

General Specification for Universal Enclosures

Adjustable mechanical thermostat for controlling thermal solutions (Ventilation or heating) on electronic devices in enclosures from low voltage switchgear panels to automation and control installations

Reference:

NSYCCOTHCF

1. General Terms

Thermal Controllers are used for ensuring the correct working variables inside the enclosure's volume (temperature and humidity) for protecting and avoiding technical breakdowns due to hot spots or low extreme temperatures. Also the function of a controller increases the lifetime of installed equipment and the lifetime of the thermal solution installed.

Complies with the safety provisions for people and things required by the following Council Directives:

2006/95/CE *Low voltage*

2004/108/CE *Electromagnetic compatibility*

2. Compliance with the standards

Standard	Title	Use
EN60730-2-9	Automatic electrical controls for household and similar use -	Part 2-9: Particular requirements for temperature sensing controls
EN55014-1 :	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus -	Part 1: Emission
EN61000-6-2 :	Electromagnetic compatibility (EMC)	Part 6-2: Generic standards - Immunity for industrial environments
EN61000-3-2 :	Electromagnetic compatibility (EMC)	Part 3-2 : limits - Limits for harmonic current emissions (equipment input current inferior or equal 16 A per phase)
UL 508A	UL Standard for Safety for Industrial Control Panels, UL 508A	No. 24, "Temperature-Indicating and -Regulating Equipment."

Note: All this documentation is downloadable from the website: www.schneider-electric.com

Specific requirements

Adjustable mechanical thermostat (red button) manufactured with the integration of different pieces, Bimetal (for mechanical adjustable controllers) or an integrated thermal electronic circuit, and the controller's enclosure. This enclosure has a manual or electronical setting system.

The thermostat will control a heater ClimaSys heating and his setting temperature will be 15°C for avoiding humidity, condensation or low temperatures inside the enclosure

Suitable temperature/humidity inside the enclosure:

When the controller will be installed in the enclosure it is strongly recommended to set at:

35°C in case of a Thermostat or Hygrotherm

60% of Relative Humidity when an Hygrostat or Hygrotherm is used.

Degree index of protection

Also the protection degree should be IP 20

Control type

normally closed (heating function)

Contact parameters

The following Adjustable mechanical thermostat should have the following parameters:

Hysteresis : 7K

Precision: + - 4°F

Interrupting capacity: 30W DC ; 120V AC 15A ; 250V AC 10A

Frequency level: 50/60Hz

Setting range :

The following Adjustable mechanical thermostat should have the following parameters:

+32...+140°F

Fixation mode:

The following Adjustable mechanical thermostat should have the following requirements:

with 4 different mounting positions (On 35mm DIN Rail, on mounting plate, on cross rail, on mounting plate)

Recommended to be installed at the upper part in the enclosure with free sides for having a well thermal reading

Accessories to supply:

External sensor if necessary:

Statistics function integrated:

Manufacturer: Schneider Electric or similar

4. Operation & Maintenance

4.1 Quality Assurance

All materials and products shall be new, sound and uniform in quality, size, shape, color and sound.

The manufacturer shall be responsible for ensuring that the required standards of quality control as mentioned in relative sections are maintained for the proposed Adjustable mechanical thermostat.

If requested by the client, the supplier shall provide proof of application of a quality procedure complying with standards. This means:

- Use of a quality manual approved and signed by a management representative.
- regular updating of this manual so that it reflects the most recent applicable quality control procedures,
- ISO 9001 or ISO 14001 certification

4.2 Product delivery, storage and handling

- Deliver, store, protect and handle products to site as per manufacturer's instructions.

5. Sustainable development

- Production site organisation shall be non polluting and certified to comply with ISO 9001 and ISO 14001 standards.

6. Technical requirements for material suppliers

Answers like “Complying with the specs” or “Ok” are not acceptable. The supplier shall provide the technical characteristics of his equipment and prove the information with documentation or official certificates if required.

Description	Specifications required	Offered by the supplier
Controller's Precision	+ - 4°F	
Hysteresys value	7K	
Interruptiong Capacity values	30W DC ; 120V AC 15A ; 250V AC 10A	
Material	UL94-v0 plastic grey	
Frequency	50/60Hz	

7. Software for thermal solution selection

For the correct selection of the thermal management solution the supplier must present a thermal study clearly indicating:

- > Highest temperature of the board without temperature management
- > Necessary cooling power
- > Cooling power offered by the solution
- > and the calculations made

To ensure that the installation conditions in according with the thermal components selected are correct. We recommend to use Proclima software from Schneider Electric or similar.