








Option Mode

- The parameters in this mode can be used only when the “security” parameter (protect mode) is set to “0” and “1”.
- You can select this mode only on controllers that support optional functions. In this mode, you can set the communications conditions, transfer output and event input parameters to match the type of optional function supported on the controller. This mode also contains the parameters for the heater burnout alarm (HBA) function and position-proportional travel time.
- To select this mode, press the  key for 1 second minimum. The display changes to the menu display. If you select [OPT] using the  and  keys, and then press the  key for 1 second minimum, the controller enters the option 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
EV-1	Event input assignment 1	Below
EV-2	Event input assignment 2	Below
EV-3	Event input assignment 3	Below
EV-4	Event input assignment 4	Below
SBCT	Communication stop bit	Below
LEN	Communication data length	Below
PRTY	Communication parity	Below
BPS	Communication baud rate	Below
U-NO	Communication unit No.	Below
TR-T	Transfer output type	Below
TR-H	Transfer output upper limit	Below
TR-L	Transfer output lower limit	Below
HBL	HBA latch	Below
CALB	Motor calibration	Below
NOT	Travel time	Below
P-db	PV dead band	Below

E_U-1

Event input assignment 1

E_U-2

Event input assignment 2

E_U-3

Event input assignment 3

E_U-4Event input assignment 4



Function

- When one E53-AKB unit is mounted, only the “event input assignment 3” and “event input assignment 4” parameters can be used.
- The following functions are assigned as event inputs:
“Run/Reset,” “Remote/Local,” “Auto/Manual,” “Hold/hold cancel,” “Advance,” “Pattern select 0 to 2”
- The remote/local function can be used on E53-AK01/02/03 option units.
- Weighting of the remote/local function is as follows:
Pattern select 0 = 2⁰, Pattern select 1 = 2¹, Pattern select 2 = 2²
- When event input is used as advance input, program steps are advanced at the rising edge of the event input signal. When event input is used as run/reset input, the program is reset at the rising edge of the event input signal, and the program runs at the following edge.



Comment

Settings	Function
<i>nōn</i>	Event input disabled
<i>r5t</i>	OFF→ON : Reset /ON→OFF : Run
<i>rñt</i>	ON : Remote /OFF : Local
<i>ñRn</i>	ON : Manual /OFF : Auto
<i>HōLd</i>	ON : Hold /OFF : Hold cancel
<i>Rdu</i>	OFF→ON : Execution
<i>Ptn0</i> <i>Ptn1</i> <i>Ptn2</i>	<div>Specified by combination of three event inputs (*1)</div>

*1 The following table shows the relationship between the pattern select signal and the pattern No.

Pattern No.	0	1	2	3	4	5	6	7
Pattern select 0		○		○		○		○
Pattern select 1			○	○			○	○
Pattern select 2					○	○	○	○

- Default is “*nōn*”.
- Related description
4–8 How to Use Event input



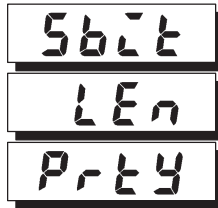
See

- Related parameters
 - “Remote/local” (level 2 mode)
 - “Hold” “Advance” (level 0 mode)
 - “Pattern No.” (level 0/program mode)



Model

- Option units
E53-AKB



Communication stop bit

Communication data length

Communication parity

Communication baud rate

bP5

Communication unit No.

U-nō

Conditions of Use

The communications function must be in use.



Function

- These parameters are enabled when the power is turned ON again.
- These parameters set the communications conditions. Make sure that the stop bit, data length, parity and baud rate of the host computer and the E5AK-T controller are matching.
- When connecting two or more E5AK-T controllers to the host computer, set unit Nos. that will not conflict with the unit Nos. of other controllers.



Comment

- “Communication stop bit” parameter

Setting Range	Unit	Default
1, 2	Bits	2

- “Communication data length” parameter

Setting Range	Unit	Default
7, 8	Bits	7

- “Communication parity” parameter

Setting	Default
“nōnE”: None/ “EUE n”: Even/ “ōdō”: Odd	EUE n

- “Communication baud rate” parameter

Setting Range	Unit	Default
1.2, 2.4, 4.8, 9.6, 19.2	kbps	9.6

- “Communication unit No.” parameter

Setting Range	Unit	Default
0 to 99	None	0



See

- Related description
Chapter 6 Using the Communications Functions
- Related parameter
“Remote/Local” (level 2 mode)



Model

- Option units
E53-AK01/02/03



Transfer output type



Transfer output upper limit



Transfer output lower limit

Conditions of Use

The transfer output function must be in use.



Function

- These parameters set the transfer output conditions.
- The “transfer output type” parameter selects one of the following data items as the transfer output type, and assigns this to transfer output:
Present SP, Process value, Manipulated variable (heat) (standard type), Manipulated variable (cool) (during heating and cooling control on a standard type controller), Valve opening (during position-proportional control)
- The “transfer output upper limit” and “transfer output lower limit” parameters are used for scaling of transfer output. The setting range varies according to this output data. Also, a lower limit value larger than the upper limit value may be set.
- Using temperature input, the decimal point position of the present SP or process value is dependent on the currently selected sensor, and using analog input on the results of scaling.
- Set the scaling of the present SP or process value within the sensor input indication range.



Comment

Transfer Output Type	Transfer Output Lower Limit to Transfer Output Upper Limit
“ SP ” Present SP	-1999 to 9999
“ PV ” Process Value	-1999 to 9999
“ Δ ” Manipulated variable (heat)	-5.0% to 105.0% (standard control), 0.0 to 105.0% (heating and cooling control)
“ [-Δ] ” Manipulated variable (cool)	0.0 to 105.0%
“ Δ-H ” Valve opening	-10.0 to 110.0%

- Default : [**SP**].
- Related description
4–11 How to Use Transfer Output



See



Model

- Option units
E53-AKF

HbL

HBA latch

Conditions of Use

The HBA output function must be assigned as the output.



Function

- When this parameter is set to ON, the heater burnout alarm is held until either of the following conditions is satisfied:
 - Set the heater burnout set value to “0.0”.
 - Reset the controller. (Turn the controller’s power OFF then back ON again.)



Comment

Setting Range	Default
[$\bar{0} \bar{0}$]: Enabled/[$\bar{0} \bar{F} \bar{F}$]: Disabled	$\bar{0} \bar{F} \bar{F}$



See

- Related description
4.9 How to Use the Heater Burnout Alarm (page 4-23)
- Related parameters
“Control output assignments 1” “Control output assignments 2” “Auxiliary output assignments 1” “Auxiliary output assignments 2” (setup mode)



Model

E5AK-AA2

CALb

Motor calibration

Conditions of Use

The control must be position-proportion control.



Function

- Executes motor calibration. Be sure to execute this parameter when monitoring the valve opening. (Displays cannot be switched while motor calibration is being executed.)
- The “travel time” parameter is also reset when this parameter is executed.



Example
of use

- Default : [$\bar{0} \bar{F} \bar{F}$].
- Motor calibration is executed when [$\bar{0} \bar{0}$] is selected.

- After motor calibration is completed, the setting automatically returns to [**OFF**].
- When an error occurs during motor calibration, [**Err**] is displayed on the No.2 display.



See

- Related description
4-1 Selecting the Control Method/Position-proportional control
- Related parameter
“Travel time” (option mode)



Model

E5AK-TPRR2



Travel time

Conditions of Use

The control must be position-proportion control.



Function

- Sets the time from valve fully opened to valve fully closed.
- The travel time is automatically set when the “motor calibration” parameter is executed.



Comment

Setting Range	Unit	Default
1 to 999	Second	30



See

- Related description
4–1 Selecting the Control Method/Position-proportional control
- Related parameters
“Motor calibration” (option mode)



Model

E5AK-TPRR2



PV dead band

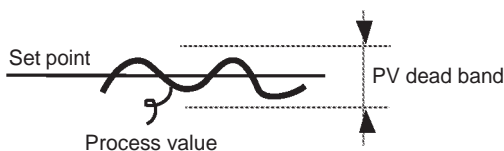
Conditions of Use

The control must be position-proportion control.



Function

- Sets a band centered at SP within which valve will not move.



- This function is for special applications, and normally it need not be used. For details, contact your nearest branch of OMRON.
- The decimal is dependent on the results of scaling.



Comment

Setting Range	Unit	Default
0 to 9999	EU	0



See

● Related parameters

“Input type” “Scaling upper limit” “Scaling lower limit” “Decimal point” (setup mode)



Model

E5AK-TPRR2