

ECONOMICAL SINGLE-PHASE TEMPERATURE CONTROL BOX 230 Vac

DATA SHEET

COF-3.5KW

Simplify control of your heating elements with our economical single-phase temperature control unit.

Precision and performance at reduced cost:

Our single-phase temperature control box is the ideal solution for those seeking efficiency and economy in industrial heating applications. Designed for fast installation and commissioning, this system is ready to use, combining standardization and customization to meet your exact requirements.

Simple to use and easy to commission:

Supplied with 230 Vac single-phase power, the power control unit (PID) meets the most stringent requirements in terms of precision and safety. Offering an economical solution without compromising quality, our cabinet combines performance, reliability and ease of installation.



GENERAL FEATURES

1. Advantages:

Simplify the control of your heating elements with our economical single-phase temperature control box.

2. Application fields

Industrial electric heating in the chemical, petrochemical, pharmaceutical, food processing, metallurgy, plastics, water treatment, construction, HVAC and advanced technology sectors.

3. Adaptability:

Configured to adapt to your industrial processes, ensuring seamless integration and optimum performance.

4. Reliability and durability:

Each component is selected for its robustness and durability, guaranteeing long life even under the most demanding conditions.

5. High-quality components:

Equipped with Fuji Electric components, market leaders in reliability and performance.

6. Enhanced safety:

Includes thermal-magnetic circuit breaker.

7. Compact design:

Designed with reduced dimensions, allowing easy installation even in tight spaces.

8. Solid-state relay:

A solid-state relay (SSR) is included in the box. Advantages:

- High-speed switching.
- High-precision temperature control.
- No moving parts.
- Long service life, estimated in some cases 10 million operations.
- · Fast on/off times.
- · High noise immunity due to no contacts.
- · Low drive power required.

Fuji Electric France S.A.S.

EDS11-COF-3.5KW Date June 2025

FUNCTIONAL FEATURES

Features:

Reference	Economical single-phase temperature control box
Max. power	3,5 kW
Power supply	230 VAC single-phase 50/60 Hz
Measurement input signal	Thermocouple probes: J, K, R, B, S, T, E, N, PLII
Control type	Euii Electric BXE BID controller
Protection	
Display	2 4-digit 2-color digital indicators
	(temperature measurementand setpoint)
Alarm	1 configurable alarm output: high and low alarm, high, low or band deviation alarm, temperature sensor break alarm
Power unit	Solid-state relay 25A
Number of departures	1
Operating temperature	-10 to 30 °C
Storage temperature	-20 to +60 °C
Ambient humidity for use and storage	< 90 % RH non-condensing
Assembly	Wall-mounted with fixing kit included
Dimensions	192 mm x 164 mm x 105 mm
Short-circuit or overcurrent protection	Equipped with Uni+N 20A C circuit breake
Type of housing material	PVC
Electrical connection	3 x Cable glands

Current limitation :



*Other versions upon request.

Technical explanation:

To prevent system overheating, it is essential to comply with the permissible duty cycle of the solid-state relay, which depends on the ambient temperature. At 30 °C, this duty cycle limits the amount of time the relay can remain activated without compromising its reliability. For example, when controlling a 2.5 kW load, the authorized duty cycle is 70%. This means the relay must not be activated for more than 70% of the time over a one-hour period — that is, a maximum of 42 minutes per hour (0.7×60 minutes).

Exceeding this activation time would cause the internal temperature of the relay to rise excessively, reducing its

APPLICATIONS

Temperature control unit economic single-phase:

This temperature control box is perfectly suited to a multitude of applications, guaranteeing effective frost protection and optimizing thermal management in a variety of environments.

It's ideal for frost protection, maintaining the temperature of outdoor pools, and managing hydraulic networks. It also facilitates control of antifreeze resistors and heating elements.

The temperature control panel is also essential for temperature control of electrical cabinets in the food processing and laboratory sectors.

- Immersion heaters, temperature control
- Heaters for various applications
- Batteries, heat treatment of fluids
- Cartridge heaters, tanks
- Chillers, heat management
- Tanks, temperature control
- Liquid tanks, temperature maintenance
- Pipe tracing, frost protection
- Industrial thermal insulation
- Insulating and heating mattresses
- Control of heating elements and resistors

APPLICATION EXAMPLES

Liquid tanks and temperature maintenance:



Insulating and heating mattresses:



Heating of pump bodies for viscous fluids :



SIZE DIMENSIONS (Unit: mm)



Positioning and dimensions of cable glands: According to configuration







FUJI ELECTRIC FRANCE S.A.S.

46, rue Georges Besse - Zl du Brézet - 63 039 Clermont-Ferrand Cedex 2 - France Téléphone: +33 (0)4 73 98 26 98 Email : <u>sales.dpt@fujielectric.fr</u>

Site internet : http://www.fujielectric.fr/en/

Fuji Electric cannot be held responsible for any errors in our catalogues, brochures or other printed media. Fuji Electric reserves the right to modify its products without notice. This also applies to the products ordered, if the modifications do not alter the specifications substantially. The registered marks and names which appear in this document are the property of their respective depositors. All rights reserved.