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**Technical  
Information**

**UTAdvanced UT35A/UT32A  
Digital Indicating Controller**  
Parameter Maps and Lists

**UTAdvanced.**

# UTAdvanced UT35A/UT32A

## Introduction

### Brief Description of Sheets

This sheet provides a brief description of the following sheets entitled "Names and Functions of Display Parts," "Operation Parameter Map," "Setup Parameter Map," and "List of Parameters."

#### "Names and Functions of Display Parts"

This sheet describes the names and functions of display parts, function of parameter display level, meaning of parameter map symbol and numeric value, parameter display transition and setup operation, and display symbol list.

#### "Operation Map (PRO)"

This sheet describes the operation parameter map, which can be used as an operation guide.

#### "Setup Map (PRO)"

This sheet describes the setup parameter map, which can be used as an operation guide.

#### "List of Parameters (PRO)"

This sheet describes the setting range and initial value of operation parameters and setup parameters. There is a column for user settings.

Parameters in the sheets are displayed when the parameter display level is set to professional setting mode (LEVL=PRO). Some parameters are not displayed according to model and suffix codes. For details, refer to the User's Manual.

**Operation Parameters: Parameters for setting the functions necessary for the operation.**

**Setup Parameters: Parameters for setting the basic functions of the controller.**

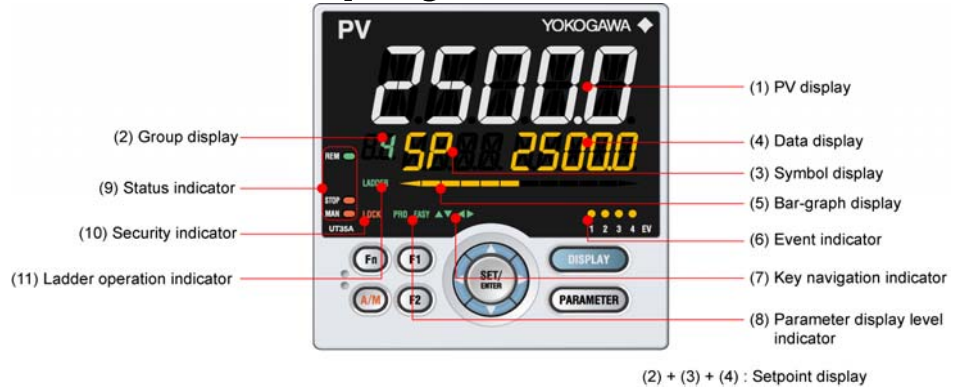
#### Notice

The contents of this manual are subject to change without notice as a result of continuing improvements to the instrument's performance and functions.

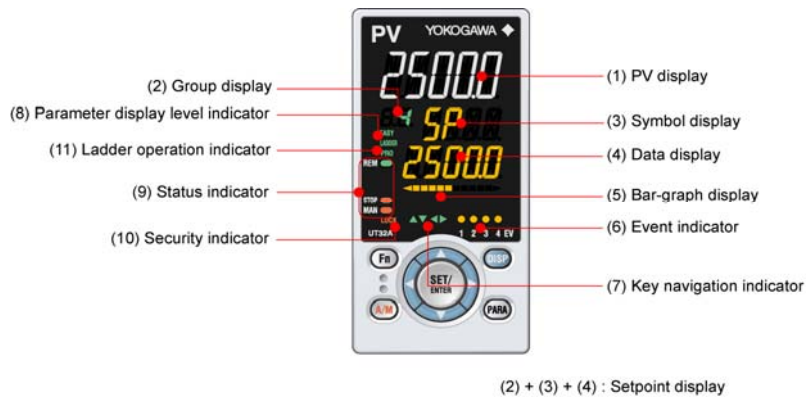
# UTAdvanced UT35A/UT32A

## Names and Functions of Display Parts

### UT35A Display Parts

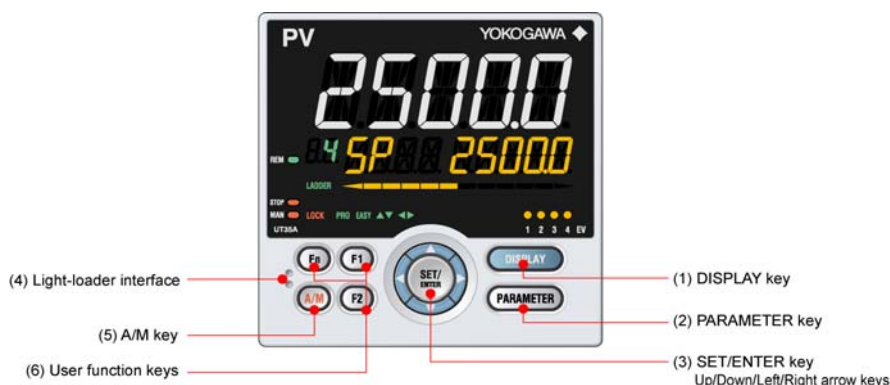


### UT32A Display Parts

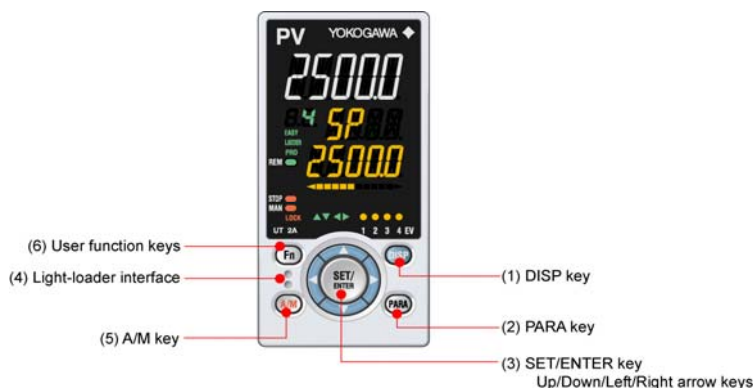


No. in figure	Name	Description												
(1)	PV display (white or red)	Displays PV. Displays an error code if an error occurs. Displays the scrolling guide in the Menu Display and Parameter Setting Display when the guide display ON/OFF is set to ON.												
(2)	Group display (green)	Displays a group number (1 to 4, or R) and terminal area (E1 to E4). 1 to 4 represent SP numbers in the Operation Display. R and E1 to E4 are displayed in the Parameter Setting Display.												
(3)	Symbol display (orange)	Displays a parameter symbol.												
(4)	Data display (orange)	Displays a parameter setpoint and menu symbol.												
(5)	Bar-graph display (orange and white)	Displays control output value (OUT) and measured input value (PV). The data to be displayed can be set by the parameter. Initial value: deviation, in Heating/cooling control: heatingside control output												
(6)	Event indicator (orange)	Lit when the alarms 1 to 4 occur. Event displays other than alarms can be set by the parameter.												
(7)	Key navigation indicator (green)	Lit or blinks when the Up/Down or Left/Right arrow key operation is possible.												
(8)	Parameter display level indicator (green)	Displays the setting conditions of the parameter display level function. <table border="1" style="display: inline-table; vertical-align: top;"> <tr> <td>Parameter display level</td> <td>EASY</td> <td>PRO</td> </tr> <tr> <td>Easy setting mode</td> <td>Lit</td> <td>Unlit</td> </tr> <tr> <td>Standard setting mode</td> <td>Unlit</td> <td>Unlit</td> </tr> <tr> <td>Professional setting mode</td> <td>Unlit</td> <td>Lit</td> </tr> </table>	Parameter display level	EASY	PRO	Easy setting mode	Lit	Unlit	Standard setting mode	Unlit	Unlit	Professional setting mode	Unlit	Lit
Parameter display level	EASY	PRO												
Easy setting mode	Lit	Unlit												
Standard setting mode	Unlit	Unlit												
Professional setting mode	Unlit	Lit												
(9)	Status indicator (green and red)	Displays the operating conditions and control status. <table border="1" style="display: inline-table; vertical-align: top;"> <tr> <td>Display</td> <td>Description</td> </tr> <tr> <td>REM</td> <td>Lit when in remote mode (REM).</td> </tr> <tr> <td>MAN</td> <td>Lit when in manual mode (MAN). Blinks during auto-tuning.</td> </tr> </table>	Display	Description	REM	Lit when in remote mode (REM).	MAN	Lit when in manual mode (MAN). Blinks during auto-tuning.						
Display	Description													
REM	Lit when in remote mode (REM).													
MAN	Lit when in manual mode (MAN). Blinks during auto-tuning.													
(10)	Security indicator (red)	Lit if a password is set. The setup parameter settings are locked.												
(11)	Ladder operation indicator (green)	Lit while the ladder program operation is executed.												

## UT35A Key Parts



## UT32A Key Parts



No. in figure	Name	Description
(1)	UT35A: DISPLAY key UT32A: DISP key	Used to switch the Operation Displays. Press the key in the Operation Display to switch the provided Operation Displays. Press the key in the Menu Display or Parameter Setting Display to return to the Operation Display.
(2)	UT35A: PARAMETER key UT32A: PARA key	Hold down the key for 3 seconds to move to the Operation Parameter Setting Display. Hold down the key and the Left arrow key simultaneously for 3 seconds to move to the Setup Parameter Setting Display. Press the key in the Parameter Setting Display to return to the Menu Display. Press the key once to cancel the parameter setting (setpoint is blinking).
(3)	SET/ENTER key Up/Down/ Left/Right arrow keys	<b>SET/ENTER key</b> Press the key in the Menu Display to move to the Parameter Setting Display of the Menu. Press the key in the Parameter Setting Display to transfer to the parameter setting mode (setpoint is blinking), and the parameter can be changed. Press the key during parameter setting mode to register the setpoint. <b>Up/Down/Left/Right arrow keys</b> Press the Left/Right arrow keys in the Menu Display to switch the Displays. Press the Up/Down/Left/Right arrow keys in the Parameter Setting Display to switch the Displays. Press the Up/Down arrow keys during parameter setting mode (setpoint is blinking) to change a setpoint. Press the Left/Right arrow keys during parameter setting mode (setpoint is blinking) to move between digits according to the parameter.
(4)	Light-loader interface	It is the communication interface to the adapter cable when setting and storing parameters via PC. The LL50A Parameter Setting Software (sold separately) is required.
(5)	A/M key	Used to switch between AUTO and MAN modes. The setting is switched between AUTO and MAN each time the key is pressed. The user can assign a function key.
(6)	User function keys	The UT35A has F1, F2, and Fn keys. The UT32A has only the Fn key. The user can assign a function to the key. The function is set by the parameter.

# Brief Description of Parameter Map

The parameter display level is a function to control the parameters to be displayed. The factory setting is LEVL=STD.

The control prevents unintentional change of the function.

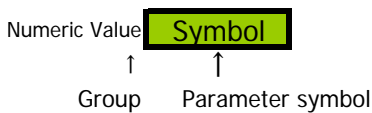
The parameter display level is just a function to hide the display so the set function works.

## Changing of parameter display level


The parameters to be displayed can be controlled by changing the setting value for setup parameter LEVL.

Parameter Display Level	Setting value	Symbol
<b>EASY</b>	EASY	Symbol
Corresponding parameters are displayed in all modes.		
	STD	Symbol Symbol
Corresponding parameters are displayed only in Standard setting mode and Professional setting mode. Parameter display level indicators "EASY" and "PRO" are unlit in Standard setting mode.		
<b>PRO</b>	PRO	Symbol Symbol Symbol
Corresponding parameters are displayed only in Professional setting mode.		

# Meaning of Parameter Symbol and Numeric Value



- Group E1: indicates the parameter in E1-terminal area
- E3: indicates the parameter in E3-terminal area
- E4: indicates the parameter in E4-terminal area
- 1 to 4, R: indicate the group numbers

 Display may be controlled according to the setting value of the setup parameter and operation status.

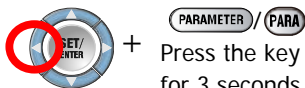
# Parameter Display Transition and Setup Operation

To move to the Operation Parameter Setting Display



Press the key for 3 seconds.

To move to the Setup Parameter Setting Display



Press the key for 3 seconds.

To move to the Operation Display

If you cannot remember how to carry out an operation during setting, press the DISPLAY key or DISP key once. This brings you to the display (Operation Display) that appears at power-on.



## <Operation for Setting>

To select the parameter setting displayed as the initial value, press the Down arrow key to move to the next parameter.

To change and set the parameter setting, press the SET/ENTER key to start the setpoint blinking. The blinking state allows you to make changes (setting mode). Use the Up/Down/Left/Right arrow keys to change the setpoint. Press the SET/ENTER key to register the setting.

The following operating procedure describes an example of setting alarm setpoint (A1). <In case of UT35A>

1. Hold down the PARAMETER key for 3 seconds in the Operation Display to call up the [MODE] Menu Display.



2. Press the Right arrow key to display the [SP] Menu Display.



3. Press the SET/ENTER key to display the [SP] Parameter Setting Display.



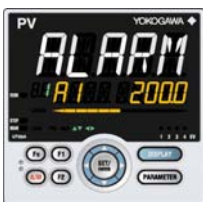
4. Press the Down arrow key to display the [A1] Parameter Setting Display



5. Press the SET/ENTER key to blink the setpoint.



6. Press the Up or Down arrow key to change the setpoint.  
(Change the setpoint using the Up/Down arrow keys to increase and decrease the value and the Left/Right arrow keys to move between digits.)



7. Press the SET/ENTER key to register the setpoint (the setpoint stops blinking).



8. Press the PARAMETER key once to return to the Menu Display.  
Press the DISPLAY key once to return to the Operation Display.

This completes the setting procedure.

How to Cancel Parameter Setting

To cancel parameter setting when a parameter is being set (setpoint is blinking), press the PARAMETER key once

## How to Set Parameter Setpoint

### Numeric Value Setting



SP 7940

1. Display the Parameter Setting Display.

SP 7940

2. Press the SET/ENTER key to move to the setting mode (the setpoint blinks).

SP 7940

3. Press the Left arrow key to move one digit to the left. (Press the Right arrow key to move one digit to the right.)

SP 8040

4. Press the Up or Down arrow key to change the setpoint. Press the Up arrow key when 9 is displayed to move one digit to the left. Press the Down arrow key when 0 is displayed to move one digit to the right.

SP 8040

5. Press the SET/ENTER key to register the setpoint.

### Selection Data Setting



SP OFF

1. Display the Parameter Setting Display.

SP OFF

2. Press the SET/ENTER key to move to the setting mode (the setpoint blinks).

SP ON

3. Press the Up arrow key to change the setpoint (press the Down arrow key to change the setpoint).

SP ON

4. Press the SET/ENTER key to register the setpoint.

### Time (minute.second) Setting



Example of 17 minutes 59 seconds

DYN 1 1759

1. Display the Parameter Setting Display.

DYN 1 1759

2. Press the SET/ENTER key to move to the setting mode (the setpoint blinks).

DYN 1 1759

3. Press the Left arrow key to move one digit to the left. (press the Right arrow key to move one digit to the right.)

DYN 1 1809

4. Press the Up or Down arrow key to change the setpoint. Press the Up arrow key when 5 is displayed to move one digit to the left. Press the Down arrow key when 0 is displayed to move one digit to the right.

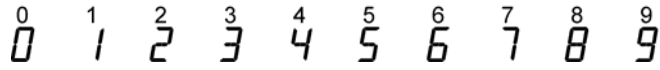
DYN 1 1809

5. Press the SET/ENTER key to register the setpoint.

# List of Display Symbols

The following shows the parameter symbols, menu symbols, alphanumeric of guide, and symbols which are displayed on the UT35A/UT32A.

Figure (common to all display area)

0 1 2 3 4 5 6 7 8 9  


PV display (14 segments): Alphabet

A	B	C	D	E	F
G	H	I	J	K	L
M	N	O	P	Q	R
S	T	U	V	W	X
Y	Z				

Symbol display and Data display (11 segments): Alphabet

A	B	C	D	E	F
		C (lower-case)			
G	H	I	J	K	L
M	N	O	P	Q	R
S	T	U	V	W	X
Y	Z				

Group display (7 segments): Alphabet

A	B	C	D	E	F
G	H	I	J	K	L
M	N	O	P	Q	R
S	T	U	V	W	X
Y	Z				

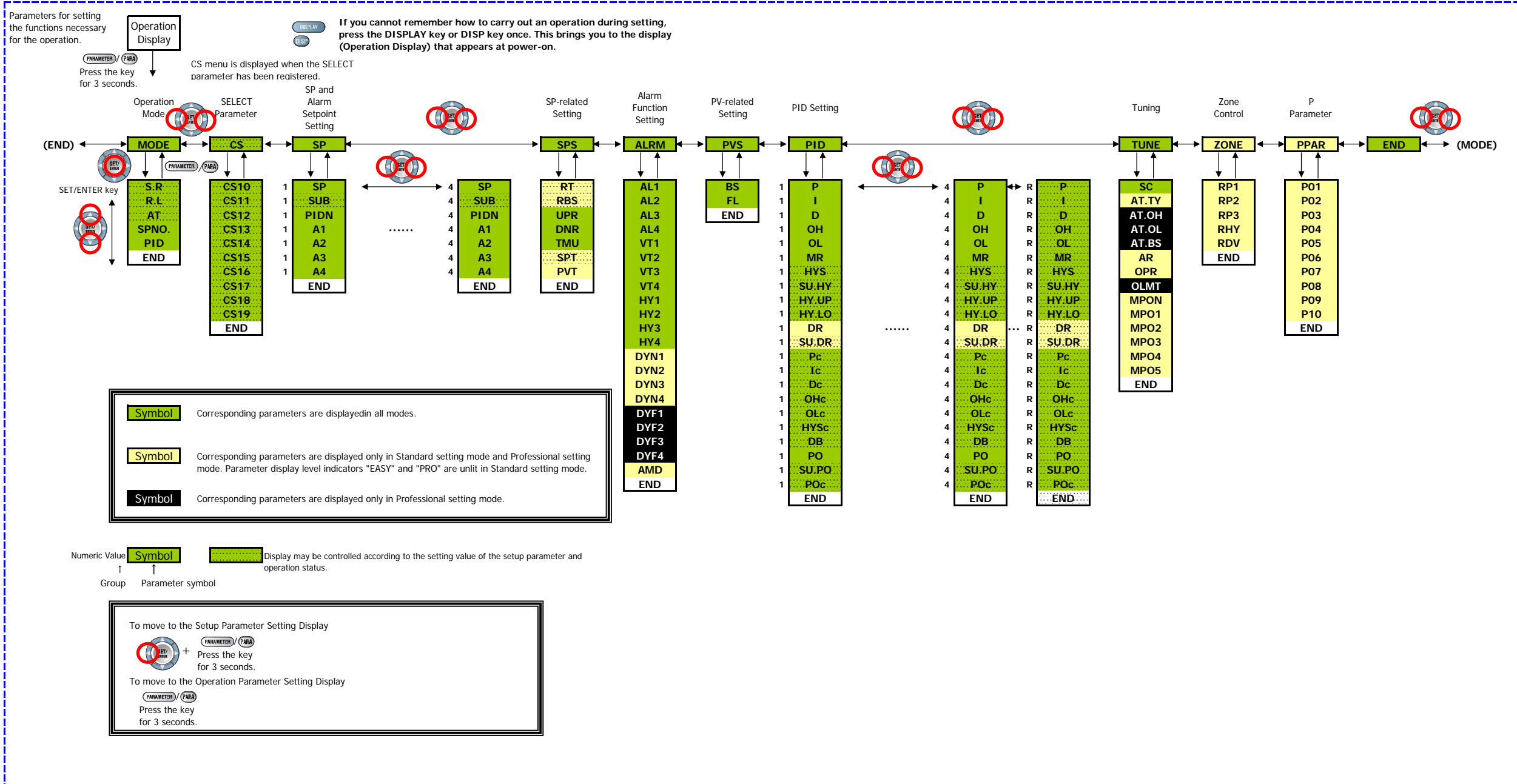
PV display (14 segments): Symbol

Space	-	/	'	,



# UTAdvanced UT35A/UT32A

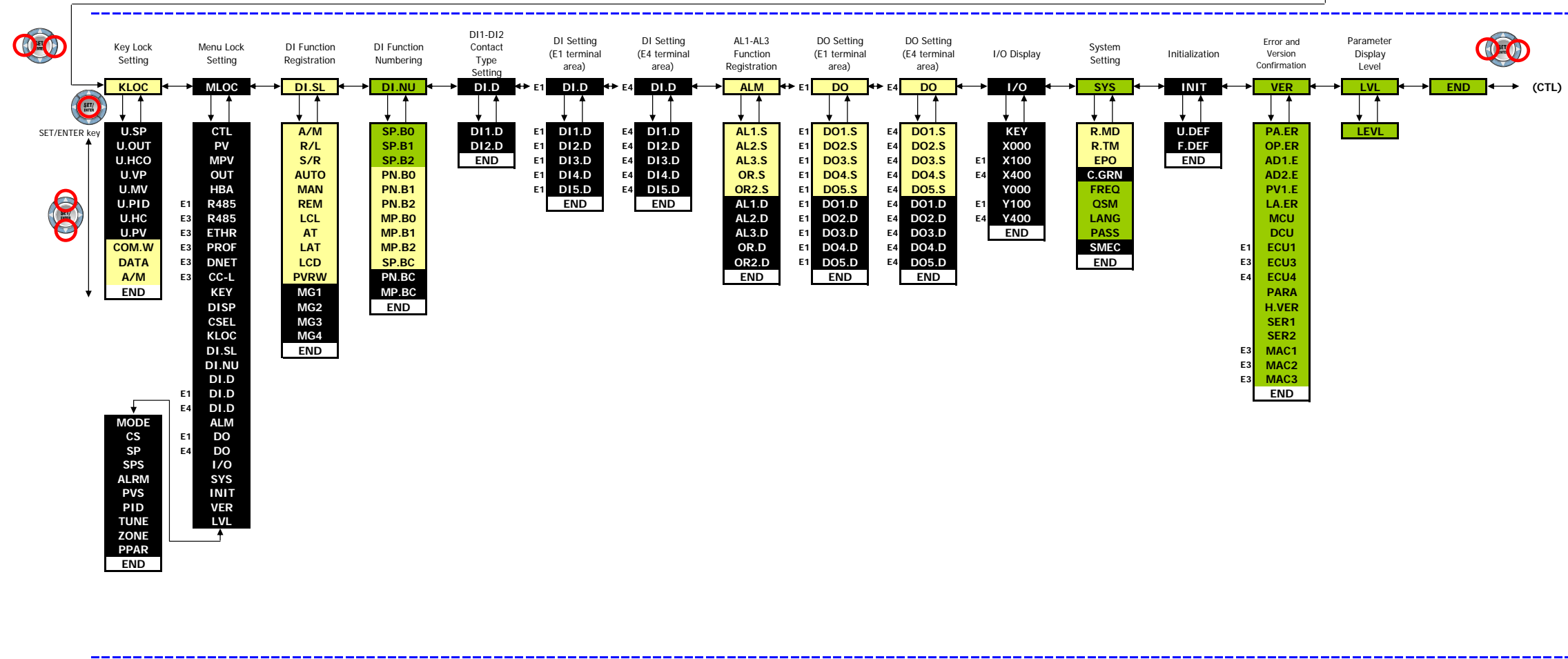
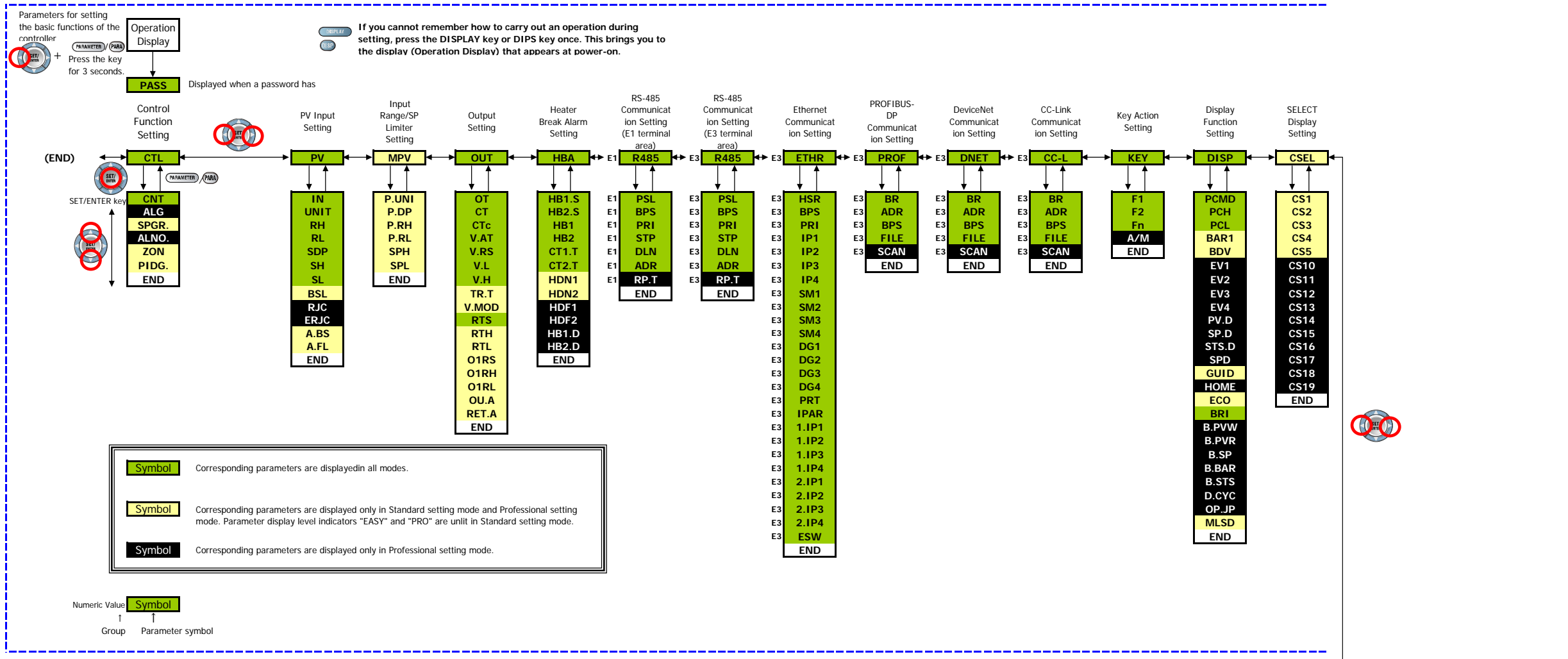
## Operation Parameter Map \* Some parameters are not displayed according to the model and suffix codes or the setting of CNT parameter. For details, refer to the User's Manual.



# UTAdvanced UT35A/UT32A

## Setup Parameter Map

\* Some parameters are not displayed according to the model and suffix codes or the setting of CNT parameter. For details, refer to the User's Manual.



# UTAdvanced UT35A/UT32A

## List of Parameters

\* Some parameters are not displayed according to the model and suffix codes or the setting of CNT parameter. For details, refer to the User's Manual.

### Operation Parameters

#### Operation Mode

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
MODE	S.R	STOP/RUN switch	EASY	STOP: Stop mode RUN: Run mode Preset output (PO) is generated in STOP mode. Default: Not displayed. STOP/RUN switch is assigned to contact input.	RUN	
	R.L	REMOTE/LOCAL switch	EASY	LCL: Local mode REM: Remote mode (Displayed only in cases where the communication is specified.)	LCL	
	AT	Auto-tuning switch	EASY	OFF: Disable 1 to 4: Perform auto-tuning. Tuning result is stored in the specified numbered PID. R: Tuning result is stored in the PID for reference deviation.	OFF	
	SPNO.	SP number selection	EASY	1 to 4 (Depends on the setup parameter SPGR. setting.)	1	
	PID	PID number	EASY	The PID group number being selected is displayed. 1 to 4, R: PID group for reference deviation	1	

#### SELECT Parameter

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
CS	CS10	SELECT parameter 10	EASY	Setting range of a registered parameter. See User's Manual.	-	
	CS11	SELECT parameter 11	EASY		-	
	CS12	SELECT parameter 12	EASY		-	
	CS13	SELECT parameter 13	EASY		-	
	CS14	SELECT parameter 14	EASY		-	
	CS15	SELECT parameter 15	EASY		-	
	CS16	SELECT parameter 16	EASY		-	
	CS17	SELECT parameter 17	EASY		-	
	CS18	SELECT parameter 18	EASY		-	
	CS19	SELECT parameter 19	EASY		-	

#### SP and Alarm Setpoint Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	Group 1	Group 2	Group 3	Group 4
						(SPNO.=1)	(SPNO.=2)	(SPNO.=3)	(SPNO.=4)
SP	SP	Target setpoint	EASY	0.0 to 100.0% of PV input range (EU) (Setting range: SPL to SPH)	SPL				
	SUB	Sub-target setpoint (in Two-position two-level control)	EASY	Set the offset from SP. -100.0 to 100.0% of PV input range span (EUS)	0.0 % of PV input range span				
	PIDN	PID number selection	EASY	1 to 4 (Depends on the PIDG. setting.)	Same as SP number.				
	A1	Alarm-1 setpoint	EASY	Set a display value of setpoint of PV alarm, SP alarm, deviation alarm, output alarm, or velocity alarm.	0				
	A2	Alarm-2 setpoint	EASY	-19999 to 30000 (Set a value within the input range.)	0				
	A4	Alarm-4 setpoint	EASY	Decimal point position depends on the input type.	0				

#### SP-related Setting

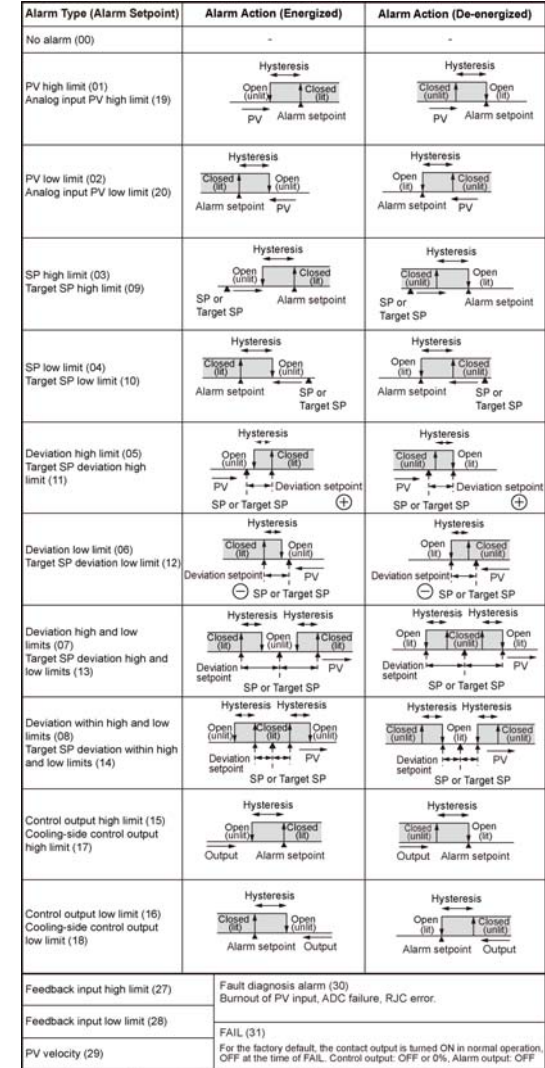
Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
SPS	RT	Remote input ratio	STD	0.001 to 9.999 (Displayed only in cases where the communication is specified.)	1.000	
	RBS	Remote input bias	STD	-100.0 to 100.0% of PV input range span (EUS) (Displayed only in cases where the communication is specified.)	0.0 % of PV input range span	
	UPR	SP ramp-up rate	EASY	OFF, 0.0 + 1 digit to 100.0% of PV input range span (EUS)	OFF	
	DNR	SP ramp-down rate	EASY	OFF	OFF	
	TMU	SP ramp-rate time unit	EASY	HOURL: Ramp-up rate or rampdown rate per hour MIN: Ramp-up rate or ramp-down rate per minute	HOURL	
	SPT	SP tracking selection	STD	OFF, ON	ON	
	PVT	PV tracking selection	STD	OFF, ON	OFF	

#### Alarm Function Setting

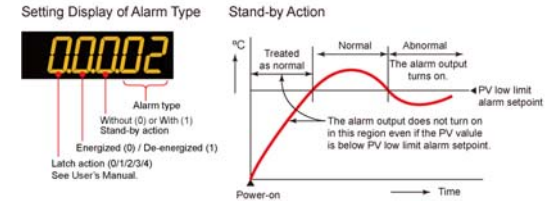
Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
ALRM	AL1	Alarm-1 type	EASY	Set a 5-digit value in the following order. [Alarm type: 2 digits (see below)] + [Without (0) or With (1) Stand-by action] + [Energized (0) or De-energized (1)] + [Latch action (0/1/2/3/4)]  Alarm type: 2 digits 00: Disable 01: PV high limit 02: PV low limit 03: SP high limit 04: SP low limit 05: Deviation high limit 06: Deviation low limit 07: Deviation high and low limits 08: Deviation within high and low limits 09: Target SP high limit 10: Target SP low limit 11: Target SP deviation high limit 12: Target SP deviation low limit 13: Target SP deviation high and low limits 14: Target SP deviation within high and low limits 15: OUT high limit 16: OUT low limit 17: Cooling-side OUT high limit 18: Cooling-side OUT low limit 19: Analog input PV high limit 20: Analog input PV low limit 27: Feedback input high limit 28: Feedback input low limit 29: PV velocity 30: Fault diagnosis 31: FAIL	PV high limit (01) Without Standby action (0) Energized (0) Latch action (0)	
	AL2	Alarm-2 type	EASY		PV low limit (02) Without Standby action (0) Energized (0) Latch action (0)	
	AL3	Alarm-3 type	EASY		PV high limit (01) Without Standby action (0) Energized (0) Latch action (0)	
	AL4	Alarm-4 type	EASY		PV low limit (02) Without Standby action (0) Energized (0) Latch action (0)	
	VT1	PV velocity alarm time setpoint 1	EASY		1.00	
	VT2	PV velocity alarm time setpoint 2	EASY		1.00	
	VT3	PV velocity alarm time setpoint 3	EASY		1.00	
	VT4	PV velocity alarm time setpoint 4	EASY		1.00	
	HY1	Alarm-1 hysteresis	EASY		10	
	HY2	Alarm-2 hysteresis	EASY		10	
	HY3	Alarm-3 hysteresis	EASY		10	
	HY4	Alarm-4 hysteresis	EASY		10	
	DYN1	Alarm-1 On-delay timer	STD		0.00	
	DYN2	Alarm-2 On-delay timer	STD		0.00	
	DYN3	Alarm-3 On-delay timer	STD		0.00	
	DYN4	Alarm-4 On-delay timer	STD		0.00	
	DYF1	Alarm-1 Off-delay timer	PRO		0.00	
	DYF2	Alarm-2 Off-delay timer	PRO		0.00	
	DYF3	Alarm-3 Off-delay timer	PRO		0.00	
	DYF4	Alarm-4 Off-delay timer	PRO		0.00	
	AMD	Alarm mode	STD		0	

#### PV-related Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
PVS	BS	PV input bias	EASY	-100.0 to 100.0% of PV input range span (EUS)	0.0 % of PV input range span	
	FL	PV input filter	EASY	OFF, 1 to 120 s	OFF	



Note 1: "Open/closed" shows status of relay contact, and "is/until" shows status of EV (event) lamp.  
Note 2: ⊕ Positive setpoint, ⊖ Negative setpoint



PID Setting						Group 1 (PIDN=1)	Group 2 (PIDN=2)	Group 3 (PIDN=3)	Group 4 (PIDN=4)
Menu	Symbol	Name	Display level	Setting range	Initial value	User setting	User setting	User setting	User setting
PID	P	Proportional band Heating-side proportional band (in Heating/cooling control)	EASY	0.0 to 999.9% When 0.0% is set, it operates as 0.1%. Heating-side ON/OFF control applies when 0.0% in Heating/cooling control	5.0%				
	I	Integral time Heating-side integral time (in Heating/cooling control)	EASY	OFF: Disable 1 to 6000 s	240 s				
	D	Derivative time Heating-side derivative time (in Heating/cooling control)	EASY	OFF: Disable 1 to 6000 s	60 s				
	OH	Control output high limit Heating-side control output high limit (in Heating/cooling control)	EASY	-4.9 to 105.0%, (OL<OH) In Heating/cooling control: 0.1 to 105.0% (OL<OH)	100.0%				
	OL	Control output low limit Heating-side control output low limit (in Heating/cooling control)	EASY	-5.0 to 104.9%, (OL<OH), SD:Tight shut In Heating/cooling control: 0.0 to 104.9% (OL<OH)	0.0%				
	MR	Manual reset	EASY	Enabled when integral time is OFF. The manual reset value equals the output value when PV = SP. -5.0 to 105.0%	50.0%				
	HYS	Hysteresis (in ON/OFF control, Position proportional control, or Two-position two-level control) Heating-side ON/OFF control hysteresis (in Heating/cooling control)	EASY	In ON/OFF control or Two-position two-level control: 0.0 to 100.0% of PV input range span (EUS) In Heating/cooling control or Position proportional control: 0.0 to 100.0%	In ON/OFF control or Two-position two-level control: 0.5 % of PV input range span In Heating/cooling control or Position proportional control: 0.5 %				
	SU.HY	Sub-hysteresis (in Two-position two-level control)	EASY	0.0 to 100.0% of PV input range span (EUS)	0.5 % of PV input range span				
	HY.UP	Upper-side hysteresis (in ON/OFF control)	EASY	0.0 to 100.0% of PV input range span (EUS)	0.5 % of PV input range span				
	HY.LO	Lower-side hysteresis (in ON/OFF control)	EASY		0.5 % of PV input range span				
	DR	Direct/reverse action switch	STD		RVS				
	SU.DR	Sub-direct/reverse action switch (in Two-position two-level control)	STD	RVS: Reverse action, DIR: Direct action	DIR				
	Pc	Cooling-side proportional band	EASY	0.0 to 999.9% (Cooling-side ON/OFF control applies when 0.0% in Heating/cooling control)	5.0%				
	Ic	Cooling-side integral time	EASY	OFF: Disable 1 to 6000 s	240 s				
	Dc	Cooling-side derivative time	EASY	OFF: Disable 1 to 6000 s	60 s				
	OHc	Cooling-side control output high limit	EASY	0.1 to 105.0%, (OLc<OHc)	100.0%				
	OLc	Cooling-side control output low limit	EASY	0.0 to 104.9%, (OLc<OHc)	0.0%				
	HYSc	Cooling-side ON/OFF control hysteresis	EASY	0.0 to 100.0%	0.5%				
	DB	Output dead band (in Heating/cooling control or Position proportional control)	EASY	In Heating/cooling control: -100.0 to 50.0% In Position proportional control: 1.0 to 10.0%	3.0%				
	PO	Preset output Heating-side preset output (in Heating/cooling control)	EASY	-5.0 to 105.0%	0.0%				
SU.PO	Sub-preset output (in Two-position two-level control)	EASY	0%, 100%	0%					
POc	Cooling-side preset output	EASY	-5.0 to 105.0%	0.0%					

Tuning						
Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
TUNE	SC	Super function	EASY	OFF: Disable 1: Overshoot suppressing function (normal mode) 2: Hunting suppressing function (stable mode) Enables to answer the wider characteristic changes compared with response mode. 3: Hunting suppressing function (response mode) Enables quick follow-up and short converging time of PV for the changed SP. 4: Overshoot suppressing function (strong suppressing mode)	OFF	
	AT.TY	Auto-tuning type	STD	0: Normal 1: Stability	0	
	AT.OH	Output high limit in auto-tuning	PRO		100.0%	
	AT.OL	Output low limit in auto-tuning	PRO	-5.0 to 105.0% (Disabled in Heating/cooling control)	0.0%	
	AT.BS	SP bias in autotuning	PRO	-100.0 to 100.0% of PV input range span (EUS)	0.0 % of PV input range span	
	AR	Anti-reset windup (excess integration prevention)	STD	AUTO, 50.0 to 200.0%	AUTO	
	OPR	Output velocity limiter	STD	OFF: Disable 0.1 to 100.0%/s	OFF	
	OLMT	Output limiter switch	PRO	OFF: Disable output limiter in MAN mode ON: Enable output limiter in MAN mode	ON	
	MPON	Manual preset output number selection	STD	OFF: Hold the control output in AUTO mode (bumpless) 1: Use manual preset output 1 (output bump) 2: Use manual preset output 2 (output bump) 3: Use manual preset output 3 (output bump) 4: Use manual preset output 4 (output bump) 5: Use manual preset output 5 (output bump)	OFF	
	MPO1	Manual preset output 1	STD		0.0%	
	MPO2	Manual preset output 2	STD		0.0%	
	MPO3	Manual preset output 3	STD	-5.0 to 105.0%	0.0%	
	MPO4	Manual preset output 4	STD		0.0%	
	MPO5	Manual preset output 5	STD		0.0%	

Zone Control						
Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
ZONE	RP1	Reference point 1	STD		100.0 % of PV input range	
	RP2	Reference point 2	STD	0.0 to 100.0% of PV input range (EU) (RP1 ≤ RP2 ≤ RP3)	100.0 % of PV input range	
	RP3	Reference point 3	STD		100.0 % of PV input range	
	RHY	Zone PID switching hysteresis	STD	0.0 to 10.0% of PV input range span (EUS)	0.5 % of PV input range span	
	RDV	Reference deviation	STD	OFF: Disable 0.0 + 1 digit to 100.0% of PV input range span (EUS)	OFF	

P Parameter						
Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
PPAR	P01	P01 Parameter	STD		0	
	P02	P02 Parameter	STD		0	
	P03	P03 Parameter	STD		0	
	P04	P04 Parameter	STD		0	
	P05	P05 Parameter	STD		0	
	P06	P06 Parameter	STD	-19999 to 30000 (Set a decimal point position using LL50A Parameter Setting Software.)	0	
	P07	P07 Parameter	STD		0	
	P08	P08 Parameter	STD		0	
	P09	P09 Parameter	STD		0	
	P10	P10 Parameter	STD		0	

# Setup Parameters

## Control Function Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
CTL	CNT	Control type	EASY	PID: PID control ONOF: ON/OFF control (1 point of hysteresis) ONOF2: ON/OFF control (2 points of hysteresis) 2P2L: Two-position two-level control H/C: Heating/cooling control	Standard type: PID Heating/cooling type: H/C	
	ALG	PID control mode	PRO	0: Standard PID control mode 1: Fixed-point control mode	0	
	SPGR.	Number of SP groups	STD	1 to 4	4	
	ALNO.	Number of alarms	PRO	1 to 4	4	
	ZON	Zone PID selection	STD	0: SP group number selection 1 1: Zone PID selection (selection by PV) 2: Zone PID selection (selection by target SP) 3: SP group number selection 2 4: Zone PID selection (selection by SP)	0	
	PIDG.	Number of PID groups	STD	1 to 4	4	

## PV Input Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
PV	IN	PV input type	EASY	OFF: Disable K1: -270.0 to 1370.0 (°C) / -450.0 to 2500.0 (°F) K2: -270.0 to 1000.0 (°C) / -450.0 to 2300.0 (°F) K3: -200.0 to 500.0 (°C) / -200.0 to 1000.0 (°F) J: -200.0 to 1200.0 (°C) / -300.0 to 2300.0 (°F) T1: -270.0 to 400.0 (°C) / -450.0 to 750.0 (°F) T2: 0.0 to 400.0 (°C) / -200.0 to 750.0 (°F) B: 0.0 to 1800.0 (°C) / 32 to 3300 (°F) S: 0.0 to 1700.0 (°C) / 32 to 3100 (°F) R: 0.0 to 1700.0 (°C) / 32 to 3100 (°F) N: -200.0 to 1300.0 (°C) / -300.0 to 2400.0 (°F) E: -270.0 to 1000.0 (°C) / -450.0 to 1800.0 (°F) L: -200.0 to 900.0 (°C) / -300.0 to 1600.0 (°F) U1: -200.0 to 400.0 (°C) / -300.0 to 750.0 (°F) U2: 0.0 to 400.0 (°C) / -200.0 to 1000.0 (°F) W: 0.0 to 2300.0 (°C) / 32 to 4200 (°F) PL2: 0.0 to 1390.0 (°C) / 32.0 to 2500.0 (°F) P2040: 0.0 to 1900.0 (°C) / 32 to 3400 (°F) WRE: 0.0 to 2000.0 (°C) / 32 to 3600 (°F) JPT1: -200.0 to 500.0 (°C) / -300.0 to 1000.0 (°F) JPT2: -150.0 to 150.0 (°C) / -200.0 to 300.0 (°F) PT1: -200.0 to 850.0 (°C) / -300.0 to 1560.0 (°F) PT2: -200.0 to 500.0 (°C) / -300.0 to 1000.0 (°F) PT3: -150.0 to 150.0 (°C) / -200.0 to 300.0 (°F) 0.4-2V: 0.400 to 2.000 V 1-5V: 1.000 to 5.000 V 4-20: 4.00 to 20.00 mA 0-2V: 0.000 to 2.000 V 0-10V: 0.00 to 10.00 V 0-20: 0.00 to 20.00 mA -1020: -10.00 to 20.00 mV 0-100: 0.0 to 100.0 mV Note: W: W-5% Re/W-26% Re (Hoskins Mfg. Co.), ASTM E988 WRE: W97Re3-W75Re25	OFF	
	UNIT	PV input unit	EASY	-: No unit C: Degree Celsius -: No unit --: No unit ---: No unit F: Degree Fahrenheit	C	
	RH	Maximum value of PV input range	EASY	Depends on the input type. - For temperature input - Set the temperature range that is actually controlled. (RL<RH) - For voltage / current input - Set the range of a voltage / current signal that is applied.	Depends on the input type	
	RL	Minimum value of PV input range	EASY	The scale across which the voltage / current signal is actually controlled should be set using the maximum value of input scale (SH) and minimum value of input scale (SL). (Input is always 0% when RL = RH.)	Depends on the input type	
	SDP	PV input scale decimal point position	EASY	0: No decimal place 1: One decimal place 2: Two decimal places 3: Three decimal places 4: Four decimal places	Depends on the input type	
	SH	Maximum value of PV input scale	EASY		Depends on the input type	
	SL	Minimum value of PV input scale	EASY	-19999 to 30000, (SL<SH),   SH - SL   ≤ 30000	Depends on the input type	
	BSL	PV input burnout action	STD	OFF: Disable UP: Upscale DOWN: Downscale	Depends on the input type	
	RJC	PV input reference junction compensation	PRO	OFF: RJC OFF ON: RJC ON	ON	
	ERJC	PV input external RJC setpoint	PRO	-10.0 to 60.0 (°C)	0.0	
	A.BS	PV analog input bias	STD	-100.0 to 100.0% of PV input range span (EUS)	0.0 % of PV input range span	
	A.FL	PV analog input filter	STD	OFF, 1 to 120 s	OFF	

## Input Range/SP Limiter Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
MPV	P.UNI	Control PV input unit	STD	-: No unit C: Degree Celsius -: No unit --: No unit ---: No unit F: Degree Fahrenheit	Same as PV input unit	
	P.DP	Control PV input decimal point position	STD	0: No decimal place 1: One decimal place 2: Two decimal places 3: Three decimal places 4: Four decimal places	Depends on the input type	
	P.RH	Maximum value of control PV input range	STD		Depends on the input type	
	P.RL	Minimum value of control PV input range	STD	-19999 to 30000, (P.RL<P.RH),   P.RH - P.RL   ≤ 30000	Depends on the input type	
	SPH	SP high limit	STD	0.0 to 100.0% of PV input range (EU), (SPL<SPH)	100.0 % of PV input range	
	SPL	SP low limit	STD		0.0 % of PV input range	

Output Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
OUT	OT	Output type selection	EASY	Control output or Heating-side control output (Lower two digits) 00: OFF 01: OUT terminals (voltage pulse) 02: OUT terminals (current) 03: OUT terminals (relay/triac) 06: OUT2 terminals (relay) 07: RET/OUT2 terminals (voltage pulse) 08: RET/OUT2 terminals (current) Cooling-side control output (Upper two digits) 00: OFF 01: OUT terminals (voltage pulse) 02: OUT terminals (current) 03: OUT terminals (relay/triac) 06: OUT2 terminals (relay) 07: RET/OUT2 terminals (voltage pulse) 08: RET/OUT2 terminals (current)	Standard type: 00.03 Heating/cooling type: 06.03	
	CT	Control output cycle time Heating-side control output cycle time (in Heating/cooling control)	EASY	0.5 to 1000.0 s	30.0 s	
	CTc	Cooling-side control output cycle time	EASY		30.0 s	
	V.AT	Automatic valve position adjustment	EASY	OFF: Stop automatic adjustment ON: Start automatic adjustment	OFF	
	V.RS	Valve position setting reset	EASY	Setting V.RS to ON resets the valve adjustment settings and causes the indication "V.RS" to blink.	OFF	
	V.L	Fully-closed valve position setting	EASY	Pressing the SET/ENTER key with valve position set to the fullyclosed position by Down arrow key causes the adjusted value to be stored. When V.L adjustment is complete, V.L stops blinking.	-	
	V.H	Fully-open valve position setting	EASY	Pressing the SET/ENTER key with valve position set to the fullyopened position by Up arrow key causes the adjusted value to be stored. When V.H adjustment is complete, V.H stops blinking.	-	
	TR.T	Valve travelling time	STD	5 to 300 s	60 s	
	V.MOD	Valve adjusting mode	STD	0: Valve position feedback type 1: Valve position feedback type (moves to the estimating type if a feedback input error or break occurs.) 2: Valve position estimating type	0	
	RTS	Retransmission output type of RET	EASY	OFF: Disable PV1: PV SP1: SP OUT1: OUT (Valve opening: 0 to 100 % in Position proportional control) LPS: 15 V DC loop power supply TSP1: Target SP HOUT1: Heating-side OUT COUT1: Cooling-side OUT MV1: Position proportional output internal computed value) PV: PV terminals analog input	PV1	
	RTH	Maximum value of retransmission output scale of RET	STD	When RTS = PV1, SP1, TSP1, or PV RTL + 1 digit to 30000 -19999 to RTH - 1 digit Decimal point position:	100 % of PV input range	
	RTL	Minimum value of retransmission output scale of RET	STD	When RTS=PV1, SP1, or TSP1, decimal point position is same as that of PV input. When RTS=PV, decimal point position is same as that of PV input scale.	0 % of PV input range	
	O1RS	Retransmission output type of OUT current output	STD	Same as RTS	OFF	
	O1RH	Maximum value of retransmission output scale of OUT current output	STD	When O1RS = PV1, SP1, TSP1, or PV O1RL + 1 digit to 30000 -19999 to O1RH - 1 digit Decimal point position:	-	
O1RL	Minimum value of retransmission output scale of OUT current output	STD	When O1RS=PV1, SP1, or TSP1, decimal point position is same as that of PV input. When O1RS =PV, decimal point position is same as that of PV input scale.	-		
OU.A	OUT current output range	STD	4-20: 4 to 20 mA 0-20: 0 to 20 mA 20-4: 20 to 4 mA 20-0: 20 to 0 mA	4-20		
RET.A	RET current output range	STD		4-20		

Heater Break Alarm Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
HBA	HB1.S	Heater break alarm-1 function selection	EASY	0: Heater current measurement	1	
	HB2.S	Heater break alarm-2 function selection	EASY	1: Heater break alarm (Heatingside) 2: Cooling-side heater break alarm	1	
	HB1	Heater break alarm-1 current setpoint	EASY	OFF, 0.1 to 300.0 Arms	OFF	
	HB2	Heater break alarm-2 current setpoint	EASY		OFF	
	CT1.T	CT1 coil winding number ratio	EASY	1 to 3300	800	
	CT2.T	CT2 coil winding number ratio	EASY		800	
	HDN1	Heater break alarm-1 Ondelay timer	STD		0.00	
	HDN2	Heater break alarm-2 Ondelay timer	STD		0.00	
	HDF1	Heater break alarm-1 Offdelay timer	PRO	0.00 to 99.59 (minute.second)	0.00	
	HDF2	Heater break alarm-2 Offdelay timer	PRO		0.00	
	HB1.D	Heater break alarm-1 contact type	PRO	CLS: When the event occurs, the contact is closed.	CLS	
	HB2.D	Heater break alarm-2 contact type	PRO	OPN: When the event occurs, the contact is opened.	CLS	

RS-485 Communication Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting	(E1 terminal area)	(E3 terminal area)
R485	PSL	Protocol selection	EASY	PCL: PC link communication PCLSM: PC link communication (with checksum) LADR: Ladder communication CO-M: Coordinated master station CO-S: Coordinated slave station MBASC: Modbus (ASCII) MBRTU: Modbus (RTU) CO-S1: Coordinated slave station (Loop-1 mode) CO-S2: Coordinated slave station (Loop-2 mode) P-P: Peer-to-peer communication	MBRTU			
	BPS	Baud rate	EASY	600: 600 bps 1200: 1200 bps 2400: 2400 bps 4800: 4800 bps 9600: 9600 bps 19200: 19.2k bps 38400: 38.4k bps	19200			
	PRI	Parity	EASY	NONE: None EVEN: Even ODD: Odd	EVEN			
	STP	Stop bit	EASY	1: 1 bit, 2: 2 bits	1			
	DLN	Data length	EASY	7: 7 bits, 8: 8 bits	8			
	ADR	Address	EASY	1 to 99	1			
	RP.T	Minimum response time	PRO	0 to 10 (x10ms)	0			

Ethernet Communication Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
ETHR	HSR	High-speed response mode	EASY	OFF, 1 to 8	1	
	BPS	Baud rate	EASY	9600: 9600 bps 19200: 19.2k bps 38400: 38.4k bps	38400	
	PRI	Parity	EASY	NONE: None EVEN: Even ODD: Odd	EVEN	
	IP1	IP address 1	EASY	0 to 255	192	
	IP2	IP address 2	EASY	0 to 255	168	
	IP3	IP address 3	EASY	0 to 255	1	
	IP4	IP address 4	EASY	0 to 255	1	
	SM1	Subnet mask 1	EASY	0 to 255	255	
	SM2	Subnet mask 2	EASY	0 to 255	255	
	SM3	Subnet mask 3	EASY	0 to 255	255	
	SM4	Subnet mask 4	EASY	0 to 255	0	
	DG1	Default gateway 1	EASY	0 to 255	0	
	DG2	Default gateway 2	EASY	0 to 255	0	
	DG3	Default gateway 3	EASY	0 to 255	0	
	DG4	Default gateway 4	EASY	0 to 255	0	
	PRT	Port number	EASY	502, 1024 to 65535	502	
	IPAR	IP access restriction	EASY	OFF: Disable, ON: Enable	OFF	
	1.IP1	Permitted IP address 1-1	EASY	0 to 255	255	
	1.IP2	Permitted IP address 1-2	EASY	0 to 255	255	
	1.IP3	Permitted IP address 1-3	EASY	0 to 255	255	
	1.IP4	Permitted IP address 1-4	EASY	0 to 255	255	
	2.IP1	Permitted IP address 2-1	EASY	0 to 255	255	
	2.IP2	Permitted IP address 2-2	EASY	0 to 255	255	
	2.IP3	Permitted IP address 2-3	EASY	0 to 255	255	
	2.IP4	Permitted IP address 2-4	EASY	0 to 255	255	
	ESW	Ethernet setting switch	EASY	OFF, ON Setting this parameter to "ON" enables the Ethernet communication parameter settings. * The parameter ESW automatically returns to "OFF" after "ON" is set.	OFF	

When each parameter is displayed, the terminal area (E3) is displayed on Group display.



**PROFIBUS-DP Communication Setting**

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
PROF	BR	Baud rate	EASY	9.6K: 9.6k bps 19.2K: 19.2k bps 93.75K: 93.75k bps 187.5K: 187.5k bps 0.5M: 0.5M bps 1.5M: 1.5M bps 3M: 3M bps 6M: 6M bps 12M: 12M bps AUTO 45.45K: 45.45k bps	AUTO	
	ADR	Address	EASY	0 to 125	3	
	BPS	Baud rate	EASY	9600: 9600 bps 19200: 19.2k bps 38400: 38.4k bps	38400	
	FILE	Profile number	EASY	0 to 3	0	
	SCAN	Automatic rescan time	PRO	OFF 1M: 1 minute 10M: 10 minutes 30M: 30 minutes 60M: 60 minutes	OFF	

When each parameter is displayed, the terminal area (E3) is displayed on Group display.

**DeviceNet Communication Setting**

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
DNET	BR	Baud rate	EASY	125K: 125k bps 250K: 250k bps 500K: 500k bps	125K	
	ADR	Address	EASY	0 to 63	63	
	BPS	Baud rate	EASY	9600: 9600 bps 19200: 19.2k bps 38400: 38.4k bps	38400	
	FILE	Profile number	EASY	0 to 3	0	
	SCAN	Automatic rescan time	PRO	OFF 1M: 1 minute 10M: 10 minutes 30M: 30 minutes 60M: 60 minutes	OFF	

When each parameter is displayed, the terminal area (E3) is displayed on Group display.

**CC-Link Communication Setting**

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
CC-L	BR	Baud rate	EASY	156K: 156k bps 625K: 625k bps 2.5M: 2.5M bps 5M: 5M bps 10M: 10M bps	10M	
	ADR	Address	EASY	1 to 64	1	
	BPS	Baud rate	EASY	9600: 9600 bps 19200: 19.2k bps 38400: 38.4k bps	38400	
	FILE	Profile number	EASY	0 to 3 (0, 1: Ver.1.10) (2, 3: Ver.2.00)	0	
	SCAN	Automatic rescan time	PRO	OFF 1M: 1 minute 10M: 10 minutes 30M: 30 minutes 60M: 60 minutes	OFF	

When each parameter is displayed, the terminal area (E3) is displayed on Group display.

**Key Action Setting**

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
KEY	F1	User function key-1 action setting	EASY	OFF: Disable A/M: AUTO/MAN switch R/L1: REM/LCL switch S/R: STOP/RUN switch AUTO: Switch to AUTO MAN: Switch to MAN	OFF	
	F2	User function key-2 action setting	EASY	REM1: Switch to REM LCL1: Switch to LCL STOP: Switch to STOP RUN: Switch to RUN AT: Auto-tuning LTUP: LCD brightness UP LTDN: LCD brightness DOWN	OFF	
	Fn	User function key-n action setting	EASY	BRI: Adjust LCD brightness LCD: LCD backlight ON/OFF switch LAT: Latch release PID: PID tuning switch	PID	
	A/M	A/M key action setting	PRO	OFF: Disable A/M: AUTO/MAN switch R/L1: REM/LCL switch S/R: STOP/RUN switch AUTO: Switch to AUTO MAN: Switch to MAN	A/M	

Display Function Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
DISP	PCMD	Active color PV display switch	EASY	0: Fixed in white 1: Fixed in red 2: Link to alarm 1 (Alarm OFF: white, Alarm ON: red) 3: Link to alarm 1 (Alarm OFF: red, Alarm ON: white) 4: Link to alarm 1 or 2 (Alarm OFF: white, Alarm ON: red) 5: Link to alarm 1 or 2 (Alarm OFF: red, Alarm ON: white) 6: PV limit (Within range: white, Out of range: red) 7: PV limit (Within range: red, Out of range: white) 8: SP deviation (Within deviation: white, Out of deviation: red) 9: SP deviation (Within deviation: red, Out of deviation: white) 10: Link to DI (ON: red, OFF: white)	0	
	PCH	PV color change high limit	EASY	Set a display value when in PV limit or SP deviation. -19999 to 30000 (Set a value within the input range.) Decimal point position depends on the input type.	0	
	PCL	PV color change low limit	EASY		0	
	BAR1	Bar-graph display registration	STD	0: Disable 1: OUT, Heating-side OUT, Internal value in Position proportional control 2: Cooling-side OUT 3: PV 4: SP 5: Deviation 6 to 16: Disable 17: Feedback input (valve opening) 18: PV terminals analog input	5 (Heating/cooling type: 1)	
	BDV	Bar-graph deviation display band	STD	0.0 to 100.0% of PV input range span (EUS)	10.0 % of PV input range span	
	EV1	EV1 display condition registration	PRO	Setting range: 4001 to 6304 OFF: Disable 4321: Link to alarm 1 (Lit when the alarm occurs) 4322: Link to alarm 2 (Lit when the alarm occurs) 4323: Link to alarm 3 (Lit when the alarm occurs) 4325: Link to alarm 4 (Lit when the alarm occurs)	4321	
	EV2	EV2 display condition registration	PRO	4529: Heater break alarm 1 (Lit when the alarm occurs) 4530: Heater break alarm 2 (Lit when the alarm occurs) 5025 to 5026: Link to DI1-DI2 (Lit when the contact is closed)	4322	
	EV3	EV3 display condition registration	PRO	5041 to 5045: Link to DI11-DI15 (E1-terminal area) (Lit when the contact is closed) 5153 to 5155: Link to AL1-AL3 (Lit when the contact is closed) 5169 to 5170: Link to DO11-DO12 (E1-terminal area) (Lit when the contact is closed)	4323	
	EV4	EV4 display condition registration	PRO	5217 to 5221: Link to DO41-DO45 (E4-terminal area) (Lit when the contact is closed) For other functions, see the UTAdvanced Series Communication Interface User's Manual.	4325	
	PV.D	PV display area ON/OFF	PRO		ON	
	SP.D	Setpoint display area ON/OFF	PRO	OFF: Nondisplay, ON: Display	ON	
	STS.D	Status display area ON/OFF	PRO		ON	
	SPD	Scroll speed	PRO	(Slow) 1 to 8 (Quick)	4	
	GUID	Guide display ON/OFF	STD	OFF: Nondisplay ON: Display	ON	
	HOME	Home Operation Display setting	PRO	SP1: SP Display OUT1: OUT Display HCO: Heating/cooling OUT Display VP: Valve Position Display MV: Position Proportional Computation Output Display PID1: PID Number Display HC1: Heater Break Alarm-1 Current Display HC2: Heater Break Alarm-2 Current Display PV: PV Analog Input Display CS1 to CS5: SELECT Display 1 to 5	SP1	
	ECO	Economy mode	STD	OFF: Disable 1: Economy mode ON (All indications except PV display OFF) 2: Economy mode ON (All indications OFF) 3: Brightness 10 % (All indications)	OFF	
	BRI	Brightness	EASY	(Dark) 1 to 5 (Bright)	3	
	B.PVW	White brightness adjustment of PV display	PRO	Adjusts the white brightness of PV display. (Dark) -4 to 4 (Bright)	0	
	B.PVR	Red brightness adjustment of PV display	PRO	Adjusts the red brightness of PV display. (Dark) -4 to 4 (Bright)	0	
B.SP	Brightness adjustment of Setpoint display	PRO	Adjusts the brightness of SP display. (Dark) -4 to 4 (Bright)	0		
B.BAR	Brightness adjustment of Bargraph display	PRO	Adjusts the brightness of Bargraph display. (Dark) -4 to 4 (Bright)	0		
B.STS	Brightness adjustment of Status indicator	PRO	Adjusts the brightness of Status indicator. (Dark) -4 to 4 (Bright)	0		
D.CYC	Display update cycle	PRO	1: 100 ms 2: 200 ms 3: 500 ms 4: 1 s 5: 2 s	2		
OP.JP	Autoreturn to operation display	PRO	Automatically returned to the Operation Display when there has been no keystroke operation for 5 minutes. OFF, ON	ON		
M.LSD	Least significant digital mask of PV display	STD	OFF: With least significant digit ON: Without least significant digit	OFF		

SELECT Display Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
CSEL	CS1	SELECT Display-1 registration	STD	OFF, 2301 to 5000 For the D register number, see the UTAdvanced Series Communication Interface User's Manual	OFF	
	CS2	SELECT Display-2 registration	STD		OFF	
	CS3	SELECT Display-3 registration	STD	Main registration parameters - Group 1 (SPNO = 1)	OFF	
	CS4	SELECT Display-4 registration	STD	Alarm-1 setpoint (A1): 2504, Alarm-2 setpoint (A2): 2505, Alarm-3 setpoint (A3): 2506, Alarm-4 setpoint (A4): 2507,	OFF	
	CS5	SELECT Display-5 registration	STD	Control output high limit (OH): 3004, Control output low limit (OL): 3005, Cooling-side control output high limit (OHC):	OFF	
	CS10	SELECT parameter-10 registration	PRO	3016, Cooling-side control output low limit (OLC): 3017 - Group 2 (SPNO = 2)	OFF	
	CS11	SELECT parameter-11 registration	PRO	Alarm-1 setpoint (A1): 2524, Alarm-2 setpoint (A2): 2525, Alarm-3 setpoint (A3): 2526, Alarm-4 setpoint (A4): 2527, Control output high limit (OH): 3054, Control output low limit (OL): 3055,	OFF	
	CS12	SELECT parameter-12 registration	PRO	Cooling-side control output high limit (OHC): 3066, Cooling-side control output low limit (OLC): 3067 - Group 3 (SPNO = 3)	OFF	
	CS13	SELECT parameter-13 registration	PRO	Alarm-1 setpoint (A1): 2544, Alarm-2 setpoint (A2): 2545, Alarm-3 setpoint (A3): 2546, Alarm-4 setpoint (A4): 2547, Control output high limit (OH): 3104, Control output low limit (OL): 3105, Cooling-side control output high limit (OHC): 3116, Cooling-side control output low limit (OLC): 3117 - Group 4 (SPNO = 4)	OFF	
	CS14	SELECT parameter-14 registration	PRO		OFF	
	CS15	SELECT parameter-15 registration	PRO		OFF	
	CS16	SELECT parameter-16 registration	PRO	Alarm-1 setpoint (A1): 2564, Alarm-2 setpoint (A2): 2565, Alarm-3 setpoint (A3): 2566, Alarm-4 setpoint (A4): 2567, Control output high limit (OH): 3154, Control output low limit (OL): 3155, Cooling-side control output high limit (OHC):	OFF	
	CS17	SELECT parameter-17 registration	PRO	3166, Cooling-side control output low limit (OLC): 3167	OFF	
	CS18	SELECT parameter-18 registration	PRO	SP ramp-up rate (UPR): 2705, SP ramp-down rate (DNR): 2706 Remote input ratio (RT): 2703	OFF	
	CS19	SELECT parameter-19 registration	PRO		OFF	

Key Lock Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
KLOC	U.SP	SP Display lock	PRO		OFF	
	U.OUT	OUT Display lock	PRO		OFF	
	U.HCO	Heating/cooling OUT Display lock	PRO		OFF	
	U.VP	Valve Position Display lock	PRO		OFF	
	U.MV	Position Proportional Computation Output Display lock	PRO	OFF: Display ON: Nondisplay	ON	
	U.PID	PID Number Display lock	PRO		ON	
	U.HC	Heater Break Alarm Current Value Display lock	PRO		OFF	
	U.PV	PV Analog Input Display lock	PRO		ON	
	COM.W	Communication write enable/disable	STD	OFF: Enable, ON: Disable	OFF	
	DATA	Front panel parameter data key lock	STD	OFF: Unlock	OFF	
	A/M	Front panel A/M key lock	STD	ON: Lock	OFF	



Menu Lock Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
MLOC	CTL	[CTL] menu lock	PRO	OFF: Display ON: Nondisplay	OFF	
	PV	[PV] menu lock	PRO		OFF	
	MPV	[MPV] menu lock	PRO		OFF	
	OUT	[OUT] menu lock	PRO		OFF	
	HBA	[HBA] menu lock	PRO		OFF	
	R485	[R485] menu lock	PRO		OFF	
	ETHR	[ETHR] menu lock	PRO		OFF	
	PROF	[PROF] menu lock	PRO		OFF	
	DNET	[DNET] menu lock	PRO		OFF	
	CC-L	[CC-L] menu lock	PRO		OFF	
	KEY	[KEY] menu lock	PRO		OFF	
	DISP	[DISP] menu lock	PRO		OFF	
	CSEL	[CSEL] menu lock	PRO		OFF	
	KLOC	[KLOC] menu lock	PRO		OFF	
	DI.SL	[DI.SL] menu lock	PRO		OFF	
	DI.NU	[DI.NU] menu lock	PRO		OFF	
	DI.D	[DI.D] menu lock	PRO		OFF	
	ALM	[ALM] menu lock	PRO		OFF	
	DO	[DO] menu lock	PRO		OFF	
	I/O	[I/O] menu lock	PRO		OFF	
SYS	[SYS] menu lock	PRO	OFF			
INIT	[INIT] menu lock	PRO	OFF			
VER	[VER] menu lock	PRO	OFF			
LVL	[LVL] menu lock	PRO	OFF			
MODE	[MODE] menu lock	PRO	OFF			
CS	[CS] menu lock	PRO	OFF			
SP	[SP] menu lock	PRO	OFF			
SPS	[SPS] menu lock	PRO	OFF			
ALRM	[ALRM] menu lock	PRO	OFF: Display ON: Nondisplay	OFF		
PVS	[PVS] menu lock	PRO	OFF			
PID	[PID] menu lock	PRO	OFF			
TUNE	[TUNE] menu lock	PRO	OFF			
ZONE	[ZONE] menu lock	PRO	OFF			
PPAR	[PPAR] menu lock	PRO	OFF			

When each parameter is displayed, the terminal area (E1 to E4) is displayed on Group display.  
 • Parameter: R485, ETHR, PROF, DNET, CC-L, DI.D, DO

DI Function Registration

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
DI.SL	A/M	AUTO/MAN switch	STD	Set an I relay number of contact input. Set "OFF" to disable the function.  Standard terminals D11: 5025, D12: 5026 E1-terminal area D111: 5041, D112: 5042, D113: 5043, D114: 5044, D115: 5045 E4-terminal area D141: 5089, D142: 5090, D143: 5091, D144: 5092, D145: 5093	5025	
	R/L	REMOTE/LOCAL switch	STD		OFF	
	S/R	STOP/RUN switch	STD		5026	
	AUTO	Switch to AUTO	STD		OFF	
	MAN	Switch to MAN	STD		OFF	
	REM	Switch to REMOTE	STD		OFF	
	LCL	Switch to LOCAL	STD		OFF	
	AT	Auto-tuning START/STOP switch	STD		OFF	
	LAT	Latch release	STD		OFF	
	LCD	LCD backlight ON/OFF switch	STD		OFF	
	PVRW	PV red/white switch	STD		OFF	
	MG1	Message display interruption 1	PRO		OFF	
	MG2	Message display interruption 2	PRO		OFF	
	MG3	Message display interruption 3	PRO		OFF	
MG4	Message display interruption 4	PRO	OFF			

DI Function Numbering

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
DI.NU	SP.BO	Bit-0 of SP number	EASY	Set an I relay number of contact input. Set "OFF" to disable the function.  Standard terminals D11: 5025, D12: 5026 E1-terminal area D111: 5041, D112: 5042, D113: 5043, D114: 5044, D115: 5045 E4-terminal area D141: 5089, D142: 5090, D143: 5091, D144: 5092, D145: 5093	OFF	
	SP.B1	Bit-1 of SP number	EASY		OFF	
	SP.B2	Bit-2 of SP number	EASY		OFF	
	PN.BO	Bit-0 of PID number	STD		OFF	
	PN.B1	Bit-1 of PID number	STD		OFF	
	PN.B2	Bit-2 of PID number	STD		OFF	
	MP.BO	Bit-0 of manual preset output number	STD		OFF	
	MP.B1	Bit-1 of manual preset output number	STD		OFF	
	MP.B2	Bit-2 of manual preset output number	STD		OFF	
	SP.BC	Bit changing method of SP number	STD		0	
	PN.BC	Bit changing method of PID number	PRO		0: Status switch 1 1: Status switch 2	0
MP.BC	Bit changing method of manual preset output number	PRO	0			

DI1-DI2 Contact Type Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
DI.D	DI1.D	DI1 contact type	PRO	0: The assigned function is enabled when the contact input is closed.	0	
	DI2.D	DI2 contact type	PRO	1: The assigned function is enabled when the contact input is opened.	0	

DI Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	(E1 terminal area) (D111-D115) User setting	(E4 terminal area) (D141-D145) User setting
DI.D	DI1.D	DIn1 contact type	PRO	0: The assigned function is enabled when the contact input is closed. 1: The assigned function is enabled when the contact input is opened.	0		
	DI2.D	DIn2 contact type	PRO		0		
	DI3.D	DIn3 contact type	PRO		0		
	DI4.D	DIn4 contact type	PRO		0		
	DI5.D	DIn5 contact type	PRO		0		

n: Terminal area number (1 to 4)

AL1-AL3 Function Registration

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting	
ALM	AL1.S	AL1 function selection	STD	Set an I relay number. Setting range: 4001 to 6000 No function: OFF Alarm 1: 4353 Alarm 2: 4354 Alarm 3: 4355 Alarm 4: 4357  AUTO (ON) / MAN (OFF) status: 4193 REM (ON) / LCL (OFF) status: 4194 STOP (ON) / RUN (OFF) status: 4195 FAIL (Normally ON) output: 4256	4353		
	AL2.S	AL2 function selection	STD		4354		
	AL3.S	AL3 function selection	STD		4355		
	OR.S	OUT relay function selection	STD		OFF		
	OR2.S	OUT2 relay function selection	STD		OFF		
	AL1.D	AL1 contact type	PRO		0: When the event of assigned function occurs, the contact output is closed.	0	
	AL2.D	AL2 contact type	PRO		1: When the event of assigned function occurs, the contact output is opened.	0	
	AL3.D	AL3 contact type	PRO			0	
OR.D	OUT relay contact type	PRO	0: When the event of assigned function occurs, the contact output is closed.	0			
OR2.D	OUT2 relay contact type	PRO	1: When the event of assigned function occurs, the contact output is opened.	0			

DO Setting

Menu	Symbol	Name	Display level	Setting range	Initial value	(E1 terminal area) (DO11-DO15) User setting	(E4 terminal area) (DO41-DO45) User setting
DO	DO1.S	DOn1 function selection	STD	Same as AL1.S. Initial value of E1 and E3 terminal area All DO settings are OFF.	OFF		
	DO2.S	DOn2 function selection	STD		OFF		
	DO3.S	DOn3 function selection	STD		OFF		
	DO4.S	DOn4 function selection	STD		OFF		
	DO5.S	DOn5 function selection	STD		OFF		
	DO1.D	DOn1 contact type	PRO		0: When the event of assigned function occurs, the contact output is closed. 1: When the event of assigned function occurs, the contact output is opened.	0	
	DO2.D	DOn2 contact type	PRO			0	
	DO3.D	DOn3 contact type	PRO			0	
	DO4.D	DOn4 contact type	PRO			0	
	DO5.D	DOn5 contact type	PRO			0	

n: Terminal area number (1 to 4)

I/O Display

Menu	Symbol	Name	Display level	Setting range
I/O	KEY	Key status	PRO	Read only See User's Manual.
	X000	DI1-DI2 status (equipped as standard)	PRO	
	X100	DI11-DI15 status (E1-terminal area)	PRO	
	X400	DI41-DI45 status (E4-terminal area)	PRO	
	Y000	AL1-AL3 status (equipped as standard)	PRO	
	Y100	DO11-DO12 status (E1-terminal area)	PRO	
	Y400	DO41-DO45 status (E4-terminal area)	PRO	

**System Setting**

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
SYS	R.MD	Restart mode	STD	CONT: Continue action set before power failure. MAN: Start from MAN. AUTO: Start from AUTO.	CONT	
	R.TM	Restart timer	STD	0 to 10 s	0	
	EPO	Input error preset output	STD	0: Preset output 1: 0% output 2: 100% output	0	
	C.GRN	Response as GREEN Series	PRO	OFF: Works as UT35A/UT32A in communication of device information response or broadcasting. ON: Works as GREEN Series in communication of device information response or broadcasting.	OFF	
	FREQ	Power frequency	EASY	AUTO, 60: 60 Hz, 50: 50 Hz	AUTO	
	QSM	Quick setting mode	EASY	OFF: Disable ON: Enable	ON	
	LANG	Guide display language	EASY	ENG: English FRA: French GER: German SPA: Spanish	Depends on the Model and Suffix Codes	
	PASS	Password setting	EASY	0 (No password) to 65535 Once a password is set, you can no longer choose not to set a password.	0	
	SMEC	Sampling period error counter	PRO	0 to 65535 (display only)	0 when power is turned on.	

**Initialization**

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
INIT	U.DEF	Initialization to user default value	PRO	12345: Initialization, automatically returned to "0" after initialization.	0	
	F.DEF	Initialization to factory default value	PRO	-12345: Initialization, automatically returned to "0" after initialization.	0	

**Error and Version Confirmation**

Menu	Symbol	Name	Display level	Setting range
VER	PA.ER	Parameter error status	EASY	Read only See User's Manual
	OP.ER	Option error status	EASY	
	AD1.E	A/D converter error status 1	EASY	
	AD2.E	A/D converter error status 2	EASY	
	PV1.E	PV input error status	EASY	
	LA.ER	Ladder error status	EASY	
	MCU	MCU version	EASY	
	DCU	DCU version	EASY	
	ECU1	ECU-1 version	EASY	
	ECU3	ECU-3 version	EASY	
	ECU4	ECU-4 version	EASY	
	PARA	Parameter version	EASY	
	H.VER	Product version	EASY	
	SER1	Serial number 1	EASY	
	SER2	Serial number 2	EASY	
	MAC1	MAC address 1	EASY	
	MAC2	MAC address 2	EASY	
MAC3	MAC address 3	EASY		

When the following parameters are displayed, the terminal area (E1 to E4) is displayed on Group display.  
 • Parameter: ECU1, ECU2, ECU3, ECU4, MAC1, MAC2 and MAC3

**Parameter Display Level**

Menu	Symbol	Name	Display level	Setting range	Initial value	User setting
LVL	LEVL	Parameter display level	EASY	EASY: Easy setting mode STD: Standard setting mode PRO: Professional setting mode	STD	