

# 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)

**Mounting:** DIN rail, Norm enclosure

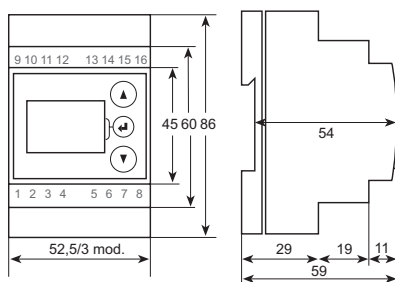
**Dimensions WxHxD:** 52.5 x 86 x 59 mm

**Weight:** 240 gram

**Protection class:** IP20

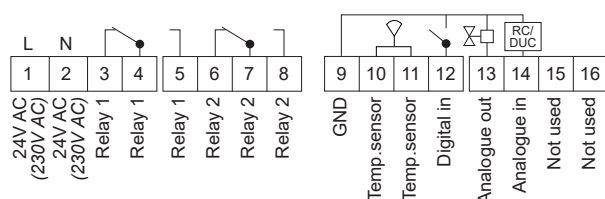
## DIMENSIONS

(mm)



## 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.

## 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.

## 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.