

CFA ELECTRONIC FROST PROTECTION ALARM

with warming function, double relays and digital display. CFA-24V and CFA-230V.



TECHNICAL DATA

Supply voltage

CFA-24V: 24V AC $\pm 10\%$,
CFA-230V: 230V AC $\pm 10\%$ 50-60 Hz

Relay outputs: 250V ~ 5 A resistive loading,
potential-free changeover

Power consumption: 4W

Output signal: 0-10V or 10-0V

Temperature range

Alarm temperature: 0 to 20°C

Warming function: 5 to 50°C

Ambient temp: 0 to +40°C

Selectable

temperature sensor: NTC (factory setting, Calectro type: 22/33/44/55/99), Pt1000, Pt100, Ni1000, 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

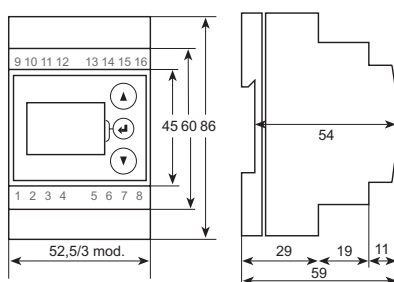
Dimensions WxHxD: 52.5 x 86 x 59 mm

Weight: 240 gram

Protection class: IP20

DIMENSIONS

(mm)



FEATURES

- Very easy configuration
- Backwards compatible with Calectro's frost protection alarm EFST-6
- 2 alternating potential-free relays
- Illuminated digital display
- Fine-adjustment of the temperature measurement
- Selectable output signal 0-10V or 10-0V

FUNCTION

CFA is connected to a temperature sensor that measures the water temperature in the heating coil. The water temperature in the heating coil is normally regulated by another regulator/DUC with the control signal (0-10 or 10-0V) connected via CFA to the control valve. If the water temperature in the coil drops without any response from the regulator / DUC, CFA starts regulating the control valve.

When the water temperature in the coil drops below the pre-set alarm temperature, both relay outlets fall (normally activated).

CFA can be connected to a range of temperature sensors: Pt100, Pt1000, Ni1000 plus Calectro's NTC and PTC sensors in the ETF series. NTC is a factory set sensor.

The temperature measurement in CFA can be adjusted if necessary. Range: -3°C to +3°C in steps of 0.1°C.

CFA monitors the temperature sensor so that a short circuit or interruption on the sensor circuit triggers the alarm and sets the control signal at 100%.

Daytime mode

During daytime the control signal is regulated with a proportional band of 4°C. The control signal begins regulating when the temperature drops to the pre-set alarm temperature plus one degree plus the proportional band.

Example 1: Alarm temperature = 5°C: The control signal begins regulating at 10°C (5+1+4).

Example 2: Alarm temperature = 5°C: At or under 6°C the control signal is 100%.

Daytime mode is activated by a short circuit between terminals 9 and 12. During daytime mode, D4 is shown in the top right-hand corner of the display and DI (under °C) is lit to indicate that the digital input (DI) is short-circuited.

Night mode / warming function

During night mode (warming function) the water temperature in the heating coil is regulated by a setpoint that is adjustable between 5 and 50° (proportional band: 10°C).

Night mode is activated by cutting any jumpers between terminals 9 and 12.

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USE

CFA is an electronic frost protection alarm with a digital display that is used to monitor frost in air heating systems that use water as the heat carrier.

INSTALLATION

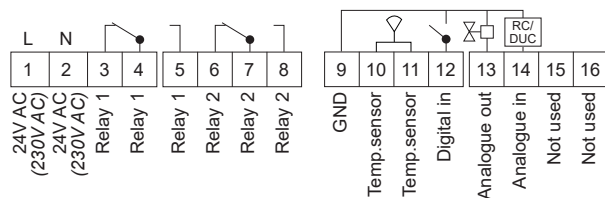
CFA is mounted on a DIN rail and is suited to Norm enclosures. For further information and settings refer to the installation instructions accompanying the product.

MAINTENANCE

CFA requires no maintenance.

WIRING DIAGRAM

Supply voltage for CFA-230V is shown in brackets.



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

ORDERING EXAMPLE

| Item code | Designation |
|-----------|--------------------------------|
| CFA-24V | Frost protection alarm 24V AC |
| CFA-230V | Frost protection alarm 230V AC |

ACCESSORIES

| Item code | Designation |
|-------------------|--|
| ETUK-1 | IP55 norm enclosure, 3 modules |
| CTS-CC-PT1000 | Strap-on temperature sensor 50mm, 1.5m cable, 2 tie straps & gap filler. |
| CTS-IC-100-PT1000 | Fluid immersion sensor 100mm, 1.5m cable |
| CTS-IC-200-PT1000 | Fluid immersion sensor 200mm, 1.5m cable |
| CTS-IC-300-PT1000 | Fluid immersion sensor 300mm, 1.5m cable |
| CTS-IH-100-PT1000 | Fluid immersion sensor 100mm, housing |
| CTS-IH-200-PT1000 | Fluid immersion sensor 200mm, housing |
| CTS-IH-300-PT1000 | Fluid immersion sensor 300mm, housing |
| CTS-A | Adapter int. 1/4", ext. 1/2" |
| CTS-I-100 | Fluid immersion sensor pocket 100mm int. 1/4" ext. 1/2" |

For complete sensor range see data sheet for temperature sensors.