Level 2 Mode

- The parameters in this mode can be used only when the “security” parameter (protect mode) is set to “0” to “2”.
- This mode contains the auxiliary parameters for adjusting control. These parameters include parameters for limiting the manipulated variable, parameters for switching between remote and local operation, and parameters for setting the LBA (Loop Break Alarm), alarm hysteresis, and input digital filter values.
- To select this mode, press the [⟲] key for 1 second minimum. The display changes to the menu display. If you select [Lu-2] pressing the [∧∧] and [∨∨] keys, and then press the [⟲] key for 1 second minimum, the controller enters the level 2 mode.
- To select parameters in this mode, press the [⟲] key. To change parameter settings, use the [∧∧] or [∨∨] keys.
- The following table shows the parameters supported in this mode and the page where the parameter is described.

Symbol	Parameter Name	See
r-L	Remote/Local	Below
Stb	Standby time	Below
LbA	LBA detection time	Below
ou-r	MV at reset	Below
ou-E	MV at PV error	Below
oL-H	MV upper limit	Below
oL-L	MV lower limit	Below
orL	MV change rate limit	Below
inF	Input digital filter	Below
ALH1	Alarm 1 hysteresis	Below
ALH2	Alarm 2 hysteresis	Below
ALH3	Alarm 3 hysteresis	Below
inSH	Input shift upper limit	Below
inSL	Input shift lower limit	Below

r-L Remote/Local

Conditions of Use

The communications function must be in use.

Function

- Switches between remote and local operation.
- To change the parameter setting during remote operation, use the communications function. To change the parameter setting during local operation, change the setting on the E5CK-T controller. You can check the parameter setting by both communications and on the E5CK-T controller regardless of whether the controller is switched to remote or local operation.

Comment

Setting Range	Default
"rmt": remote / "L	LCL

See

● Related description
Chapter 6 Using the Communications Functions

● Related parameters
"Communication stop bit" "Communication data length" "Communication parity" "Communication baud rate" "Communication unit No." "Event input assignment 1" (option mode)

Model

● Option units
E53-CK01/03

Stb Standby time

Function

- Sets the time until program operation is started after the run instruction is issued.


Comment

Setting Range	Unit	Default
0.00 to 99.59	Hour, minute	0.00


See

- Related description
  4.6 Setting Running Conditions/Starting the program run/ Standby operation.
- Related parameter
  "Standby time monitor" (level 0 mode)
-

LbA LBA detection time

Conditions of Use
The LBA (Loop Break Alarm) function must be assigned as an output.


Function

- This parameter is automatically set by AT execution.
- The LBA is output if the change width of the process value falls below 0.2 %full-scale of the time preset to this parameter when the manipulated variable is set in the "MV upper limit" or "MV lower limit" parameters.
- The LBA function is disabled when this parameter is set to "0".


Comment

Setting Range	Unit	Default
0 to 9999	Second	0


See

- Related description
  4.8 LBA
  8.3 How to Use Error Output
- Related parameters
  "AT Execute/Cancel" (level 1 mode)
  "Control output 1 assignment" "Control output 2 assignment" "Auxiliary output 1 assignment" (setup mode)

oU-r MV at reset

oU-E MV at PV error

Conditions of Use
Advanced PID control.

Function

- The “MV at reset” parameter sets the manipulated variable when operation has stopped.
- The “MV at PV error” parameter sets the manipulated variable when an input error occurs.

Comment

Control Method	Setting Range	Unit	Default
Standard	-5.0 to 105.0	%	0.0
Heating and cooling	-105.0 to 105.0	%	0.0

The manipulated variable at the cooling side during heating and cooling control is expressed as a negative value.

See

● Related description
MV at reset : 3.7 Starting and Stopping Operation
MV at PV error : 8.2 How to Use the Error Display

●

MV upper limit

MV lower limit

MV change rate limit

Conditions of Use
The control must be advanced PID control.

Function

- The “MV upper limit” and “MV lower limit” parameters set the upper and lower limits of the manipulated variable. When the manipulated variable calculated by the E5CK-T controller strays from the upper- and lower-limit range, the upper limit or lower limit set to these parameters is output, respectively.
- The “MV change rate limit” parameter sets the maximum permissible change width per second of the manipulated variable. If a

change in the manipulated variable causes this parameter setting to be exceeded, the calculated value is reached while changing the value by the per-second value set in this parameter.
This function is disabled when the set value is “0.0”.


Comment

- MV upper limit
  The setting ranges during standard control and heating and cooling control are different.

Control Method	Setting Range	Unit	Default
Standard	MV lower limit +0.1 to 105.0	%	105.0
Heating and cooling	0.0 to 105.0	%	105.0

The manipulated variable at the cooling side during heating and cooling control is expressed as a negative value.

- MV lower limit
  The setting ranges during standard control and heating and cooling control are different.

Control Method	Setting Range	Unit	Default
Standard	-5.0 to MV upper limit -0.1	%	-5.0
Heating and cooling	-105.0 to 0.0	%	-105.0

The manipulated variable at the cooling side during heating and cooling control is expressed as a negative value.

- MV change rate limit

Setting Range	Unit	Default
0.0 to 100.0	%/S	0.0


See

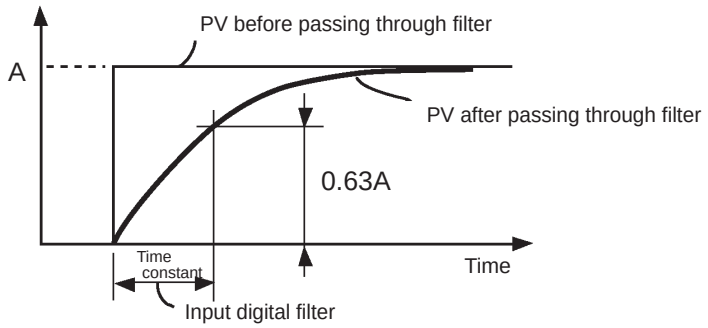
● Related description
4.2 Operating Condition Restrictions/Manipulated variable restrictions

●

inF Input digital filter

Function

- Sets the time constant of the input digital filter. The following figures shows the effect on data after passing through the digital filter.



Comment

Setting Range	Unit	Default
0 to 9999	Second	0

ALH1 Alarm 1 hysteresis

ALH2 Alarm 2 hysteresis

ALH3 Alarm 3 hysteresis

Conditions of Use

Alarms must be assigned as output. For example, if alarm outputs 1 and 2 only are assigned as outputs, the “alarm 3 hysteresis” parameter cannot be used.

Function

- Sets the hysteresis of alarm outputs 1 to 3.

Comment

Setting Range	Unit	Default
0.01 to 99.99	%FS	0.02

See

● Related description

3.4 Setting Alarm Type

● Related parameters

“Alarm 1 type” “Alarm 2 type” “Alarm 3 type” “Alarm 1 open in alarm” “Alarm 2 open in alarm” “Alarm 3 open in alarm” (setup mode)

“Alarm value 1” “Alarm value 2” “Alarm value 3” (Program mode)

InSH Input shift upper limit

InSL Input shift lower limit

Conditions of Use

The input type must be set to temperature input (thermocouple or platinum resistance thermometer).

Function

- Sets each of the shift amounts for the input shift upper and lower limit values.

Comment

Setting Range	Unit	Default
-199.9 to 999.9	°C or °F	0.0

See

- Related description
  3.2 Setting Input Specifications
- Related parameter
  “Input type” (setup mode)