



## Temperature Controller

- AH series* High accuracy / Fenwal Flagship model
- AG series* Fenwal Standard model / AR series retro-fit model
- AL series* Durable / Reliable / Easy operation
- AM series* Low cost / Small size model
- DG series* Pipe heating exclusive use / SSR include



## Thermoswitch

- 17000 series* Fast response / Close control / Extreme sensitivity
- 20000 series* Liquid expansion type / Vibration resistance
- 30000 series* Surface mounting type / Narrow temp. differential

## Wafer Sensor

For reduce the sensor radiation, the point of sensor fill in the wafer  
For 0.1mm $\phi$ , 0.2mm $\phi$  wiring make quickly response

## Smoke Detector for Equipment / *F series*

Smallest / High sensitivity / Self-correction function  
For preventive maintenance

## Compensation Rate type Heat Detector

Detect-A-Fire / resisting pressure explosion-proof type fire detector is  
only one certified products by TIIS No. 38363 in Japan.

## Temperature Controller Lineup

### AH series



**High accuracy**  
5 digit display  
Dual channel input  
Communications

Size : W96 x H96 x D100

Accuracy :

$\pm 0.1\%$  or  $\pm 1^\circ\text{C}$  whichever is greater (T/C)

$\pm 0.1\%$  or  $\pm 0.2^\circ\text{C}$  whichever is greater (PT)

Control : PID / On/Off

### AG series



**Fenwal Standard**  
AR retro-fit model

Size :

AG24 : W48 x H96 x D100

AG33 : W72 x H72 x D100

AG42 : W96 x H48 x D100

AG44 : W96 x H96 x D100

### AL series



Digital Controller  
with communication  
and timer.

**Multiple external  
settings** (Analog  
input and contact  
point input)

Size : W48 x H96 x D100

High temp. ( $60^\circ\text{C}$ ) operation.

Less wiring when operating multiple controllers

Waterproof specification (IP64)

### AM series

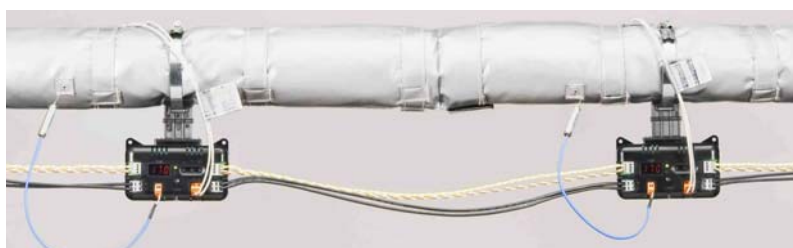


**Fenwal  
Smallest  
model**

Size : W48 x H48 x D77

Option : 3 alarms, communication, CT  
input  
SV shift

### DG series



Exclusive use for exhaust  
piping

Easy set up by

**Daisy Chain connect**

Enable to set up any place

Size : W109 x H46 x D59

Input : K-thermocouple

Control output : Internal SSR [ 5A ]

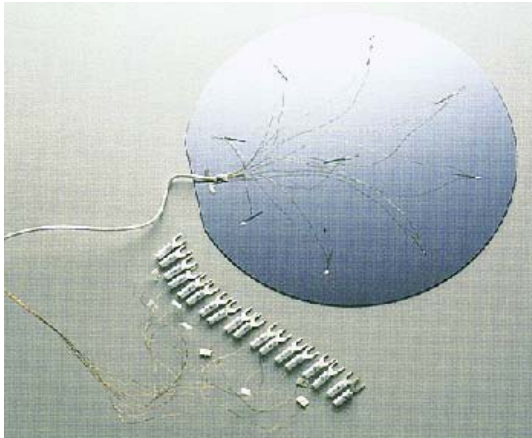
System current Max. : 15A

### Other

We also make the control box or control system.

Please inform us your specifications if required.

## Wafer Thermocouple



**High accuracy**

**Quick response**

**Reduce error of radiation**

Wafer size : 100, 125, 150, 200, 300mm

Temp. range : 0 ~ 250°C : Low range

200 ~ 600°C : Middle range

550 ~ 1200°C : High range

## Thermoswitch

17000 series

20000 series

30000 series



**Thermoswitch**

Fast response  
Extreme Sensitivity  
-70°C to 300°C NC type  
0°C to 60°C NO type



**Snap-Action Thermoswitch  
Liquid Expansion**

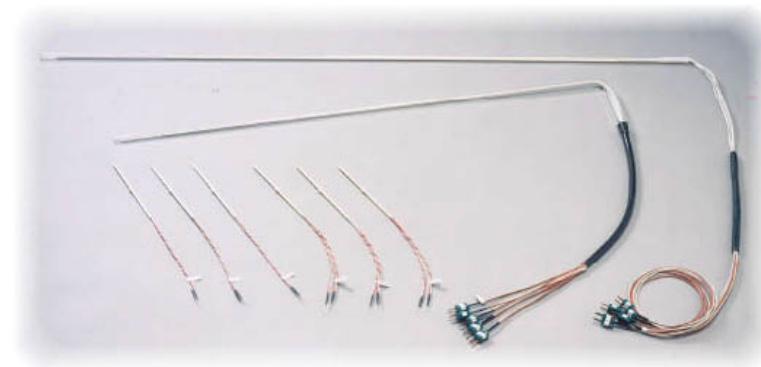
Fast response  
Vibration resistance  
-60°C to 50°C  
-4°C to 100°C  
40°C to 150°C



**Surface mounting  
Thermoswitch**

Narrow temperature differential  
Compact size  
10°C to 300°C NC type

## R-type Thermocouple for semiconductor



Profile Thermocouples  
Spike Thermocouples  
Ratio Thermocouples  
etc.

Enable to manufacture  
Fresh sensor & Recast sensor

## Smoke Detector



F series system can detect smoke in equipment.

Smoke caused by ...  
 Layer shorts or insulation degradation  
 Overheat under raised access floor  
 Overload in power supply panel

The world smallest size smoke detector  
 $\Phi 28\text{mm} \times 57\text{h}$  [ include base ]  
 Power supply : DC24V  
 Smoke sensitivity : 5%  
 3 % ~ 10 % [ factory setting ]



### Application

Semiconductor plants, power supply systems of facilities, communications facilities, server rooms or etc.

### F1H Stand alone detector

F1H is stand alone type smoke detector for equipment.

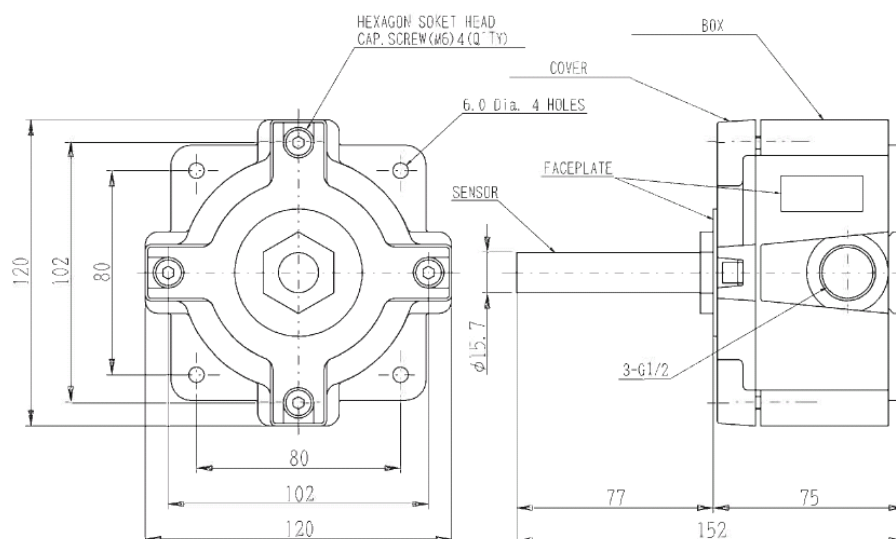
The smoke sensitivity is same as F series.

Power supply : DC10-30V  
 Alert switch/ Trouble switch



## Compensation Rate type Heat Detector

FFH-2E



Fenwal Original Heat Detector finds fire reliably in any environment at general building, factory and plant. Especially, resisting pressure explosion-proof type fire detector is only one certified products by TIIS No. 38363 in Japan.

**Fenwal** FENWAL CONTROLS OF JAPAN, LTD.

Kyohan Kudan Bldg, 5-10, 1-chome Iidabashi,  
 Chiyoda-ku, Tokyo 102-0072, Japan  
 Tel. +81-3-3237-3568 Fax. +81-3-3237-3569  
<http://www.fenwal.co.jp>