

# THERMOSTATS - MECHANICAL

## CAPILLARY THERMOSTATS 1 STAGE

EC.. EC..D / EC..DM EC..W

These products are used to monitor the temperature of air or liquids. Applications include heating and air conditioning systems. The liquid filled sensing element enables a rapid response to temperature changes.



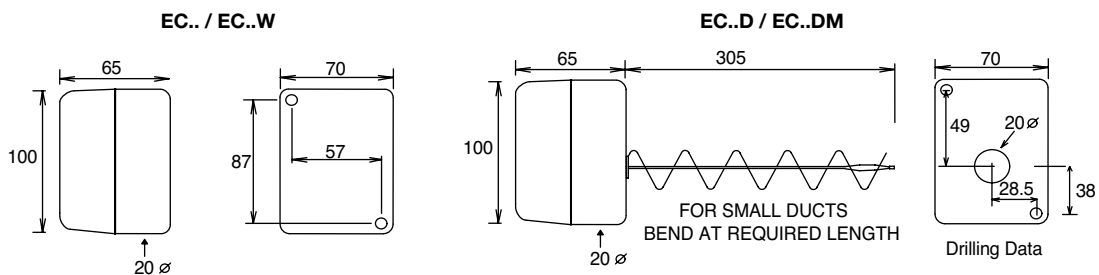
Adjustment under the cover  
 Terminals 0.5-2.5mm<sup>2</sup> rising clamps  
 Copper capillary & bulb  
 Volt free contacts  
 Max. ambient -40/+70°C  
 Thermostats may be calibrated by slowly turning the centre nut on the adjusting spindle.  
 Enclosure Flammability UL94-VO

Type	Stages	Range °C	Diff °C	230VAC SPDT	Capillary Length	Bulb mm	Max. Bulb Temp °C	Enclosure
<b>EC-1ML</b>	1	-10/+12	Hand reset open low	15(8)A	1.8m	10 x 100**	200	IP40
<b>EC-2</b>	1	-20/+40	0.5	15(3)A	2m	8 x 140	60	IP43
<b>EC-3</b>	1	-20/+40	1.5	15(6)A	2m	8 x 140	70	IP43
<b>EC-4</b>	1	-20/+40	3.5	15(6)A	2m	8 x 100	180	IP43
<b>EC-5</b>	1	-20/+40	5	15(6)A	2m	8 x 100	180	IP43
<b>EC-6</b>	1	0/100	2	15(4)A	2m	8 x 100	120	IP43
<b>EC-7</b>	1	0/200	5	15(6)A	2m	8 x 70	240	IP43
<b>EC-8</b>	1	0/200	Hand reset open high	15(6)A	2m	8 x 70	240	IP43
<b>EC-3D</b>	1	-15/+45	1.5	15(8)A	rigid stem	includes duct holder	70	IP43*
<b>EC-6D</b>	1	0/70	2	15(8)A	rigid stem	includes duct holder	90	IP43*
<b>EC-6DM</b>	1	30/65	Hand reset open high	15(8)A	rigid stem	includes duct holder	90	IP43*
<b>EC-7DM</b>	1	60/95	Hand reset open high	15(8)A	rigid stem	includes duct holder	115	IP43*
<b>EC-3W</b>	1	-20/+40	1.5	15(6)A	2m	8 x 140	70	IP65
<b>EC-4W</b>	1	-20/+40	3.5	15(6)A	2m	8 x 100	180	IP65
<b>EC-6W</b>	1	0/100	2	15(4)A	2m	8 x 100	120	IP65
<b>EC-7W</b>	1	0/200	5	15(6)A	2m	8 x 70	240	IP65
<b>EC-8W</b>	1	0/200	Hand reset open high	15(6)A	2m	8 x 70	240	IP65

\*Also available with IP65 weatherproof enclosure.

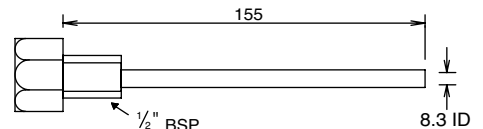
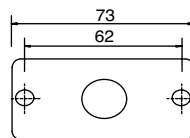
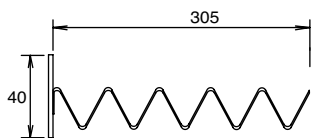
\*\*Size/shape differs from other EC.. thermostats - does not fit standard pockets.

### DIMENSIONS



### ACCESSORIES:

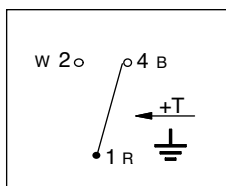
**EE-1A** Duct bulb holder



**EE-1B** Brass Bulbwell  
**EE-STE** Stainless Steel Bulbwell

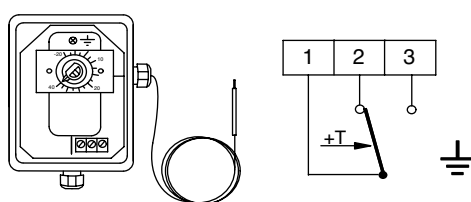
### WIRING:

**EC-1ML**



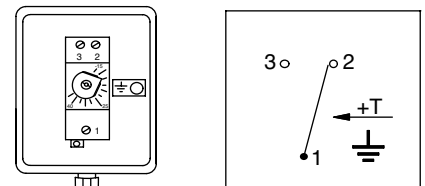
OPEN LOW 1-2 opens on temp fall.  
 Temp must rise to allow resetting.

**EC.. / EC..W**



1-2 close on temp fall. 1-3 close on temp rise.

**EC..D / EC..DM**



OPEN HIGH 1-2 opens on temp rise.  
 Temp must fall to allow resetting.

**CAPILLARY THERMOSTATS 2-3-4 STAGES**

**EMC..**

These products can be used to monitor the temperature of air or liquids. Applications include switching multiple heating and air conditioning systems. The liquid filled sensing element enables a rapid response to temperature changes.

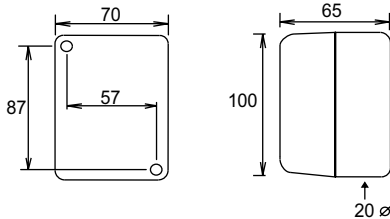


Adjustment under the cover  
 Terminals 0.5-2.5mm<sup>2</sup> rising clamp  
 Copper capillary & bulb  
 Volt free contacts  
 Max ambient -40/70°C  
 Thermostats may be calibrated by slowly turning the centre nut on the adjusting spindle.  
 Enclosure Flammability UL94-VO

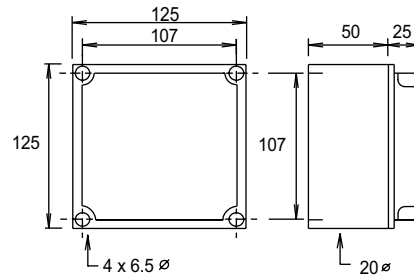
Type	Stages	Range °C	Diff Per Stage °C	Diff. Between Stages °C	230VAC SPDT	Capillary Length	Bulb mm	Max. Bulb Temp °C	Enclosure
<b>EMC-22A</b>	2	- 20/+40	1.5	1/10 adj.	2x15(3)A	2m	8 x 140	60	IP43
<b>EMC-23A</b>	2	0/100	2.5	2/20 adj.	2x15(3)A	2m	8 x 100	120	IP43
<b>EMC-22AW</b>	2	- 20/+40	1.5	1/10 adj.	2x15(3)A	2m	8 x 140	60	IP65
<b>EMC-23AW</b>	2	0/100	2.5	2/20 adj.	2x15(3)A	2m	8 x 100	120	IP65
<b>EMC-341</b>	3/4	- 20/+40	1	1	4x15(3)A	3m	8 x 140	60	IP65
<b>EMC-342</b>	3/4	0/100	2	2.5	4x15(3)A	3m	8 x 100	120	IP65

**DIMENSIONS**

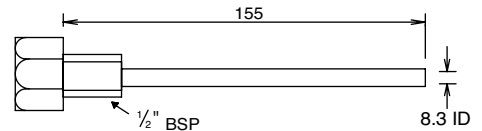
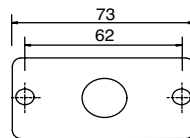
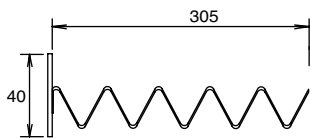
**EMC-22A.. / 23A..**



**EMC-34..**



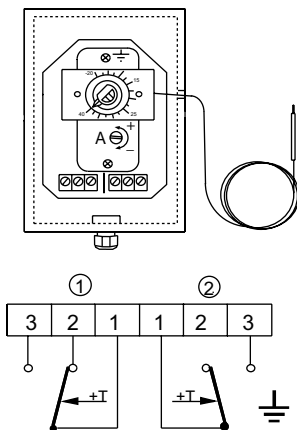
**ACCESSORIES: EE-1A Duct bulb holder**



**EE-1B** Brass Bulbwell  
**EE-STE** Stainless Steel Bulbwell

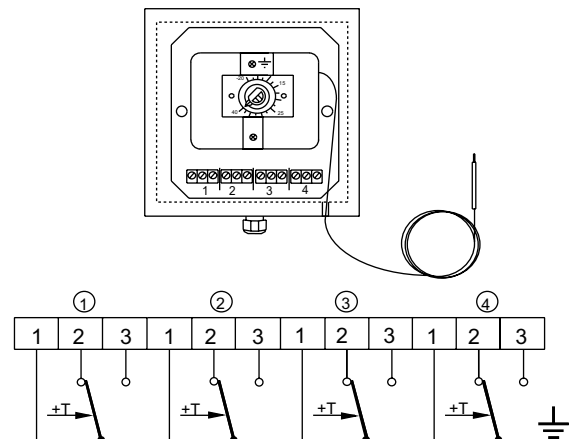
**WIRING:**

**EMC-22..**



Diff between stages adjust via screw A  
 Contact 1-3 close on temp rise.  
 Contact 1-2 close on temp fall.

**EMC-34..**



Htg only = wire 1st stg htg to last stg on stat & follow downwards in sequence  
 Clg only = wire 1st stg clg to 1st stg on stat & follow upwards in sequence  
 Htg & Clg = wire heating on lower stages & cooling on higher stages

# THERMOSTATS - MECHANICAL

## FREEZE PROTECTION THERMOSTATS

### EFP.

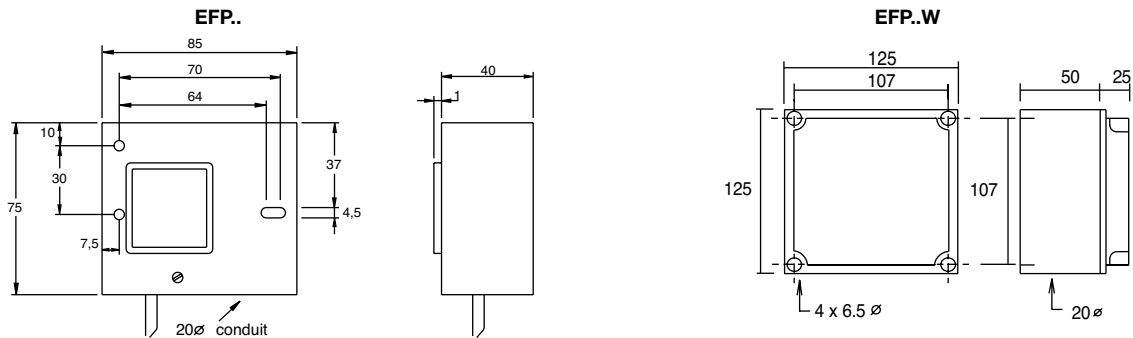
These products are used to prevent the freezing of liquids inside pipes or heating/cooling coils.



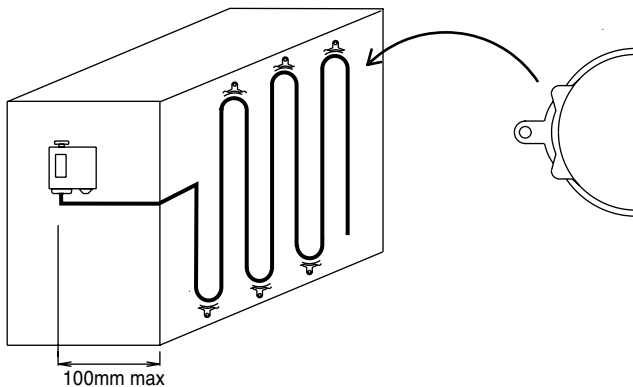
Tamperproof adjustment  
Copper capillary tin plated  
Volt free contacts  
Max. ambient -30/+70 C  
Enclosure Flammability UL94-V0

Type	Range °C	Diff °C	230VAC SPDT	Capillary Length	Max. Bulb Temp °C	Enclosure
<b>EFP-1</b>	-15/+15	2	24(10)A	6m	200	IP43
<b>EFP-2</b>	-15/+15	hand reset open low	24(10)A	6m	200	IP43
<b>EFP-3</b>	-15/+15	2	24(10)A	3m	200	IP43
<b>EFP-4</b>	-15/+15	hand reset open low	24(10)A	3m	200	IP43
<b>EFP-1W</b>	-15/+15	2	24(10)A	6m	200	IP65
<b>EFP-2W</b>	-15/+15	hand reset open low	24(10)A	6m	200	IP65
<b>EFP-3W</b>	-15/+15	2	24(10)A	3m	200	IP65
<b>EFP-4W</b>	-15/+15	hand reset open low	24(10)A	3m	200	IP65

### DIMENSIONS



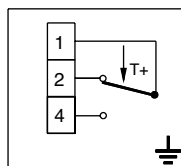
### ACCESSORIES:



**EE-1C** Capillary Clips (per pack of 6)



### WIRING:



Open low = Contact 1 - 4 opens on temperature fall.. Temperature must rise to allow resetting

**INSTALLATION:** Fit the sensor to the front of the coil (downstream/air offside) or wrap around the pipe to guard against freezing at any point. No more than 10cm of the capillary should be outside the controlled space. The thermostat will switch when 30cm or more of any part of the capillary senses the set-point temperature. If the capillary is damaged, the unit will cut-out to the safety side. THE TEMPERATURE AROUND THE HOUSING SHOULD BE MAINTAINED HIGHER THAN THE SENSOR.

**IMMERSION THERMOSTATS SINGLE/DUAL FUNCTION**

**EBS.. EBD..**

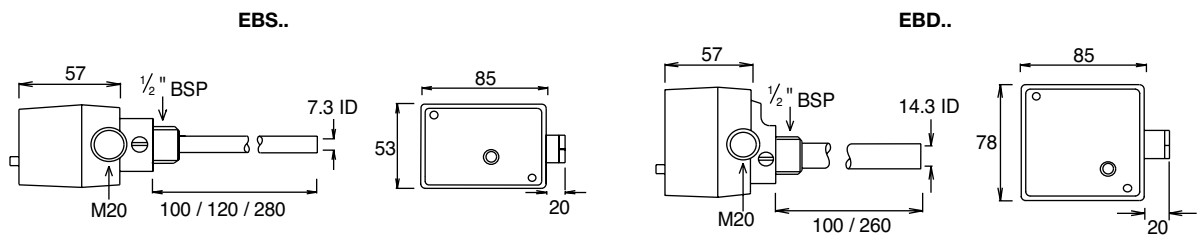
These products are used to monitor liquid temperatures in pipes, boilers, tanks etc. The liquid filled sensing enables a rapid response to temperature changes. The EBS is a single function thermostat and the EBD dual function has two separate thermostats inside the enclosure.



Hand reset models have a push button on the front cover.  
 Volt free contacts  
 Max. ambient 80°C (EBS-1 55°C)  
 All supplied complete with removable brass pocket 1/2" BSP.  
 Concealed adjustment  
 Enclosure Flammability = UL94-V0

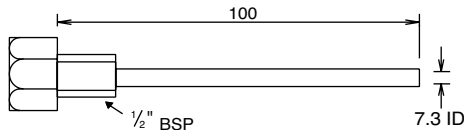
Type	Range °C		Diff. °C	230VAC SPDT		Bulbwell Length	Max. Bulb Temp. °C	Enclosure	
	Control	Limit		Control	Limit				
<b>EBS-1</b>	0/35	-	0.5	-	10(3)A	-	120	55	IP43
<b>EBS-2</b>	0/80	-	2	-	10(3)A	-	100	100	IP43
<b>EBS-3</b>	35/95	-	4	-	15(5)A	-	100	115	IP43
<b>EBS-4</b>	50/130	-	6	-	15(5)A	-	100	150	IP43
<b>EBS-7</b>	-	30/65	Hand reset open high	-	15(5)A	-	100	90	IP43
<b>EBS-8</b>	-	60/95	Hand reset open high	-	15(5)A	-	100	115	IP43
<b>EBS-9</b>	-	95/130	Hand reset open high	-	15(5)A	-	100	150	IP43
<b>EBS-20/L280</b>	0/70	-	2	-	10(3)A	-	280	90	IP43
<b>EBS-30/L280</b>	35/95	-	4	-	15(5)A	-	280	115	IP43
<b>EBS-70/L280</b>	-	30/65	Hand reset open high	-	15(5)A	-	280	90	IP43
<b>EBS-80/L280</b>	-	60/95	Hand reset open high	-	15(5)A	-	280	115	IP43
<b>EBD-1</b>	0/80	0/80	2	2	10(3)A	10(3)A	100	100	IP43
<b>EBD-2</b>	35/95	35/95	4	4	15(5)A	15(5)A	100	115	IP43
<b>EBD-8</b>	35/95	60/95	4	Hand reset open high	15(5)A	15(5)A	100	115	IP43
<b>EBD-9</b>	50/130	95/130	4	Hand reset	15(5)A	15(5)A	100	115	IP43
<b>EBD-32/L260</b>	35/95	35/95	4	4	15(5)A	15(5)A	260	115	IP43
<b>EBD-38/L260</b>	35/95	60/95	4	Hand reset open high	15(5)A	15(5)A	260	115	IP43

**DIMENSIONS**

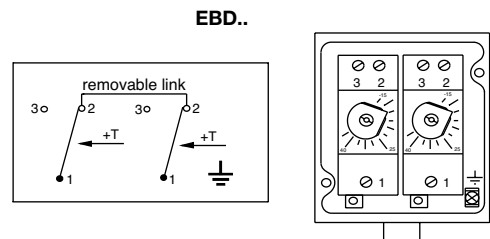
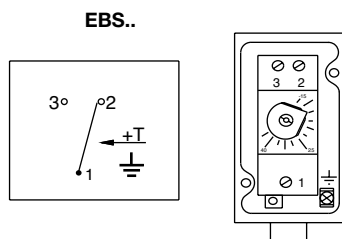


**ACCESSORIES:**

- EE-9B** Spare brass pocket 100mm for EBS-2..9 (NOT for EBS-1)
- EE-ST9** Stainless steel pocket 100mm for EBS-2..9 (NOT for EBS-1)



**WIRING:**



1-2 close on temp fall. 1-3 close on temp rise. OPEN HIGH Contact 1-2 opens on temp rise. Temp must fall to allow resetting

# THERMOSTATS - MECHANICAL

## STRAP-ON THERMOSTATS

### BRC.. ESS..

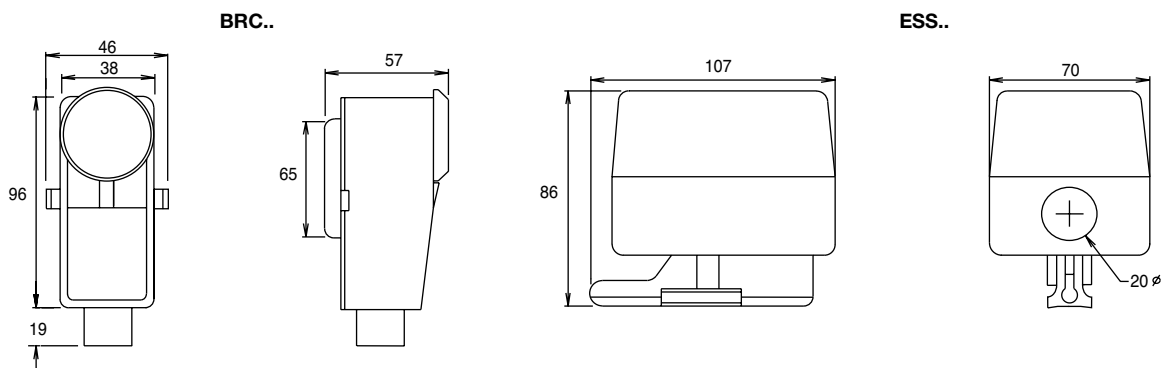
These products can be used to monitor the temperature of liquids in pipes and cylinders.



Volt free contacts  
 ESS.. Adjustment under the cover  
 Terminals 0.5-2.5mm  
 Enclosure Flammability: BRC=UL94-HB  
 ESS=UL94-V0

Type	Range °C	Diff °C	230VAC SPDT	Max. Bulb Temp °C	Enclosure
<b>BRC</b>	20/90	5	15(3)A	120	IP30
<b>ESS-1</b>	-25/+45	2	10(3)A	70	IP43
<b>ESS-2</b>	0/70	2	10(3)A	90	IP43
<b>ESS-32</b>	35/95	4	15(5)A	115	IP43
<b>ESS-3</b>	50/130	6	15(5)A	130	IP43
<b>ESS-42</b>	30/65	Hand reset open high	15(5)A	90	IP43
<b>ESS-4</b>	60/95	Hand reset open high	15(5)A	115	IP43

### DIMENSIONS



### ACCESSORIES:

#### FIXING STRAP FOR BRC



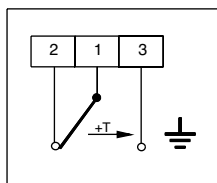
#### FIXING STRAP FOR ESS EE-ESS



FIXING STRAP ADJUSTABLE UP TO 150MM DIA. IS INCLUDED.  
 LONGER FIXING STRAPS ARE AVAILABLE ON REQUEST.

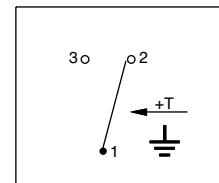
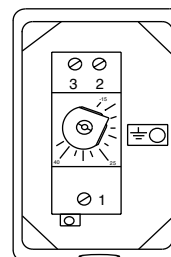
### WIRING:

#### BRC..



Contacts 1-3 close on temperature rise.  
 Contacts 1-2 close on temperature fall.

#### ESS..



Contacts 1-3 close on temperature rise.  
 Contacts 1-2 close on temperature fall.  
 Open high = Contact 1-2 opens on temperature rise. Temp must fall to allow resetting.

**INSTALLATION:** Fix the thermostat securely to the pipe. The ambient temperature around the sensor can affect the switching point.

**OUTSIDE FROST THERMOSTATS**

**EOF..**

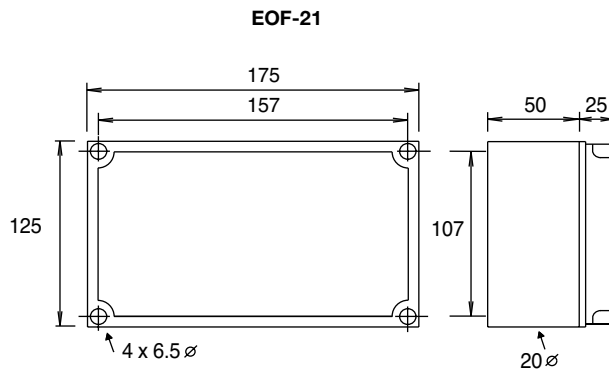
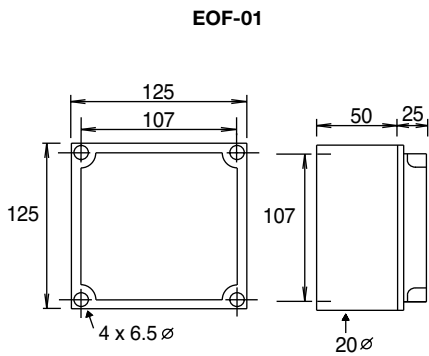
■ EOF thermostats are used to monitor temperature outside buildings and switch heating/cooling or other units in the event of high/low temperatures. The EOF-01 is a single function unit and the EOF-21 is a dual function unit which has 2 separate thermostats inside one enclosure.



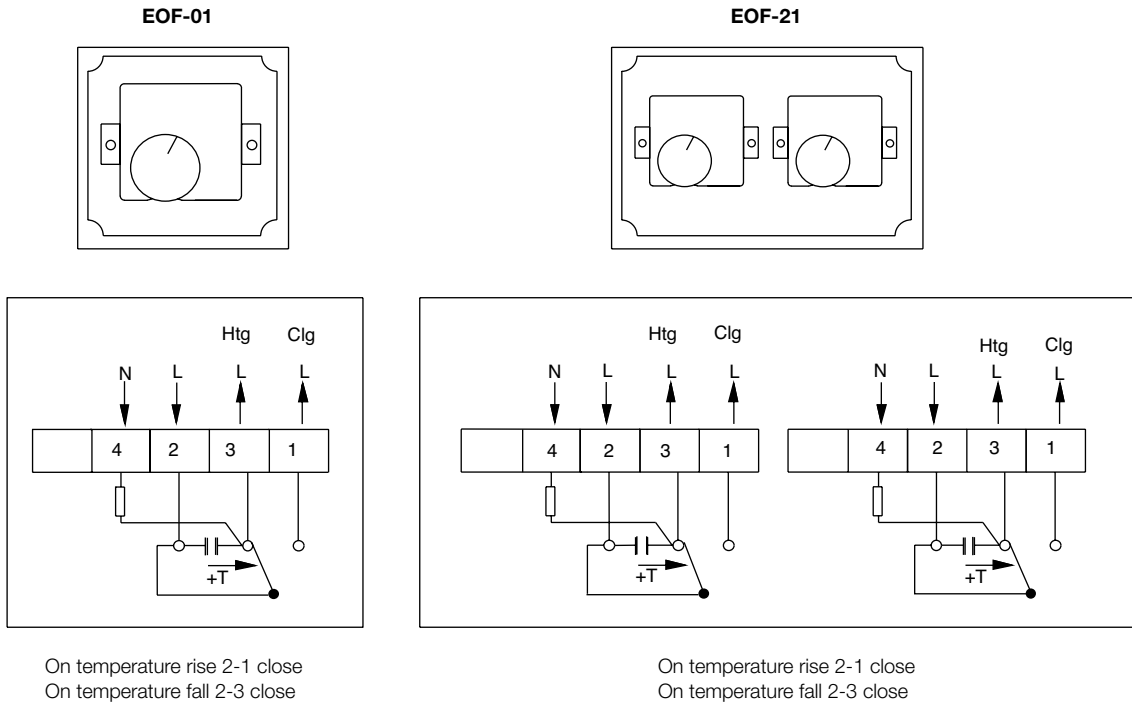
Adjustment under the cover on all models  
 Enclosure Flammability = UL94-V2  
 EOF-01 is single function  
 EOF-21 is dual function (2 thermostats inside one enclosure)

Type	Range °C	Diff °C	230VAC SPDT	Sensing Element	Max. Ambient °C	Enclosure
<b>EOF-01</b>	-20/+30	1	10(3)A	Bimetal	60	IP65
<b>EOF-21</b>	-20/+30 & -20/+30	1	2x10(3)A	Bimetal	60	IP65

**DIMENSIONS**



**WIRING:**



**INSTALLATION:** Outside Thermostats & Sensors which are used for frost protection should be mounted on the North side of the building. If this is not possible, shield the sensor from direct sunlight.

# THERMOSTATS - MECHANICAL

## SPACE THERMOSTATS

ECS..

■ Type ECS thermostats monitor temperatures inside factories, greenhouses and areas subject to high humidity or regular washdown processes. The liquid filled sensing elements are fixed to the side of the weatherproof enclosures.

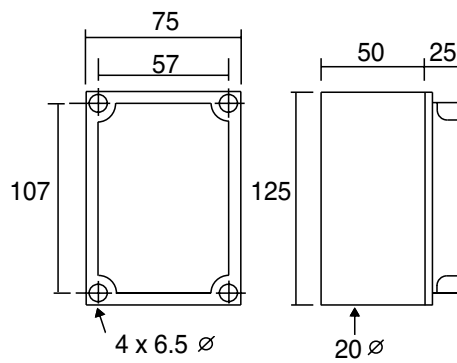


Adjustment under the cover  
 Terminals 0.5-2.5mm rising clamps  
 Enclosure Flammability = UL94-V2

Type	Range °C	Diff °C	230VAC SPDT		Sensing Element	Max.Ambient °C	Enclosure
<b>ECS-3</b>	-20/+40	1.5	15(6)A	Volt free	Bellows	60	IP65
<b>ECS-4</b>	-20/+40	3.5	15(6)A	Volt free	Bellows	60	IP65
<b>ECS-6</b>	0/80	2.5	15(4)A	Volt free	Bellows	80	IP65

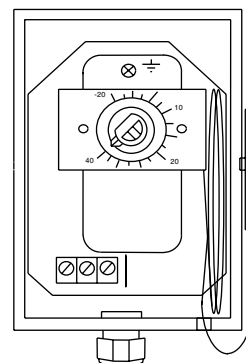
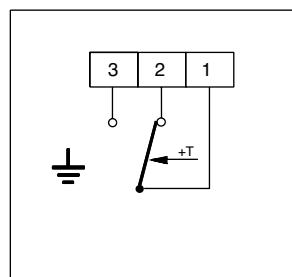
### DIMENSIONS

ECS..



### WIRING:

ECS..



Contact 1-2 close on temp fall.

Contact 1-3 close on temp rise.

**ROOM THERMOSTATS 1 STAGE**

EOF.

■ These products can be used to monitor the temperature inside buildings and switch heating, cooling or other units. These units are tamperproof.



**TA-2**  
Main adjustment via knob.  
Backplate for 1 gang BS box is included.

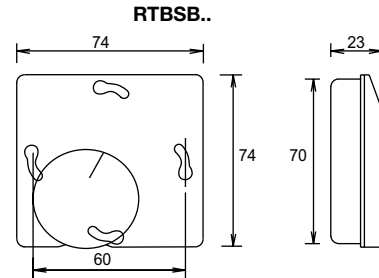
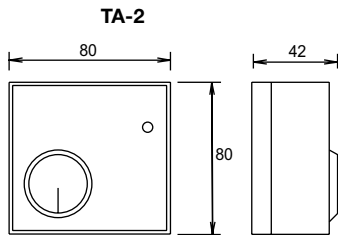
**RTBSB-001.010/045/048**  
Knob adjustment only.  
Range and limit stops provided.  
Order backplate separately.  
Enclosure Flammability = UL94-V0

**RTBSB-001.910**  
Adjustment under the cover.

Type	Stages	Range °C	Diff °C approx	230VAC Element		Function	Sensing	Enclosure
<b>TA-2</b>	1	5/30	1	SPDT 10(2.5)A	Volt Free Contacts	Htg or Clg	Bellows	IP20
<b>RTBSB-001.045</b>	1	-20/+30	0.5	SPDT 10(3)A	-	Htg or Clg	Bimetal	IP30
<b>RTBSB-001.010</b>	1	5/30	0.5	SPDT 10(3)A	-	Htg or Clg	Bimetal	IP30
<b>RTBSB-001.048</b>	1	10/60	0.5	SPDT 10(3)A	-	Htg or Clg	Bimetal	IP30
<b>RTBSB-001.910*</b>	1	5/30	0.5	SPDT 10(3)A	-	Htg or Clg	Bimetal	IP30

\* Concealed adjustment.

**DIMENSIONS**



**ACCESSORIES:**

<b>EG-1000</b>	Stat Guard Internal Dims	133 H x 155 W x 70 D
<b>EG-2000</b>	Stat Guard Internal Dims	102 H x 123 W x 60 D
<b>EG-3000</b>	Stat Guard Internal Dims	123 H x 196 W x 70 D

High impact polycarbonate, virtually unbreakable. Supplied with lock & key

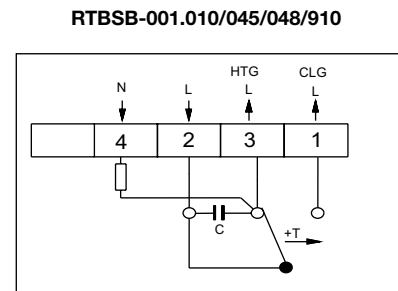
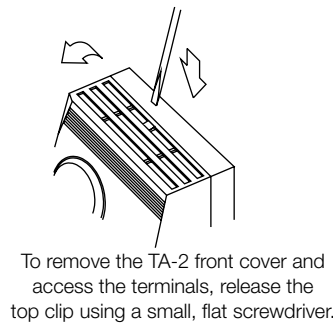
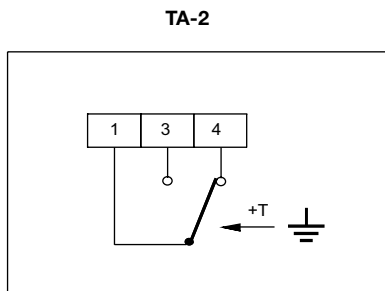


**EE-BP2 Backplate for RTBSB.. will fit square or round outlet boxes.**

**EG..**

**EE-8P2**

**WIRING:**



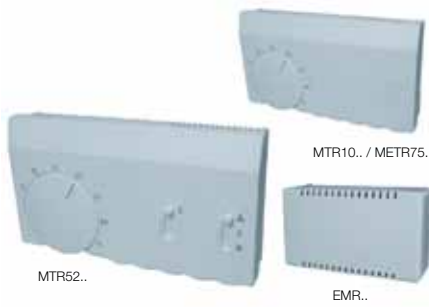
**INSTALLATION:** Install at a height of approx. 1.5m  
Keep away from radiators, direct sunlight & other heat sources.



# THERMOSTATS - MECHANICAL

## ROOM THERMOSTATS 2-3-4 STAGES

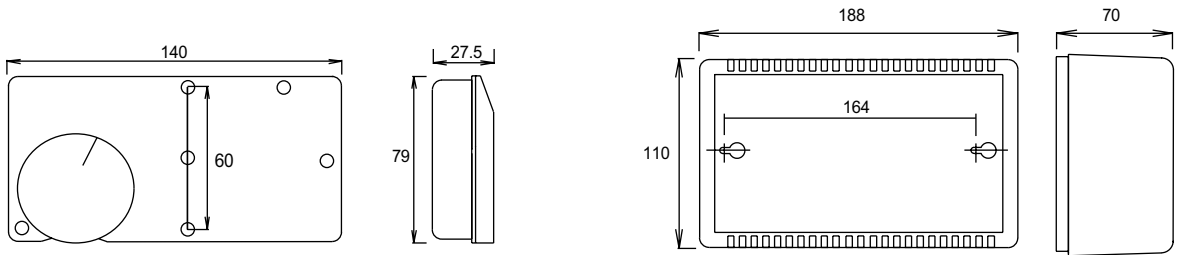
These products can be used to monitor the temperature inside buildings. Up to 4 stages are available to control multiple heating/cooling or other units in various combinations.



MTR..  
Knob adjustment with range and limit stops.  
Enclosure Flammability = UL94-V0  
EMR..  
Adjustment under the cover.  
For various combinations of htg/clg.  
Volt free contacts  
Terminals 0.5-2.5mm<sup>2</sup> rising clamps

Type	Stages	Range °C	Diff Per Stage °C	Diff. Between Stages °C	Switch Rating 230VAC	Function	Sensing Element	Enclosure
<b>MTR10-005</b>	2	5/30	1	2	2 x 10(3)A	1 Htg + 1 Clg	Bimetal	IP30
<b>METR75-820</b>	2	5/30	1	0.5/5 adj.	2 x 8(3)A	2 Htg	NTC	IP30
<b>On-Off switch</b>								
<b>MTR52-018</b>	2	5/30	1	2	2 x 10(3)A	1 Htg + 1 Clg	Bimetal	IP30
On-Off switch & 3 speed fan switch								
<b>EMR-22A</b>	2	0/50	1	1/10 adj.	2 x SPDT 15(3)A Volt free	Htg/Clg	Bellows	IP30
<b>EMR-34</b>	3/4	0/50	1	1	4 x SPDT 15(3)A Volt free	Htg/Clg	Bellows	IP30

### MTR..



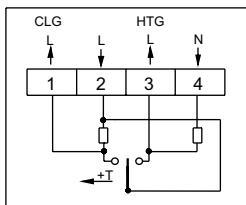
### ACCESSORIES:

EG-1000 Stat Guard Internal Dims 133 H x 155 W x 70 D  
 EG-2000 Stat Guard Internal Dims 102 H x 123 W x 60 D  
 EG-3000 Stat Guard Internal Dims 123 H x 196 W x 70 D  
 (Guards are not suitable for EMR..)

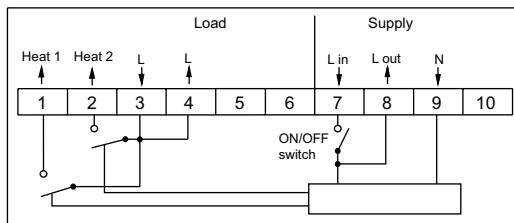
High impact polycarbonate, virtually unbreakable. Supplied with lock & key



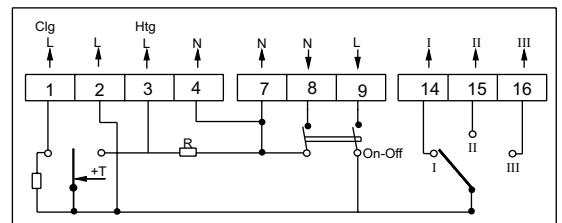
### WIRING:



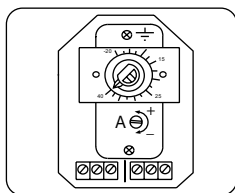
### METR75-820



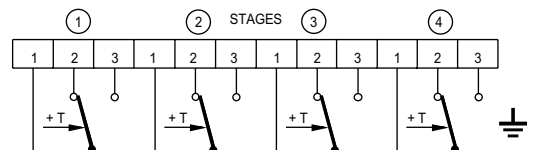
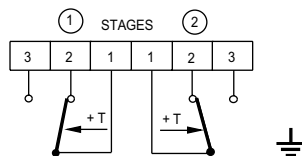
### MTR52-018



### EMR-34



Diff between stages adjust via screw A



Htg only = wire 1st stg htg to last stg on stat & follow downwards in sequence  
 Clg only = wire 1st stg clg to 1st stg on stat & follow upwards in sequence  
 Htg & Clg = wire heating on lower stages & cooling on higher stages

## THERMOSTAT GUARDS

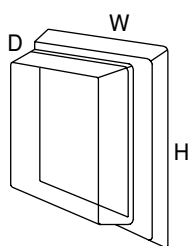
<p>■ A range of transparent, high impact, polycarbonate thermostat guards for use with a variety of thermostats/sensors etc. The guards screw fix to the wall over the existing thermostat.</p>		<p>Supplied with lock and key Ideal for use in public areas, sports halls etc. Flammability = UL94-V0 Self locking snap-lock cover, use key to unlock.</p>
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Type	Application Examples	Description		
<b>EG-1000</b>	MTR10..	Virtually unbreakable	Unobstructed airflow	Tamperproof
<b>EG-2000</b>	TA-2, PTR01.. ER.. EH.. EHR..	Virtually unbreakable	Unobstructed airflow	Tamperproof
<b>EG-3000</b>	Various (Not suitable for EMR..)	Virtually unbreakable	Unobstructed airflow	Tamperproof

### EG-KEY

### DIMENSIONS

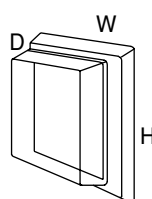
**EG-1000**



EXTERNAL  
H 192  
W 212  
D 70

INTERNAL  
H 133  
W 155  
D 70

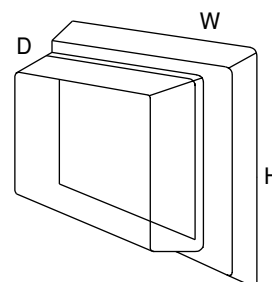
**EG-2000**



EXTERNAL  
H 152  
W 170  
D 60

INTERNAL  
H 102  
W 123  
D 60

**EG-3000**



EXTERNAL  
H 181  
W 251  
D 70

INTERNAL  
H 123  
W 196  
D 70

### INSTALLATION:

