

Burner control unit series EFC

The EFC range of burner control units are designed to detect a flame in single or double stage industrial gas burners with intermittent service.

The status of the burner is clearly shown via the various LED lights on the front panel. The EFC can be supplied with an internal ignition transformer and can also control one or two solenoid valves. Flame detection can be done via a single rod, two rods or UV cell. Remote control of the burner control unit is also possible.

The EFC range is supplied in a thermoplastic fireproof housing that allows for installation next to the burner. It is also available in rack mounted version for control panel applications.

Burner control unit EFC is manufactured in accordance with EC Directive 90/396/EEC and with norms EN298.



TECHNICAL DATA

Supply voltage	115V o 230V 50-60 Hz
Power consumption	5 VA
Working temperature	0÷60 °C
Installation	In any position
Standards	In accordance with EN 298 and 90/396/EEC
EN298 classification	BMRLXN
Max contact load	1 A
Housing material	Fireproof plastic
Enclosure	IP40
Dimensions	115 x 125 x 120 mm
Flame detection	Single rod, double rod or UV cell
Electrical rating	8 kV 19% ED on 3', on request 5 kV ED 100%
Recommended cable length	3 meters with standard cable, 15 meters with shielded cable
Weight	1,2 Kg without transformer - 2,3 Kg with transformer

SETTING

- Prepurge time (Wt) : 2 s - 10 s - 10s or longer
- Ignition Time (It) : 5 s ÷ 8 s
- Safety time (St) from flame failure to solenoid valve shut-off : 1 s
- Burner control unit reset : manual every 24 hours
- At flame failure : one automatic restart is allowed

MODELS

EFC = Burner control unit

EFCQ = Burner control unit - Rak version

Type

- 1** = Single solenoid valve
- 2A** = Two solenoid valves (both valves open)
- 2B** = Two solenoid valves (only main valve open)

Ignition transformer

- TR** = With transformer
- X** = Without transformer

Supply Voltage

- B** = 115V 50-60 Hz
- C** = 230V 50-60 Hz

Detection

- M** = Single rod
- 2** = Double rod
- UV** = UV cell

Prepurge time

- 2** = 2s
- 10** = 10s
- 20** = 20s

EFC

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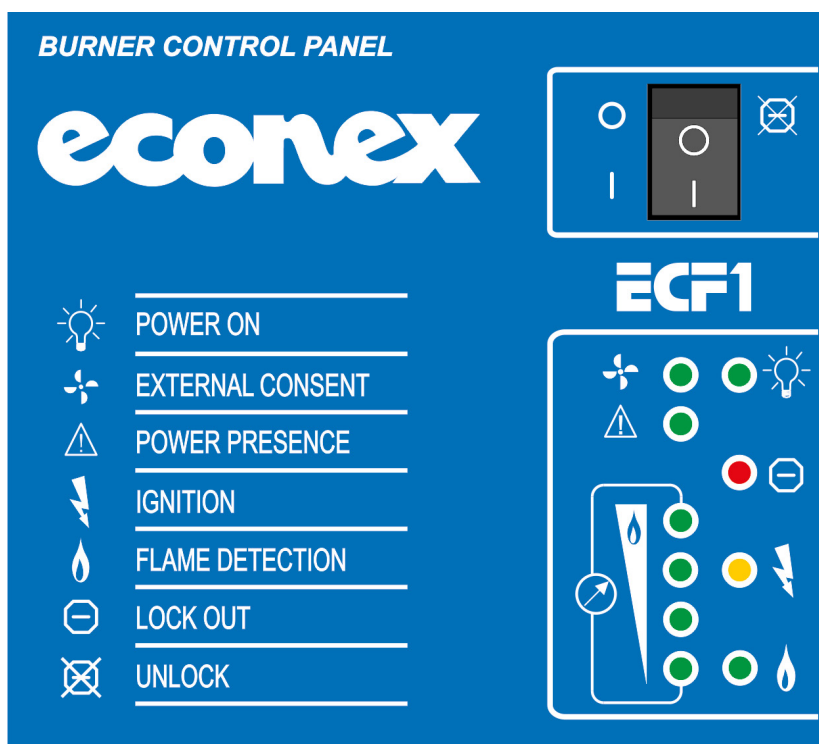
TR

C

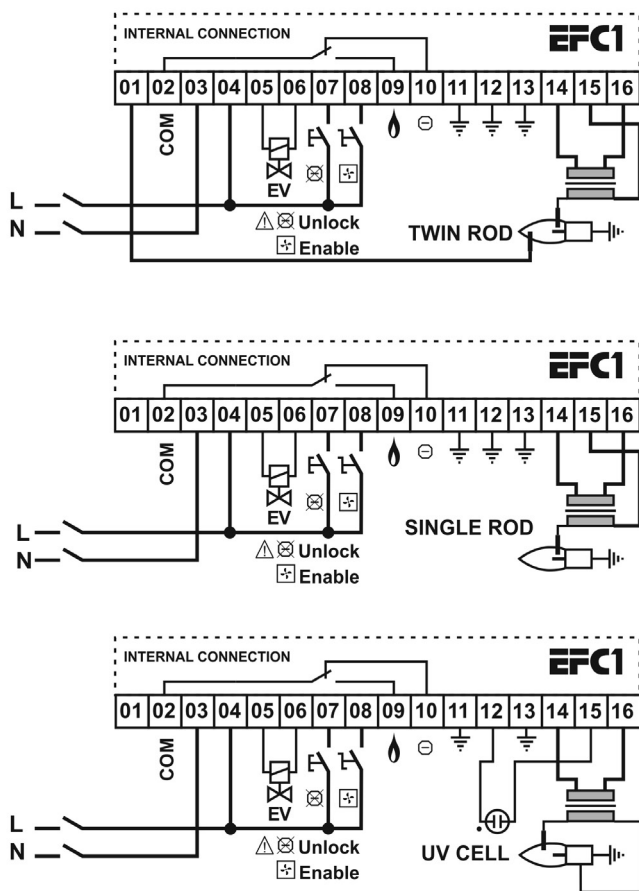
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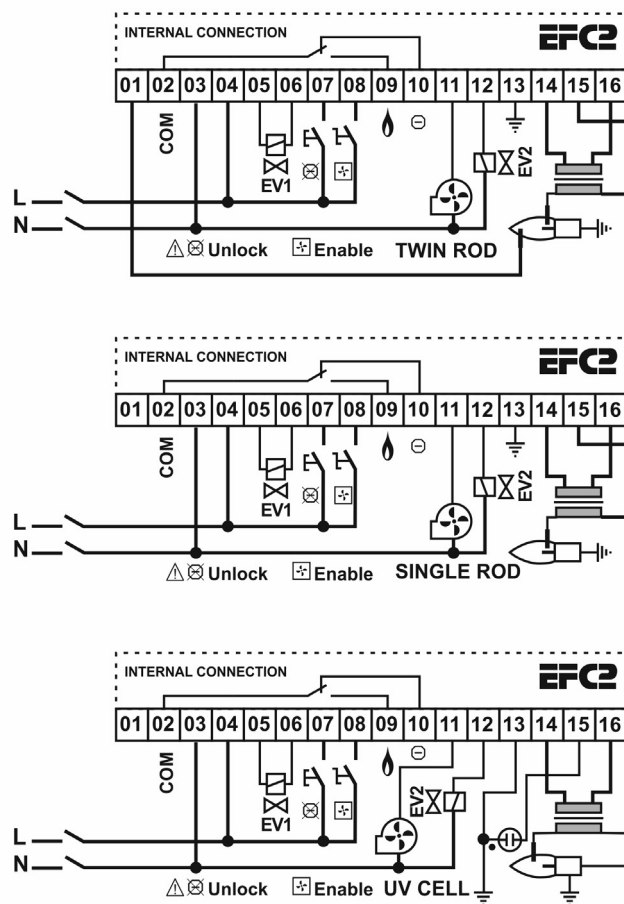
FRONTAL VIEW OF EFC BURNER CONTROL UNIT



SINGLE SOLENOID VALVE



DOUBLE SOLENOID VALVE



STANDARD WORKING CYCLE

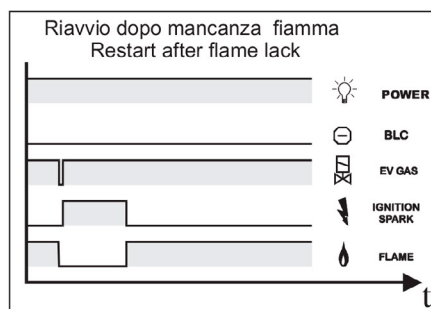
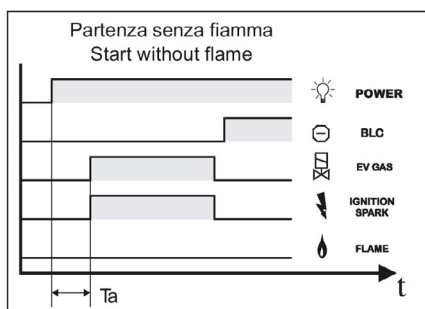
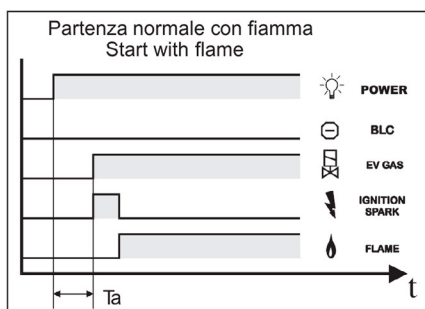
Model EFC1 - Single solenoid valve

Five seconds after power is supplied to the EFC1 burner control unit, the unit energizes the gas solenoid valve and starts the ignition of the burner flame, for about seven seconds.

If a flame is detected, the EFC1 keeps the solenoid valve open.

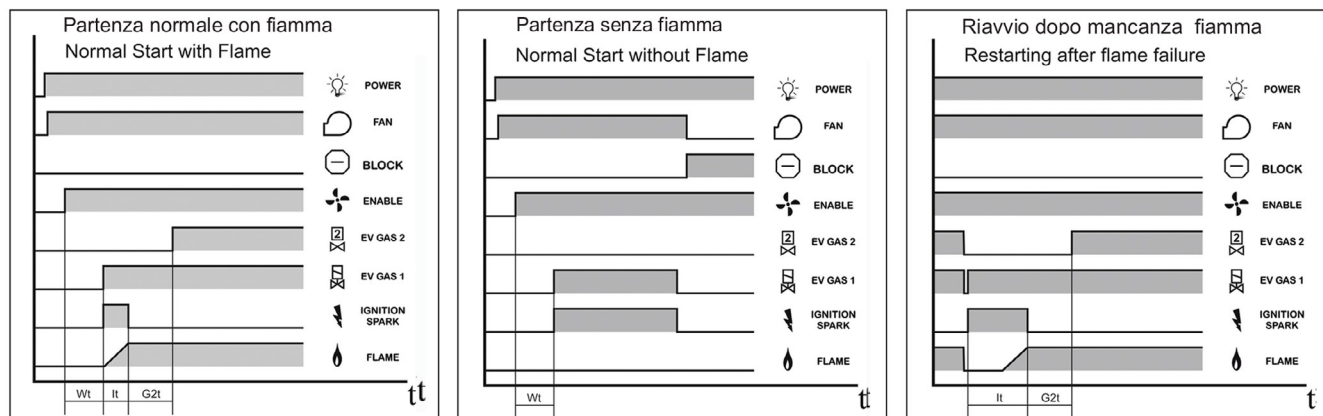
If the flame doesn't ignite or extinguishes, the EFC1 will make another attempt to ignite the flame, and in case of a second failure, the EFC1 goes into lock-out mode.

The EFC1 must be manually re-started through the main switch, before beginning a new starting sequence.



Model EFC2A - Double Solenoid Valve

When power is supplied to the EFC2A, it closes the contact for the fan, for the period of time selected in the pre-purge time (Wt). Once pre-purge is complete, the EFC2A opens the first solenoid valve EV1 and at the same time ignition starts and lasts for about 7 seconds. If a flame is detected, the EFC2A opens the second solenoid valve, EV2, and both solenoid valves are kept energized/open. If the flame fails to ignite, or extinguishes, the EFC2A will shut off solenoid valve EV2, and perform another attempt to ignite the flame. In case of a new failure, the burner control unit goes into lock-out mode. The EFC2A must be manually re-started through the main switch, before beginning a new sequence.



Model EFC2B - Double Solenoid valve

When power is supplied to the EFC2B, it closes the contact for the fan, for the period of time selected in the pre-purge time (Wt). Once pre-purge is complete, the EFC2A opens the first solenoid valve EV1, and, at the same time ignition starts for about 7 seconds. If a flame is detected, the EFC2A opens the second solenoid valve, EV2, and after 8 seconds ($G2t$), the power supplied to EV1 is cut. If the flame doesn't ignite or extinguishes, the EFC2B shuts-off solenoid valve EV2, energizes solenoid valve EV1, and performs another attempt to ignite the flame. In case of a new failure, the burner control unit goes into lock-out mode. The EFC2B must be manually re-started through the main switch, before beginning a new sequence.

