























(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 [L u - 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
	Remote/Local	Below
	Standby time	Below
	LBA detection time	Below
	MV at reset	Below
	MV at PV error	Below
	MV upper limit	Below
	MV lower limit	Below
	MV change rate limit	Below
	Input digital filter	Below
	Open/close hysteresis	Below
	Alarm 1 hysteresis	Below
	Alarm 2 hysteresis	Below
	Alarm 3 hysteresis	Below
	Input shift upper limit	Below
	Input shift lower limit	Below



## 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 E5AK-T controller. You can check the parameter setting by both communications and on the E5AK-T controller regardless of whether the controller is switched to remote or local operation.
- When the event input to which “remote/local” is assigned is ON, the controller switches to the remote mode. When the event input is OFF, the controller switches to the local mode.



Comment

Setting Range	Default
“ r l ”: remote / “ L L L ”: local	L L L



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” “Event input assignment 2” “Event input assignment 3” “Event input assignment 4” (option mode)



Model

- Option units  
E53-AK01/02/03



## 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  
4–7 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  
4–10 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” “Auxiliary output 2 assignment” (setup mode)

# MV-r

## MV at reset

# MV-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 on a standard type controller. On a position-proportional type controller, this parameter sets the action (close/hold/open) when operation has stopped.
- The “MV at PV error” parameter sets the manipulated variable when an input error occurs. On a position-proportional type controller, this parameter sets the action (close/hold/open) when an input error occurs.



Comment

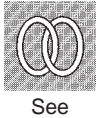
- Standard type

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.

- Position-proportional type

Setting Range	Unit	Default
"H <sub>OL</sub> d": Hold/" <sub>OP</sub> E <sub>n</sub> ": Open/" <sub>CL</sub> <sub>OS</sub> ": Close	None	H <sub>OL</sub> d



See

● Related description

MV at reset : 3–7 Starting and Stopping Operation

MV at PV error : 8–2 How to Use the Error Display

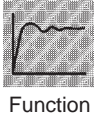
**<sub>OL</sub>-H** MV upper limit

**<sub>OL</sub>-L** MV lower limit

**<sub>OR</sub>L** 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 E5AK-T controller strays from the upper- and lower-limit range, the upper limit or lower limit set to these parameters is output, respectively. However, note that these parameters are disabled during position-proportional control.

- The “MV change rate limit” parameter sets the maximum permissible change width per second of the manipulated variable (on the position-proportional control, valve opening). If a change in the manipulated variable (on the position-proportional control, valve opening) 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.

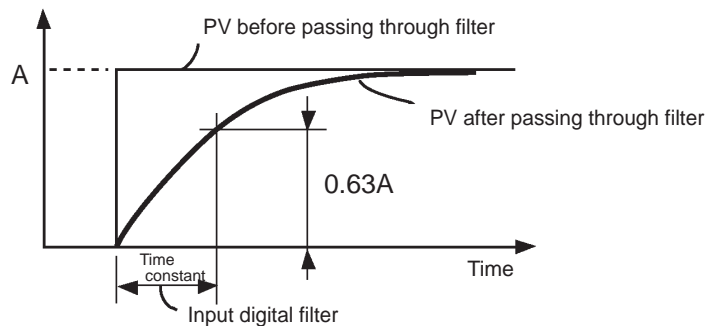
INF

## 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

OC-H

## Open/close hysteresis

### Conditions of Use

The control must be position-proportional control.



Function

- Provides hysteresis at ON/OFF switching of open or close output in position-proportional control.



Comment

Setting Range	Unit	Default
0.1 to 20.0	%	0.8



### ● Related description

4-1 Selecting the Control Method/Position-proportional control



Model

E5AK-TPRR2

---

**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)

---

**LSH****Input shift upper limit****LSL****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)