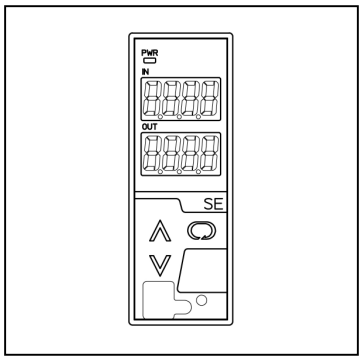
SPEC SHEET

1ch Alarm Detector (Thermocouple) (with two large displays) Model: SE1EA

Features

Alarm Energized/
De-energized
Alarm HOLD function
Alarm delay function
Set value lock



Model

SE1EA - □ - □ - □

Socket
- 1: Screw fall prevention Finger-safe (for Y terminal)
- 2: For Ring terminal

Power supply
- 0: 100 to 240V AC
- 1: 24V AC/DC

Output points
- 0: 2-points (Alarm 1, 2 outputs)
- 1: 6-points (Alarm 1 to 6 outputs)

How to Order

Specify a model. (E.g.) SE1EA-1-0-0
Factory adjusted value:

Input	K: -200 to 1370℃

Input Specifications

Thermocouple
Input resistance: 1MΩ or more
External resistance: 100Ω or less, however B: 40Ω or less
Burnout: Upscale
Input:

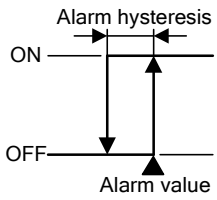
Thermocouple	Input range	
K	-200 to 1370℃	-328 to 2498℉
J	-200 to 1000℃	-328 to 1832℉
R	-50 to 1760℃	-58 to 3200℉
S	-50 to 1760℃	-58 to 3200℉
B	0 to 1820℃	32 to 3308℉
E	-200 to 800 ℃	-328 to 1472℉
T	-200 to 400 ℃	-328 to 752 ℉
N	-200 to 1300℃	-328 to 2372℉
PL-Ⅱ	0 to 1390℃	32 to 2534℉
W5Re/W26Re	0 to 2315℃	32 to 4199℉
W3Re/W25Re	0 to 2315℃	32 to 4199℉

Minimum span: 50℃ (100℉)

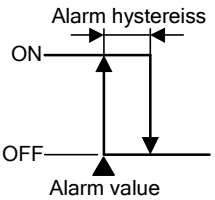
Output Specifications

A maximum of 6 points of alarm output available.
For each alarm output, one of the following types can be selected in [Alarm type]: High limit alarm, Low limit alarm, High limit alarm with standby and Low limit alarm with standby.

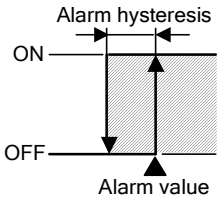
• High limit alarm



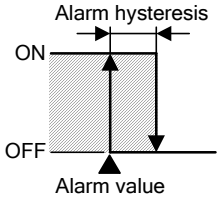
• Low limit alarm



• High limit alarm with standby



• Low limit alarm with standby



▨ Standby functions.

Alarm action: ON/OFF action
Alarm hysteresis: 0.1 to 100.0%FS
Alarm delay time: 0 to 9999 sec
Alarm Energized/De-energized, Selectable
Alarm HOLD function Enabled/Disabled, Selectable
Alarm 1, 2 outputs: Relay contact 1a
Control capacity: 3A 250V AC (resistive load)
1A 250V AC (inductive load cosϕ=0.4)
Electric life: 100,000 cycles
Alarm 3 to 6 outputs: Open collector
Control capacity: 0.1A 24V DC

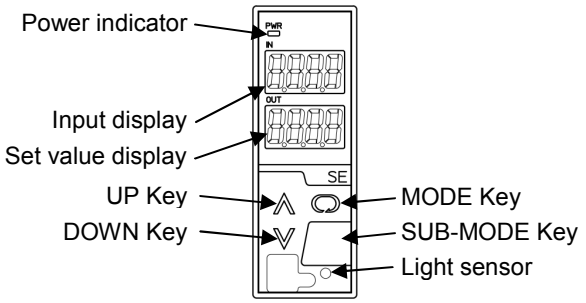
Performance

Reference accuracy (Ambient temperature: 23℃)
• **Thermocouple input**: Within ±0.1% of each input span
R, S inputs, -50 to 200℃(-58 to 392℉): Within ±6℃(12℉)
B input, 0 to 300℃(32 to 572℉): Accuracy is not guaranteed.
K, J, E, T, N inputs, Less than 0℃(32℉): Within ±0.4% of each input span
Cold junction compensation accuracy:
Within ±1℃ at -5 to 55℃
Indication accuracy: Within Reference input accuracy ±1 digit
Input sampling period: 25msec, 125msec, 250msec (Selectable by keypad)
Temperature coefficient: ±0.015%/℃ or less
Insulation resistance: 10MΩ or more, at 500V DC (Input - Output - Power)
Dielectric strength: 1.5kV AC for 1 minute (Input - Output - Power)

General Structure

Case: Flame-resistant resin Color: Light gray
Front panel: Membrane sheet

Setting: Using the front keypad
Display: Input display: 7-segment Red LED display
4-digit, Character size, 10x4.6mm (HxW)
Set value display: 7-segment Red LED display
4-digit, Character size, 10x4.6mm (HxW)
Power indicator: Green LED



■ Installation Specifications

Power supply: 100 to 240V AC 50/60Hz
24V AC/DC 50/60Hz
Allowable voltage range: 85 to 264V AC, 20 to 28V AC/DC
Power consumption: Approx. 9VA
Ambient temperature: -5 to 55℃
Ambient humidity: 35 to 85%RH (non-condensing)
Mounting: DIN rail
External dimensions: W30xH88xD108mm (socket included)
Weight: Approx. 200g (socket included)

■ Attached Functions

Auto-light function: Automatically measures and controls brightness of the displays to conserve power.
Power failure countermeasure:
The data is backed up in non-volatile IC memory.
Self diagnosis: The CPU is monitored by a watchdog timer, and when an abnormal status is found on the CPU, the unit is switched to warm-up status turning all outputs OFF.
Cold junction temperature compensation: Available

■ Environmental Specification

RoHS directive compliance

■ Settings

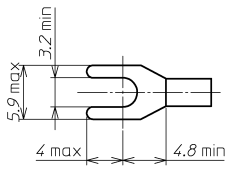
Function keys
(1) UP Key: Increases a numerical value.
(2) DOWN Key: Decreases a numerical value.
(3) MODE Key: Selects a setting mode.
(4) SUB-MODE Key: Re-lights displays. (UP Key, DOWN Key or MODE Key also re-lights displays.)

■ Displays and Indicator

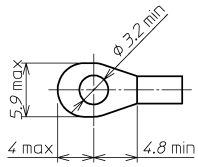
Input display: Indicates the input value.
Indication of -200.0 or less (ranges with decimal point): The minus (-) sign and input value light alternately.
Under range: -10% of input span or less:
"- - - -" flashes on the Input display.
Over range: 110% of input span or more:
"_ _ _ _" flashes on the Input display.
Warm-up indication: The input type is indicated on the Input display for 3 seconds after power is turned ON.
Set value display: Alarm 1 (A1) to Alarm 6 (A6) values are indicated (follows the selection in "Display selection".).
If the UP Key is pressed for 1 second during alarm value indication, alarm values will be switched thus.
(A1 →A2 • • • • A6 →A1).
When power is turned ON, A1 value is indicated.
When alarm output is ON, "AL n" and the value selected in [Display selection] are alternately indicated on the Set value display. If the UP Key is pressed together with the DOWN Key in the above status, the alarm output currently being turned ON will be displayed.
(E.g.) If Alarm 1 and Alarm 3 outputs are ON, "□A 1" and "□A3" are displayed in order.
Power indicator (green): Lit when power is turned ON.

■ Ferrules

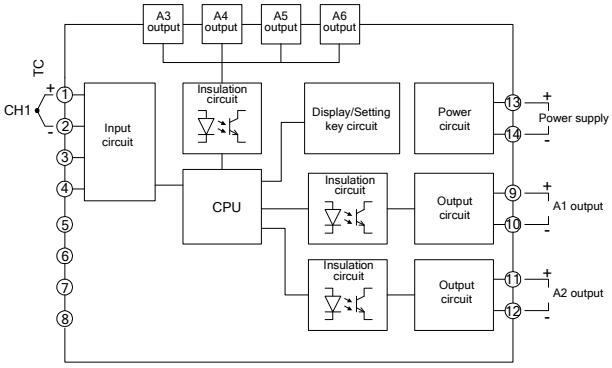
Y terminal



Ring terminal

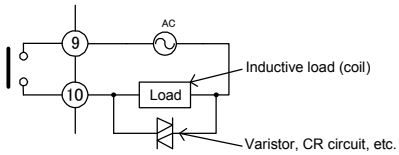


■ Circuit Configuration & Terminal Arrangement

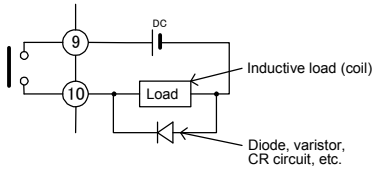


Alarm 1, 2 outputs: Take the following measures for relay contact protection and noise reduction.

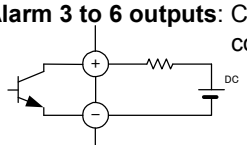
• AC power



• DC power



Alarm 3 to 6 outputs: Connection example of Open collector output



■ External Dimensions (Scale: mm)