

# Parameters and Menus

<b>Parameter types</b>	<p>E5EK-T parameters are distributed between the following ten modes:</p> <ul style="list-style-type: none"><li>Protect mode</li><li>Manual mode</li><li>Level 0 mode</li><li>Program mode</li><li>Level 1 mode</li><li>Level 2 mode</li><li>Setup mode</li><li>Expansion mode</li><li>Option mode</li><li>Calibration mode</li></ul> <p>The settings of parameters in each of eight modes (excluding the protect mode and manual mode) can be checked and modified by selection on the menu display.</p>
<b>Protect mode</b>	<p>The protect function is for preventing unwanted modification of parameters, and switching between run and reset operation or auto and manual operation.</p>
<b>Manual mode</b>	<p>In this mode, the controller can be switched to manual operation. The manipulated variable can be manipulated manually only in this mode.</p>
<b>Level 0 mode</b>	<p>Set the controller to this mode during normal operation. In this mode, you can change the set point and pattern during operation, and execute step operation (e.g. advance). You can only monitor (not change) the process value, step No., standby time, pattern elapsing time, pattern execution count and manipulated variable.</p>
<b>Program mode</b>	<p>This is the programming mode. In this mode, you can set the number of steps used in each pattern, pattern execution count, alarm values, set points for each step, step time, and time signals for two steps.</p>
<b>Level 1 mode</b>	<p>This is the main mode for adjusting control. In this mode, you can execute AT (auto-tuning), and set up the control period, PID parameters and heater burnout alarm (HBA) conditions.</p>
<b>Level 2 mode</b>	<p>This is the auxiliary mode for adjusting control. In this mode, you can set the parameters for limiting the manipulated variable, switch between the remote and local modes, and set the loop break alarm (LBA), alarm hysteresis and the digital filter value of inputs.</p>
<b>Setup mode</b>	<p>This is the mode for setting the basic specifications. In this mode, you can set parameters that must be checked or set before operation such as the input type, scaling, output assignments and direct/reverse operation.</p>
<b>Expansion mode</b>	<p>This is the mode for setting expanded functions. In this mode, you can set SP setting limiter, switching between advanced PID control or</p>

ON/OFF control, program time unit, selection of step time/rate of rise programming, time unit of ramp rise rate, and the time for automatic return to the monitoring display.

## Option mode

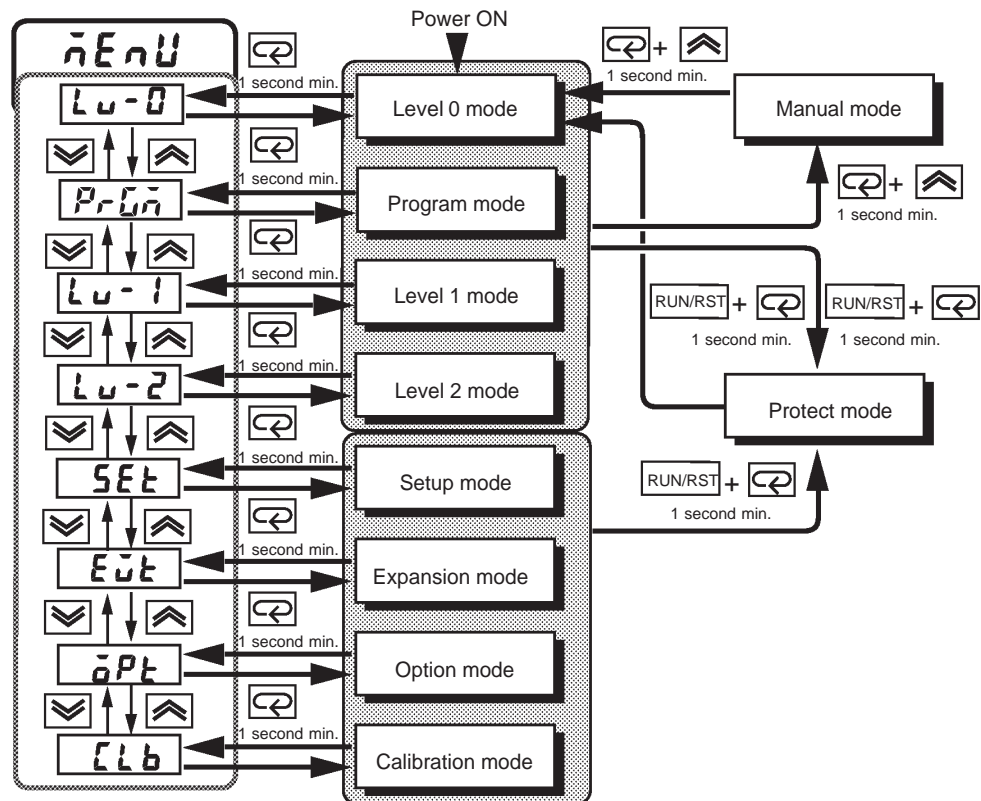
This is the mode for setting optional functions. You can select this mode only when an option unit is mounted in the controller. In this mode, you can set the communications conditions, transfer output and event input parameters to match the type of option unit mount in the controller. Heater burnout alarm function and position-proportional travel time are also located in this mode.





## Calibration mode

This mode is provided so that the user can calibrate inputs and output. When calibrating input, the selected input type is calibrated. Whereas, transfer output can be calibrated only when the communication unit (E53-AKF) is set in the controller.

## Selecting modes

The following diagram shows the order in which modes are selected.



- To select the menu display in any of the above modes (excluding the protect mode and manual mode), press the  key for 1 second minimum. When you have selected the menu display, the previous mode is selected. For example, if you selected the menu display while in the level 0 mode, the No.2 display changes to [Lv-0] as shown on the left.
- To move to the desired mode after you have entered the menu display, select the desired mode using the   keys and hold down the  key for one second minimum. The display switches to the first parameter of the mode that you specified.

- Protected modes cannot be selected. Also, the menu display does not appear when modes are protected up to the program mode.
- If you select [L u - 0], [P r G n], [L u - 1] or [L u - 2] in the menu display, the level 0, program, level 1 and level 2 modes, respectively, are selected.

These modes are selected with control still continuing.

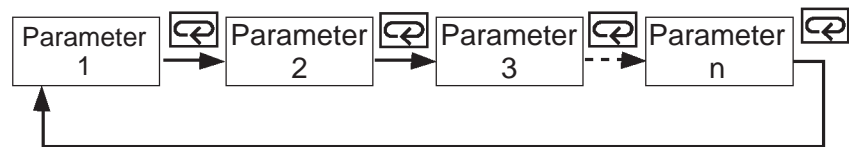
- If you select [SEt] [E n t] [ā P t] or [L l b] in the menu display, the setup, expansion, option and calibration modes, respectively, are selected.

When these modes are selected, the control is reset. So, control outputs and auxiliary output are turned OFF. When another mode is selected while in these modes control, reset is canceled.

- To set the controller to the protect mode or to return to the level 0 mode from the protect mode, press the [RUN/RST] key and the [↺] key simultaneously for 1 second minimum.
- To set the controller to the manual mode, press the [↗] key for one second minimum with the [↺] key held down in the level 0 to 2 modes. To return to the level 0 mode in the manual mode, press the [↗] key for one second minimum with the [↺] key pressed. Be sure to press the [↺] key first in this operation.

## Selecting parameters

- When the controller is not in the manual mode, each press of the [↺] key switches the parameter in the respective mode.



## Fixing settings

- If you press the [↺] key when at the final parameter, the display returns to the top parameter for the current mode.
- When you change parameter settings or contents, specify the parameter using the [↗] or [↘] keys, and either leave the setting for at least two seconds or press the [↺] key. This fixes the setting.
- When another mode is selected, the content of the parameters before the mode was selected is fixed.
- When you turn the power OFF, you must first fix the settings and parameter contents (by pressing the [↺] key or selecting another mode). The settings and parameter contents are sometimes not changed by merely pressing the [↗] or [↘] keys.