation at READY 4th digit: Undefined	Same as internal event 1.	0000	
	Operation type of internal event 5	Same as operation type of internal event 1.	0	
	Internal event 5 1st digit: Direct/Reverse 2nd digit: Standby 3rd digit: Operation at READY 4th digit: Undefined	Same as internal event 1.	0000	

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Display	Item	Contents	Initial value	Remarks
	Operation type of internal contact 1	0: No function 1: LSP group selection (0/+1) 2: LSP group selection (0/+2) 3: LSP group selection (0/+4) 4: Invalid 5: Invalid 6: Invalid 7: RUN/READY selection 8: AUTO/MANUAL selection 9: Invalid 10: AT Stop/Start 11: ST disabled/enabled 12: Control action direct/reverse selection (As setting/opposite operation of setting) 13: SP RAMP enabled/disabled 14: PV Hold (No-hold/Hold) 15: PV maximum value hold (No-hold/Hold) 16: PV minimum value hold (No-hold/Hold) 17: Timer Stop/Start 18: Release all DO latches (Continue/Release) 19: Invalid 20: Invalid	0	For details, refer to the section, Internal contact operation type setup (on page 5-37).
	Operation type of internal contact 2	Same as operation type of internal contact 1	0	
	Operation type of internal contact 3	Same as operation type of internal contact 1	0	
	Key lock	0: All settings are enabled. 1: Mode, event, operation display, SP, UF, lock, manual MV, and mode key can be set. 2: Operation display, SP, UF, lock, manual MV, and mode key can be set. 3: UF, lock, manual MV, and mode key can be set.	0	When two sets of passwords (1A and 1B, and 2A and 2B) are met, the settings can be made. Mode key setting, MV setting in the MANUAL mode, key lock, password display, and password 1A to 2B settings can be made when the key lock (LoC) is 0 to 3.
	Password display	0 to 15 5: Password 1B to 2B display	0	"0" is set when the power is turned ON.
	Password 1A	0000 to FFFF (hexadecimal value)	0000	Displayed when the password display (PASS) is "5" and two sets of passwords (1A and 1B, and 2A and 2B) are met.
	Password 2A	0000 to FFFF (hexadecimal value)	0000	
	Password 1B	0000 to FFFF (hexadecimal value)	0000	Displayed when the password display (PASS) is "5".
	Password 2B	0000 to FFFF (hexadecimal value)	0000	

7 - 3 List of Parameter Setting Displays

Display	Item	Contents	Initial value	Remarks
	AUTO/MANUAL mode selection	 : AUTO mode  : MANUAL mode	AUTO	Displayed when the control method is other than ON/OFF control (Ctrl ≠ 0).
	RUN/READY mode selection	 : RUN mode  : READY mode	RUN	
	AT Stop/Start selection	 : AT stop  : AT start	AT stop	Displayed when the control method is other than ON/OFF control (Ctrl ≠ 0).
	Release all DO latches	 : Latch continue  : Latch release	Latch continue	All DO latches such as control outputs (relay and voltage pulse) and events can be released.
	Communication DI1	 : OFF  : ON	OFF	
	SP of LSP1 group	SP low limit (C07) to SP high limit (C08)	0	
	SP of LSP2 group	SP low limit (C07) to SP high limit (C08)	0	Displayed when [LSP system group] (C30) is "2" or more.
	SP of LSP3 group	SP low limit (C07) to SP high limit (C08)	0	Displayed when [LSP system group] (C30) is "3" or more.
	SP of LSP4 group	SP low limit (C07) to SP high limit (C08)	0	Displayed when [LSP system group] (C30) is "4" or more.
	Event 1 main setting	The allowable setting range may vary depending on the event operation type. -1999 to 9999U: Value is that other than the following value. 0 to 9999U: Set value is an absolute value. -199.9 to 999.9%: Set value is MV.	0	Setting required by the event operation type is displayed.
	Event 1 sub setting		0	
	Event 2 main setting		0	
	Event 2 sub setting		0	
	Event 3 main setting		0	
	Event 3 sub setting		0	
	Event 4 main setting		0	

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Display	Item	Contents	Initial value	Remarks
8456	Event 4 sub setting		0	
8500	Event 5 main setting		0	
8556	Event 5 sub setting		0	
8800	Proportional band	0.1 to 999.9%	5.0	Displayed when the control method is other than ON/OFF control (Ctrl ≠ 0).
1800	Integration time	0 to 9999s	120	
2800	Derivative time	0 to 9999s	30	
2800	Manual reset	-10.1 to +110.0%	50.0	Displayed when the control method is not the ON/OFF control (Ctrl ≠ 0) and the integration time (I-1) is 0 sec.
8800	P ((Proportional band) (cool))	0.1 to 999.9%	5.0	Displayed when the control method is not the ON/OFF control (Ctrl ≠ 0) and the heat/cool control is used (C26 = 1).
1800	I ((Integration time) (cool))	0 to 9999s	120	
2800	D ((Derivative time) (cool))	0 to 9999s	30	
0800	Control method	0: ON/OFF control 1: Fixed PID 2: ST (Self-tuning)	0 or 1	The initial value is "0" when the control output 1 is the relay output or voltage pulse output. The initial value is "1" in other cases.
8800	MV low limit at AT	-10.0 to +110.0%	0.0	Displayed when the control method is other than ON/OFF control (Ctrl ≠ 0).
8800	MV high limit at AT	-10.0 to +110.0%	100.0	
0100	ON/OFF control differential	0 to 9999 U	5	Displayed when the control method is the ON/OFF control (Ctrl = 0).
8000	PV filter	0.0 to 120.0 s	0.0	
6100	PV bias	-1999 to +9999U	0	
0900	Time proportional cycle time 1	5 to 120s (when the output includes the relay output) 1 to 120s (when the output does not include the relay output)	10 or 2	When the output destination of the time proportional output 1 includes the relay output, the relay output is operated with time proportional cycle time of 5 sec. even though a value less than 5 sec. is set.
0920	Time proportional cycle time 2 (cool)	5 to 120s (when the output includes the relay output) 1 to 120s (when the output does not include the relay output)	2	Displayed when the heat/cool control is used. When the output destination of the time proportional output 2 includes the relay output, the relay output is operated with time proportional cycle time of 5 sec. even though a value less than 5 sec. is set.
8800	AT type	0: Normal (Standard control characteristics) 1: Immediate response (Control characteristics immediately responding to the external disturbance.) 2: Stable (Control characteristics with less up/down fluctuation of PV)	1	Displayed when the control method is other than ON/OFF control (Ctrl ≠ 0).