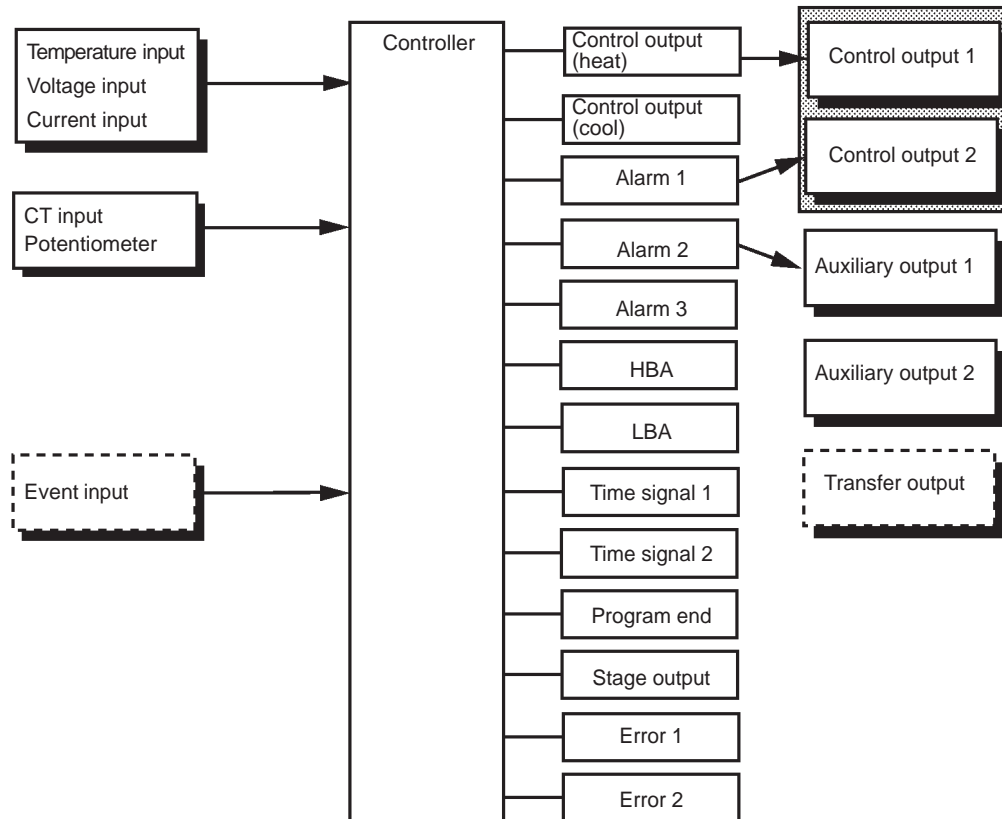


# Input and Output



## Input

The E5EK-T supports the following inputs:

Temperature input, Current input, Voltage input, CT input/potentiometer, and Event input.

### Temperature input/Voltage input/Current input

- Only one of temperature input, current input and voltage input can be selected and connected to the controller.
- The following input sensors can be connected for temperature input:

Thermocouple: K, J, T, E, L, U, N, R, S, B, W, PLII

Platinum resistance thermometer: JPt100, Pt100

- The following currents can be connected for current input:  
4 to 20 mA, 0 to 20 mA
- The following voltages can be connected for voltage input:  
1 to 5 VDC, 0 to 5 VDC, 0 to 10 VDC

### CT input/Potentiometer

- Connect CT input when using the HBA (heater burnout alarm) function on a standard type controller (E5EK-TAA2). Note that CT input cannot be used when the linear output unit is mounted.
- Connect the potentiometer when monitoring the valve opening on a position-proportional type controller (E5EK-TPRR2).

### Event input

Add on the input unit (E53-CKB) when using event input. You can select from the following five event inputs:

## Output

The output functions of the E5EK-T do not operate for five seconds after the E5EK-T is turned ON.

The E5EK-T supports the following five outputs:

Control output 1  
Control output 2  
Auxiliary output 1  
Auxiliary output 2  
Transfer output

When using control output 1 and 2, set the output unit (sold separately). Nine output units are available to suit the output circuit configuration.

When using transfer output, add on the communication unit (E53-AKF).

## Output assignments

- The E5EK-T supports the following thirteen output functions:  
Control output (heat), Control output (cool), Alarms 1 to 3, HBA, LBA, Time Signals 1 and 2, Program End, Stage Output, Error 1 (input error), Error 2 (A/D converter error)
- Assign these output functions to control output 1, control output 2, auxiliary output 1, and auxiliary output 2.  
However, note that as control output 1 is used as the open output and control output 2 is used as close output on a position-proportional type controller (E5EK-TPRR2), control outputs 1 and 2 cannot be used as assignment destinations. Also, of the output functions, control output (heat), control output (cool), HBA and LBA are disabled.
- On a standard type controller, there are restrictions on how assignment destinations (control output 1, control output 2, auxiliary output 1, and auxiliary output 2) can be used. For details, see Chapter 3 Basic Operation/3.3 Setting Output Specifications
- In the example on the previous page, “control output (heat)” is assigned to “control output 1”, “alarm 1” is assigned to “control output 2”, and “alarm 2” is assigned to “auxiliary output 1”. Accordingly, the configuration is such that heating control output is connected to control output 1, and alarm output is connected to control output 2 and auxiliary output 1.
- Control outputs 1 and 2 are used depending on the differences in control method as follows:

Control Method	Model	Control Output 1/ Control Output 2
Standard control	E5EK-TAA2 AC100-240 E5EK-TAA2 AC/ DC24	Control output (heat) / Alarm, etc.
Heating and cooling control	E5EK-TAA2 AC100-240 E5EK-TAA2 AC/ DC24	Control output (heat) / Control output (cool)
Position-proportional control	E5EK-TPRR2 AC100-240 E5EK-TPRR2 AC/ DC24	Open/Close

## Transfer output

- The E5EK-T supports the following five transfer outputs:  
Set point, Process value, Heating side manipulated variable,  
Cooling side manipulated variable, Valve opening  
However, note that heating/cooling side manipulated variables can be output only on standard type controllers, and valve opening can be output only on position-proportional type controllers.
- These transfer outputs can be output after being scaled. Setting of an upper limit value smaller than the lower limit value is allowed, so reverse scaling can also be carried out.