Frost Protection Thermostats

Y112/Y112RM

CE

CODE	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

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 ...55 °C (-40 ... 131 °F) 10...90 %RH (non condensing)
Storage and transport conditions	-40 ...70 °C (-40 ... 158 °F) 10...90 %RH (non condensing)
Contact configuration	SPDT
Type of load and rated current	16(16) A 240 Vac

Reset type		Auto (Automatic - Y112) Man (Manual - Y112RM)	
Degree of protection provided by enclosure	Reset type	**With top cover**	**Without top cover**
	Auto	IP44	IP20
	Man	IP30	
Available differentials		Fix	
Available temperature range and differential for automatic reset models		**Temperature Range**	**Differential**
		-20…15 °C	2 °C
Available temperature range and differential for manual reset		**Temperature Range**	**Differential**
		-20…15 °C	2 °C
Trip-free function for manual reset version		In accordance to EN60730 requirements	
Cable size		Minimum 1.5 mm² (14 AWG) Use copper conductors only	
Temperature sensor type		Coiled end capillary - lenght 6 m	

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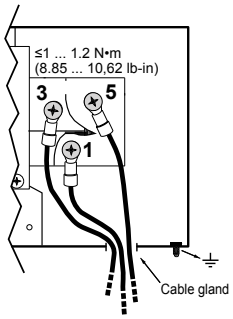
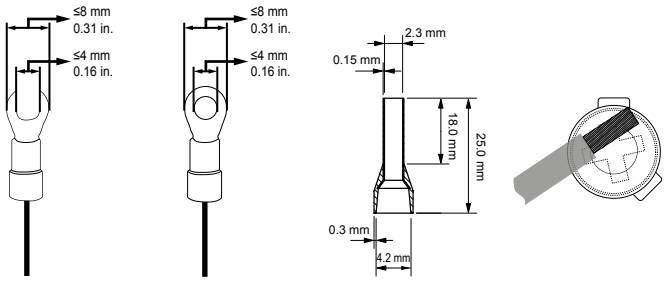
The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

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

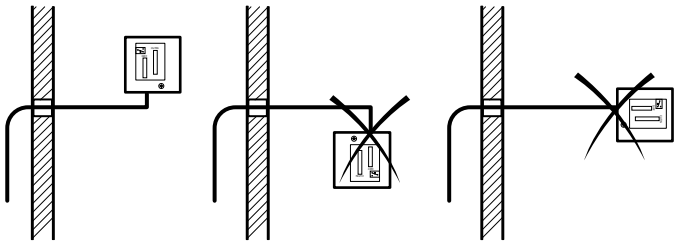
- Disconnect all power from all equipment including connected devices, prior to removing any covers or doors, or installing or removing any accessories, hardware, cables, or wires.
- Always use a properly rated voltage sensing device to confirm the power is off where and when indicated.
- Replace and 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.

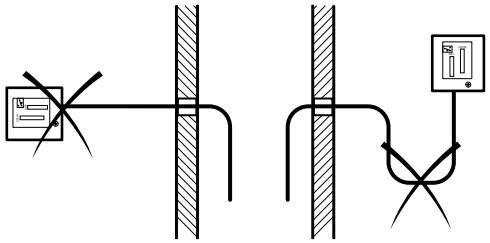
POTENTIAL FOR EXPLOSION

- 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.

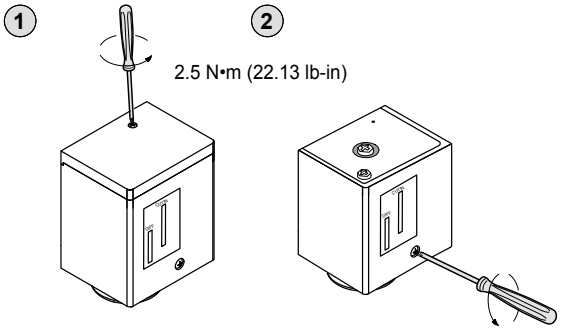
MOUNTING

Mounting position



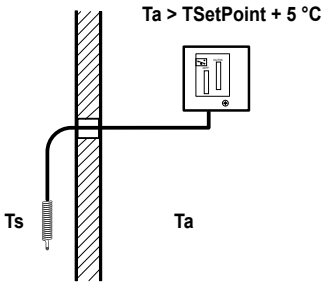


Removal of plastic covers

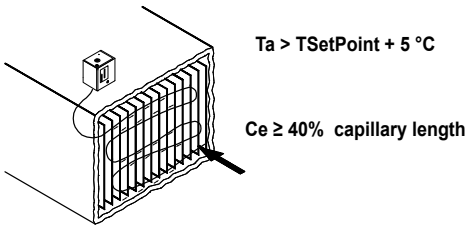


Capillary and thermostat temperature

Ta = Ambient temperature
Ts = Sensor temperature (to be sensed)



Ce = Percentage of capillary exposed Ts



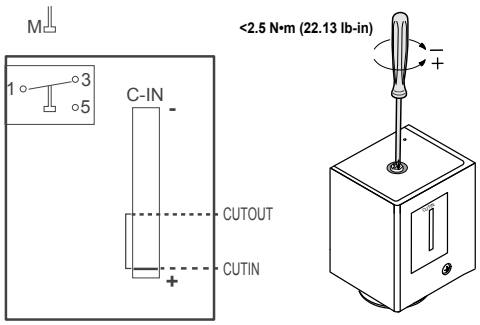
RANGE AND DIFFERENTIAL WORKING PRINCIPLES

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

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:
a) Set CUTIN through range screw
b) CUTOUT = By subtracting differential to CUTIN

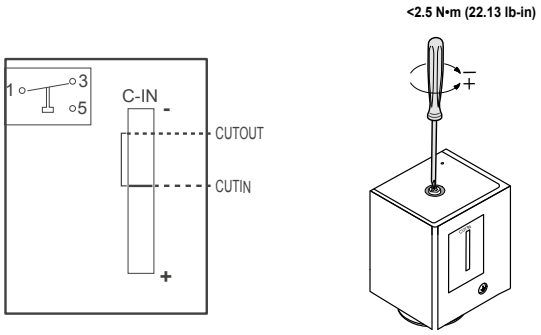
Range = CUTIN = (for example) -15 °C (5 °F)
DIFF = 2 °C (35,6 °F)
CUTOUT = RANGE - DIFF = (for example) -17 °C (1,4 °F)

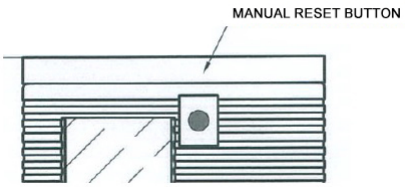


Manual reset - Fixed differential 2 °C

Connect terminals 1-3
Range Screw: clockwise to decrease
Fixed differential 2 °C (DIFF)
To set IN/OUT values:
a) Set CUTIN through range screw
b) CUTOUT = By subtracting differential to CUTIN

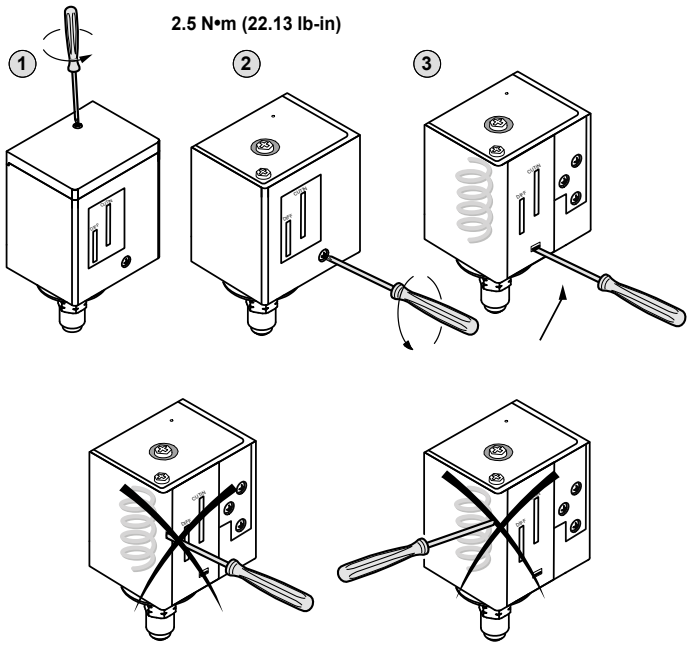
Range = CUTIN = (for example) -15 °C (5 °F)
DIFF = 2 °C (35,6 °F)
CUTOUT = RANGE - DIFF = (for example) -17 °C (1,4 °F)





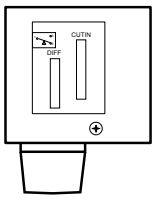
TRIPPING SWITCH

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

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