CTA-24/230V INSTALLATION INSTRUCTIONS

EN

ENGLISH

2-stage overheating alarm.
Multi-voltage: 24V AC/DC and 230V AC

WARNING: IMPORTANT INFORMATION CONCERNING ELECTRICAL SAFETY AND ENVIRONMENT

The product may incorporate lethal voltage. The product's enclosure is not intended to be opened. At 230V AC supply voltage the product shall be powered via a proximally mounted disconnection device marked: "Disconnection device for thermostat CTA". The product's relay switch can be energised with 230V which must be disconnected prior to conducting maintenance work. The product is intended for outdoor use. The product shall not be subjected to liquids or moisture. The outside of the product can be cleaned using a slightly moist cloth rag. The product is intended for installation on a DIN rail / Norm enclosure in an area protected from the public.

INDEX

1. TECHNICAL DATA

Supply voltage:	24V AC ±10%, 24V DC ±5% and 230V AC ±10% 50-60 Hz
Relay outputs:	250V ~ 5SnnbA resistive loading, alternating potential-free
Power consumption:	4W
Temperature range:	-99 to +600°C
Ambient temperature:	0 to +40°C
Selectable temp.sensors:	Pt1000 (factory setting), Pt100, Ni1000, NTC (Calectro type: 22/33/44/55/99) and PTC (Calectro type: 95)
Temperature range for different sensor types:	
Pt1000:	-99 to +600°C
Pt100:	-99 to +600°C
NTC:	-10 to +125°C
PTC:	-25 to +110°C
NI1000:	-30 to +125°C
Mounting:	DIN rail, Norm-enclosure
Dimensions WxHxD:	52.5 x 86 x 59mm
Weight:	240 g.
Enclosure class:	IP20

2. FUNCTION

CTA is a 2-stage overheating alarm in which 2 different alarm temperatures can be set. When the sensor temperature exceeds alarm temperature 1, relay 1 is deactivated (alarm condition). The same is valid for alarm temperature 2 and relay 2.

In the event of alarm the relay(s) are locked in the alarm condition until the Reset button has been depressed. If the alarm condition reverted to "normal temperature" when the Reset button was depressed, the relay is reset and the central button reverts to the Menu function.
If the alarm condition persists after the Reset button has been depressed the relay will not be reset, however the central button reverts to Menu function for 5 seconds in order to allow settings in the menu system.
The reference values and alarm temperatures can always be adjusted even during an alarm condition. See section 8.

The relays are activated in energised normal condition and are deactivated in the event of an alarm or power loss. In the event of an alarm "ALARM" is displayed under the respective alarm temperature that has been exceeded.

CTA monitors the temperature sensor and deactivates the alarm relays in the event of short-circuit or interruption in the sensor circuit.

CTA also has an adjustable alarm delay time (0-120 minutes), with a factory setting of 0 minutes.

CTA can be powered by 24V AC/DC via plinth 15-16 or 230V AC via plinth 1-2. CTA has two alternating potential-free relay outputs (5A, 250V). During start-up and when replacing a temperature sensor CTA conducts a self-test. Three bars blink at the lower part of the display. Once the self-test has finished the actual temperature will be displayed. In the case of interruption to the thermometer sensor the display shows Er0 and in the case of short-circuit Er1 is displayed.

3. USE

CTA is an electronic overheating temperature alarm used for monitoring rising temperatures. Possible uses are, for example, as a fire protection alarm in ventilation plants, or as an overheating guard.

4. INSTALLATION

CTA is designed for mounting on a DIN rail and is adapted for Norm enclosures.

5. MAINTENANCE

CTA is maintenance-free.

6. BUTTONS AND MENU SYSTEM

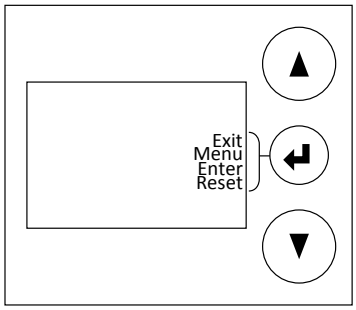
▲ = Step up in the menu / increase value - Keep the button depressed and the alarm temperature counts up rapidly.

▼ = Step down in the menu / decrease value - Keep the button depressed and the alarm temperature counts down rapidly.

↵ = Is a multi-function button whose current function* is shown in the display beside the button.

* Central button functions:

- Exit Menu = Exit the menu
- Menu = Enter the menu or select application
- Enter = Confirm setting
- Reset = To reset relay after alarm



The menu system consists of the following submenus:

1. Selection of temperature sensor
2. Fine-adjustment of the temperature measurement
3. Timer functions
4. End the menu system

7. SELECTION OF TEMPERATURE SENSOR

CTA can be connected to several different types of temperature sensor: Pt100, Pt1000, Ni1000 and the ETF series for Calectro's NTC and PTC sensors. Pt1000 is the factory set sensor type.

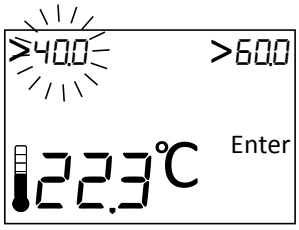
2. Press the Menu button (↵) to access the menu system
3. The actual type of temperature sensor will be displayed.
4. Press Menu-Enter to change the type of

temperature sensor

5. The actual sensor type now starts to flash and it is now possible to select another sensor type using the arrow buttons. Confirm your selection with Enter.
6. Use the arrow buttons to step and confirm Exit-Menu to terminate

8. SETTING OF ALARM TEMPERATURES

To change alarm temperatures press ▲ or ▼ to achieve the desired value. The alarm temperature will flash during setting. Confirm and terminate with Enter (↵). The alarm temperature will now flash twice. Change with ▲ or ▼ to the desired value and confirm with Enter (↵). Done!



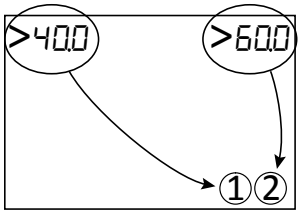
Alarm temperatures and relays:

- The reference value up on the left controls the function for relay 1.

- The reference value up on the right controls the function for relay 2.

Example:

Alarm temperatures for relays 1 and 2 are displayed in the respective upper left and right-hand corner: The 'greater than' symbol (>) indicates that the relay will enter into alarm condition when the temperature is higher than the alarm temperature.



9. FINE ADJUSTMENT OF THE TEMPERATURE MEASUREMENT

If necessary the temperature supply to the CTA can be adjusted. Range: -3.0°C to +3.0°C in steps of 0.1°C.

1. Press the Menu button (↵) to access the menu system
2. Step using the arrow buttons until "Adj" is shown on the display
3. Press Menu-Enter to adjust
4. The actual compensation and temperature now starts to flash and it is now possible to adjust the compensation using the arrow buttons. Confirm your selection with Enter (↵).
5. Use the arrow buttons to step and confirm Exit-Menu to terminate

10. SETTING TIMER FUNCTION

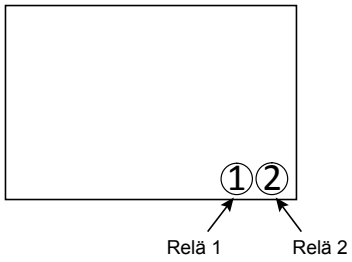
In the CTA it is possible to set a delayed alarm period (0-120 minutes), factory setting: 0 minutes).

1. Press the Menu button (↵) to access the menu system
2. Step using the arrow buttons until ◷ is shown on the display
3. Press Menu-Enter to adjust
4. The actual time now starts to flash and it is now possible to adjust the time. Confirm your selection with Enter (↵).
5. Use the arrow buttons to step and confirm Exit-Menu to terminate

11. DISPLAY EXAMPLE

Relay symbols in the display

The symbol ① is displayed when relay 1 is in alarm condition. The same is valid for the symbol for relay 2.



12. ERROR CODES

CTA monitors the temperature sensor that sets the relays into alarm condition in the event of short-circuit or interruption in the sensor circuit. In the case of interruption the thermometer sensor shows Er0 and in the case of short-circuit Er1 is displayed.

Er0 Interruption in the sensor intake
Er1 Short-circuit in the sensor intake
Er2 Temperature out of range

Temperature/ohm table

Sensor type	Temperature	Ohm
Pt1000	0°C 20°C 40°C	1000 1078 1156
Pt 100	0°C 20°C 40°C	100 107,8 115,6
Ni1000	0°C 20°C 40°C	1000 1090,7 1185,7
NTC (Calectro type 22/33/44/55/99)	0°C 20°C 40°C	37942 14871 6539
PTC Calectro type 95)	0°C 20°C 40°C	1631 1915 2226

13. FIGURES

FIG. 1

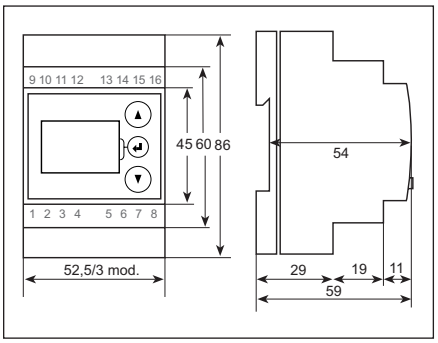
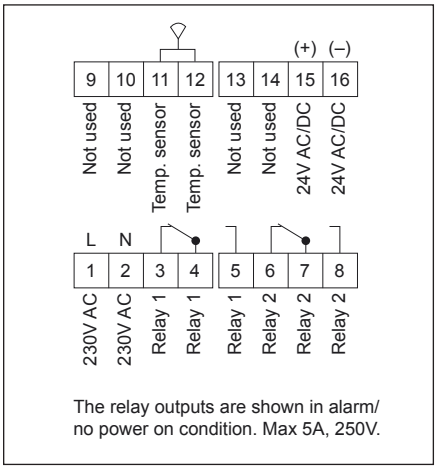


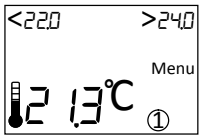
FIG. 2



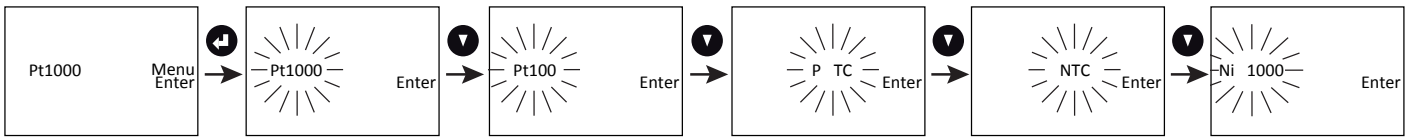
The relay outputs are shown in alarm/ no power on condition. Max 5A, 250V.

14. MENU SYSTEM - OVERVIEW

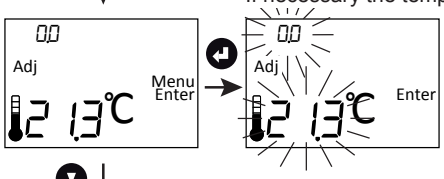
Press Menu ↵ to access the Menu System.
Navigate between the submenus using the arrow keys and select submenu with Menu-Enter.



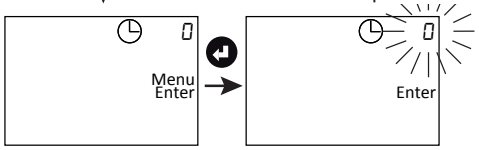
Select the type of temperature sensor. Navigate between the different types and confirm with Enter.



If necessary the temperature feed setting may be fine-tuned (-3.0 to +3.0°C). Confirm with Enter.



Select the required alarm delay or after-run time. Confirm with Enter.



Return to the normal display position through Exit-Menu.