

# Y112/Y112RM



## Frost Protection Thermostats

MODEL	DESCRIPTION
Y112	Frost protection thermostat with automatic reset
Y112RM	Frost protection thermostat with manual reset



### APPLICATION AND USE

The range of Y112 and Y112RM freeze thermostats covers both battery and water pipe freeze protection. Both Y112 and Y112RM have a capillary that will sense the lowest temperature on the face of the battery or the surface of a pipe. They are available in both automatic (Y112) and manual reset (Y112RM) versions. The thermostats are supplied with a knob for control the range and a top cover for the IP protection degree.

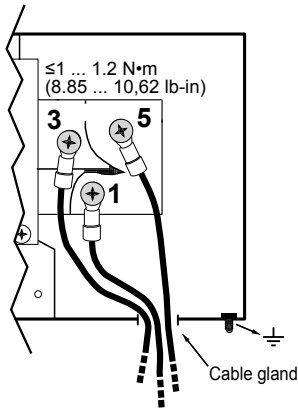
### TECHNICAL CHARACTERISTICS

CHARACTERISTIC		DESCRIPTION
Standards		IEC/EN60730-1, IEC/EN60730-2-6
Type		Thermostat
Construction of control		Independently mounted control for flush mounting
Classification of control according to protection against electric shock		Class I
Rated impulse voltage		4000 V
Type of disconnection provided by each circuit		Micro interruption
Pollution degree		3
Operating temperature and humidity range		-40°C to 55°C (-40°F to 131°F) 10% to 90% RH (non condensing)
Storage and transport conditions		-40°C to 70°C (-40°F to 158°F) 10% to 90% RH (non condensing)
Contact configuration		SPDT
Type of load and rated current		16(16) A 240 V AC
Reset type		Auto (Automatic - Y112) Man (Manual - Y112RM)
Degree of protection provided by enclosure	With top cover	Reset type: Auto IP44, Manual IP30
	Without top cover	Reset type: Auto and Manual IP20
Available differentials		Fix
Available temperature range and differential for automatic/manual reset models	Temp. Range	-20°C to 15°C
	Differential	2°C
Trip-free function for manual reset version		In accordance to EN60730 requirements

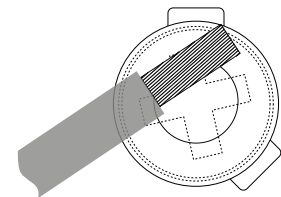
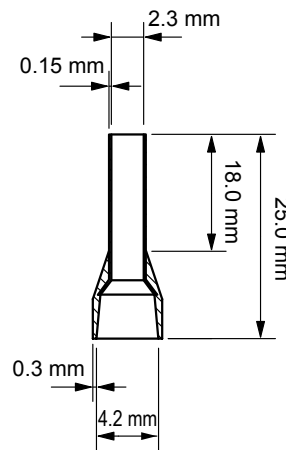
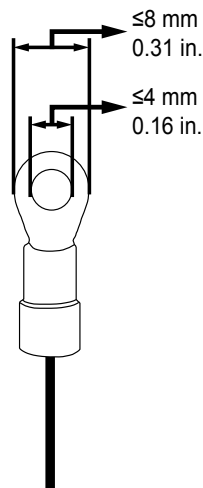
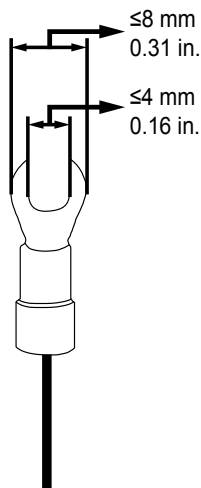
The performances stated in this sheet can be modified without any prior notice.

CHARACTERISTIC	DESCRIPTION
Cable size	Minimum 1.5 mm <sup>2</sup> (14 AWG) - Use copper conductors only
Temperature sensor type	Coiled end capillary - length 6 m

## CONNECTIONS



- 1 - Common
- 3 - Open on temperature drop, close on temperature rise
- 5 - Open on temperature rise, close on temperature drop



Wire using cable lugs, ferrules or bare conductor.

## WARNING

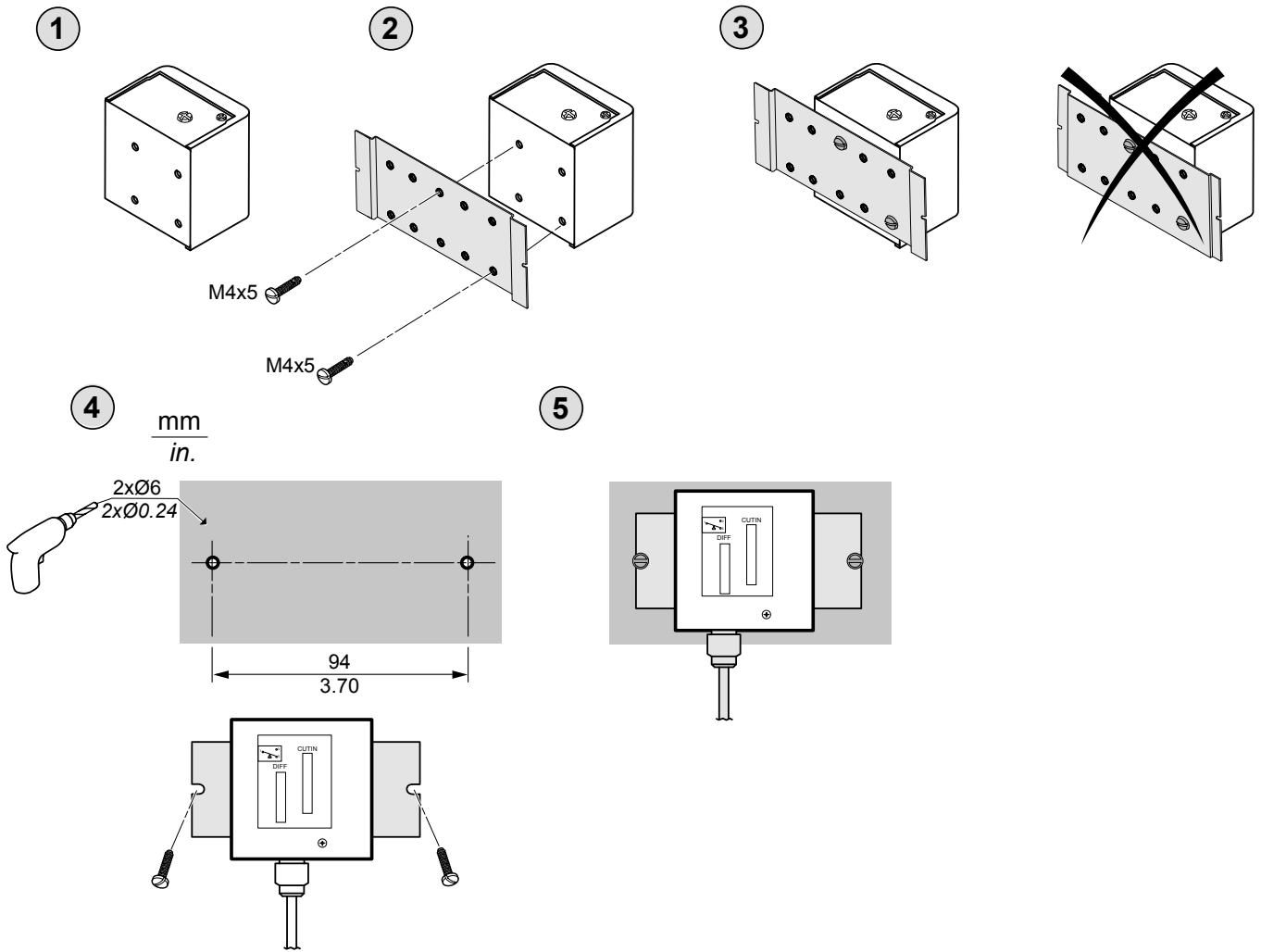
### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power from all equipment including connected devices, prior to removing any covers or doors, or installing or removing any accessories, hardware, cables, or wires.
- Always use a properly rated voltage sensing device to confirm the power is off where and when indicated.
- Replace and secure all covers, accessories, hardware, cables, and wires and confirm that a proper ground connection exists before applying power to the unit.
- Use only the specified voltage when operating this equipment and any associated products.
- Failure to follow these instructions will result in death or serious injury.

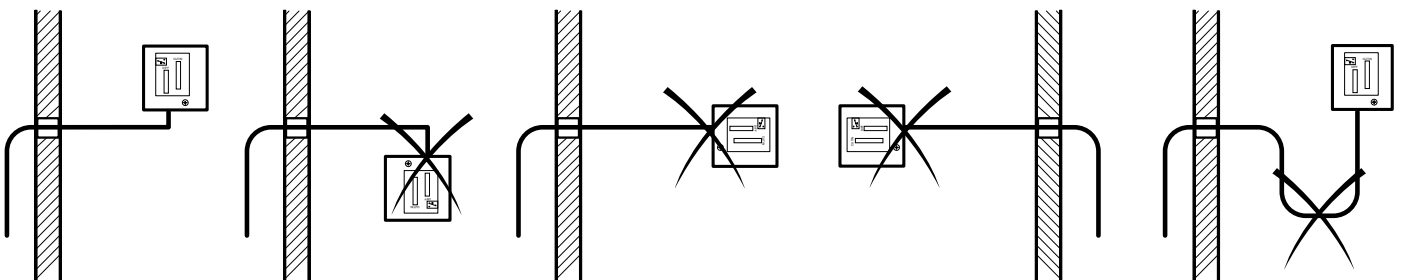
### POTENTIAL FOR EXPLOSION

- Install and use this equipment in non-hazardous locations only.
- Do not install and use this equipment in applications capable of generating hazardous atmospheres, such as those applications employing flammable refrigerants.
- Failure to follow these instructions can result in death, serious injury, or equipment damage.

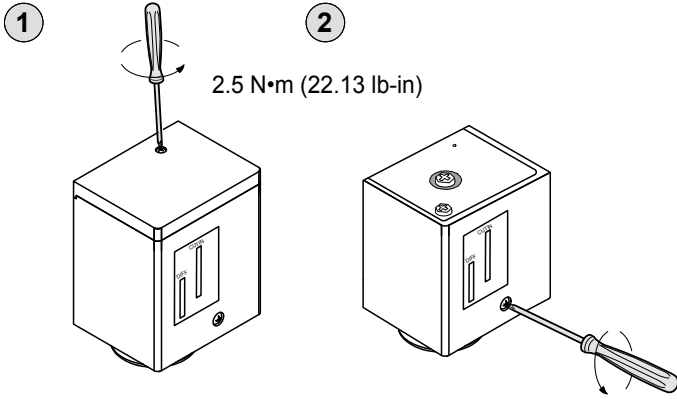
Mounting with plate



Mounting position



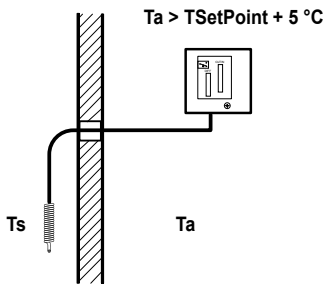
## Removal of plastic covers



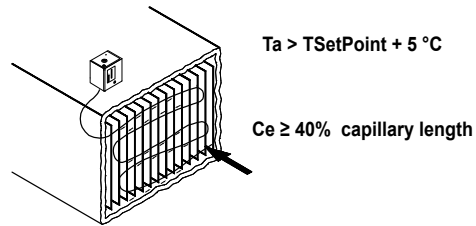
## Capillary and thermostat temperature

Ta = Ambient temperature

Ts = Sensor temperature (to be sensed)



Ce = Percentage of capillary exposed Ts



## RANGE AND DIFFERENTIAL WORKING PRINCIPLES

Use the knob supplied in the pack to set the range and differential.

Range = CUTIN = (for example) -15 °C (5 °F)  
 DIFF = 2 °C (35.6 °F)  
 CUTOUT = RANGE - DIFF = (for example) -17 °C (1,4 °F)

### Automatic reset (Y112 model)- Fixed differential 2°C

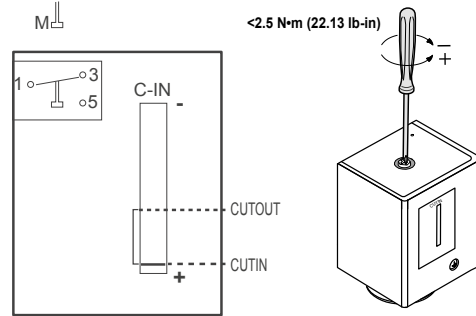
Connect terminals 1-3

Range Screw: clockwise to decrease

Fixed differential 2°C (DIFF)

To set IN/OUT values:

- Set CUTIN through range screw
- CUTOUT = By subtracting differential to CUTIN



### Manual reset - Fixed differential 2 °C

Connect terminals 1-3

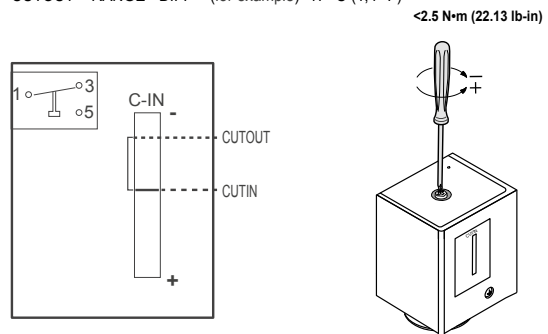
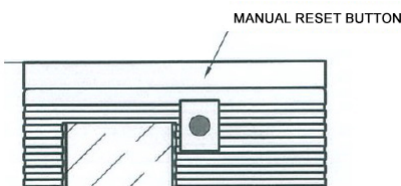
Range Screw: clockwise to decrease

Fixed differential 2 °C (DIFF)

To set IN/OUT values:

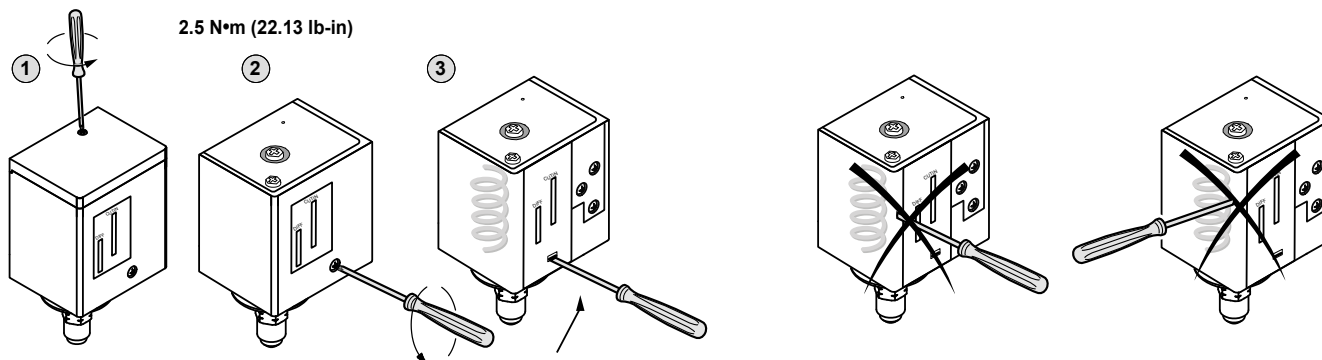
- Set CUTIN through range screw
- CUTOUT = By subtracting differential to CUTIN

Range = CUTIN = (for example) -15 °C (5 °F)  
 DIFF = 2 °C (35.6 °F)  
 CUTOUT = RANGE - DIFF = (for example) -17 °C (1,4 °F)



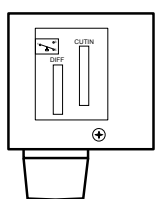
## TRIPPING SWITCH

The switch can be manually operated by lifting the bellows tab.



Only use the screwdriver as indicated in the figures.  
Failure to follow these instructions can result in equipment damage.

## DIMENSIONS [mm]



80 x 67.2 x 46 mm