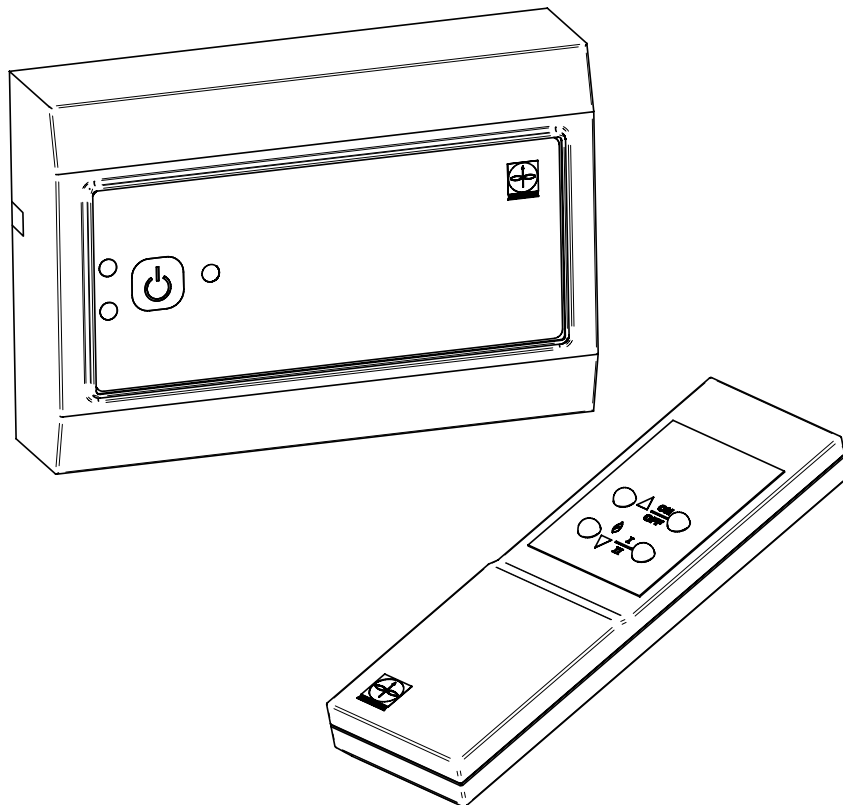




GB



EFC 25

EXHAUSTO

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Symbol legend

The following terms are used throughout this manual to bring attention to the presence of potential hazards or important information concerning the product:



DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death, serious injury or substantial property damage.



CAUTION: Indicates an imminently hazardous situation which, if not avoided, may result in personal injury or property damage.

How to use this manual

The manual concerns EXHAUSTO fireplace control EFC 25 and a remote control.

Safety for personnel and property as well as correct operation of the chimney fan are obtained by following the directions of this manual.

EXHAUSTO disclaims all responsibility for damages caused by misapplication of this product in contravention of directions and instructions in this manual.



1. Product information

1.1 EFC 25 Control System for EXHAUSTO Chimney Fans

Applications

The EXHAUSTO fireplace control EFC 25 (Fig. 1) has been developed for use with gas fire control units which have flame detection and automatic ignition, and in connection with the installation of EXHAUSTO chimney fans.

The control system supervises the fail-safe function. In case of insufficient chimney draught, the EFC 25 will shut down the fireplace.

The control system is developed to meet BS 5440: Part 1(2000), BS 6644(1991), Gas Appliance Directive 90/396/EEC, EN 298(1993) and other relevant European standards.

Functions

By activating the EFC 25, the chimney fan will immediately start up on full speed. When the fail-safe supervision confirms sufficient chimney draught, the fireplace will be lit and the fan speed will adjust to the pre-set value corresponding to the appliance operating normally, (Fig. 1-J).

The control has a step-up function and a 15-second built-in delay function to avoid nuisance cut-outs.

By using the remote control (Fig. 2) it is possible to switch between high and low fire.

When EFC 25 is turned off, the chimney fan stops. It is possible to pre-set a run-on time period of 3 minutes, (Fig. 1-I).

The EFC 25 and RSVG can also be used for venting purposes.

Fail-safe settings.

The fail-safe settings can be set by dipswitches (Fig. 1-I) according to local laws and standards.

- RESET after fail-safe lock-out (manual/automatic).



1.2 Description

EFC 25 control

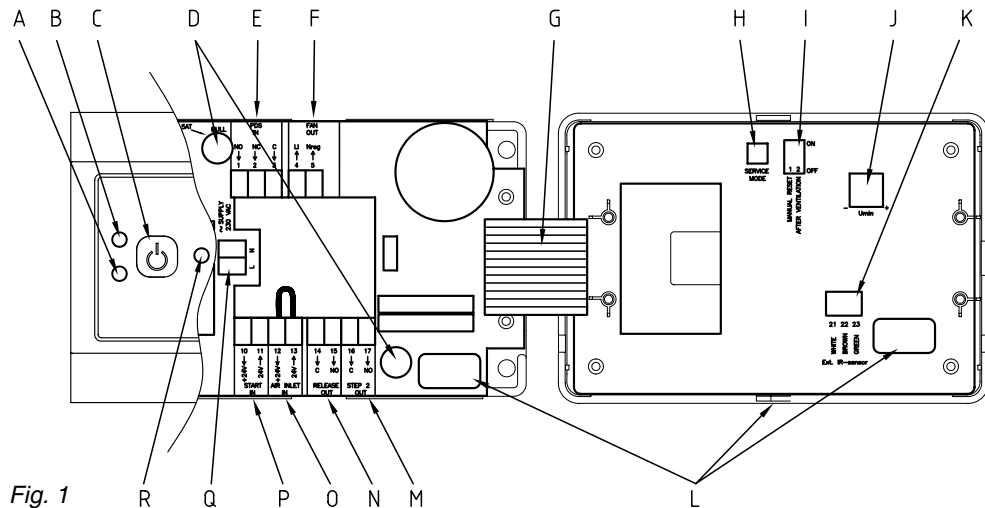


Fig. 1

Pos.	Description	Pos.	Description
A	Alarm LED	J	Potentiometer for adjusting the fan speed
B	Operating LED	K	Socket for external IR-receiver
C	ON/OFF button	L	Product ID
D	Fuses T3, 15A 230V (spare fuse included in control box)	M	Terminals for Step 2
E	PDS pressure differential switch terminals	N	Terminals for start signal to fireplace control
F	Terminals for chimney fan	O	Terminals for fresh air inlet
G	Connection cable	P	Terminals for external start
H	Service mode button	Q	Terminals for power supply
I	Dipswitches	R	Internal IR-receiver

Remote control

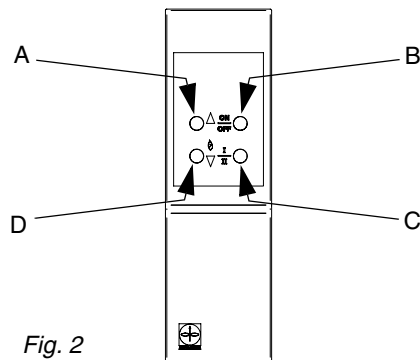


Fig. 2

Pos.	Description
A	Fan speed up.
B	ON/OFF button
C	Step I/II button
D	Fan speed down or Burner start



2. Installation



All installations must be carried out by competent personnel in accordance with local laws and regulations.

Isolation switch



- An isolation switch must be installed between the controller and the chimney fan.
- For installation of the isolation switch please consult the installation instructions for the chimney fan.
- The isolation switch is not supplied by EXHAUSTO.

2.1 Installation of control panel and external IR-sensor

The control panel is to be installed on a level surface with a minimum distance of 100 mm to any corner.

The front cover is removed from the frame by twisting a screw driver in the two holes on the sides of the front cover. The front cover can then be tipped carefully and the frame can be mounted on the wall.

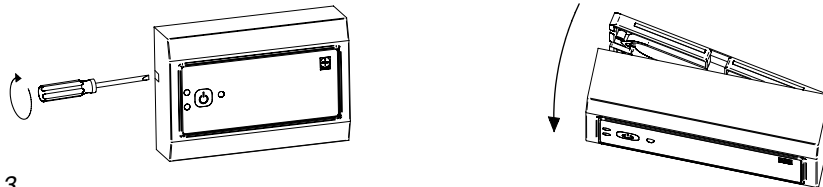


Fig. 3

Notice

The front cover is mounted with a connection ribbon cable in the right side, which results in a restricted opening of this side.

The assembling part of the IR-sensor, the black cable, may not be bend.

The control box covers a standard single back box.(Not EXHAUSTO supply)

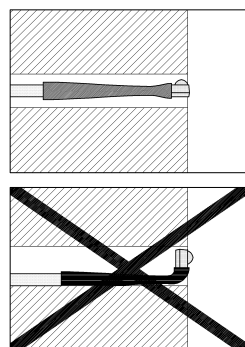


Fig. 4

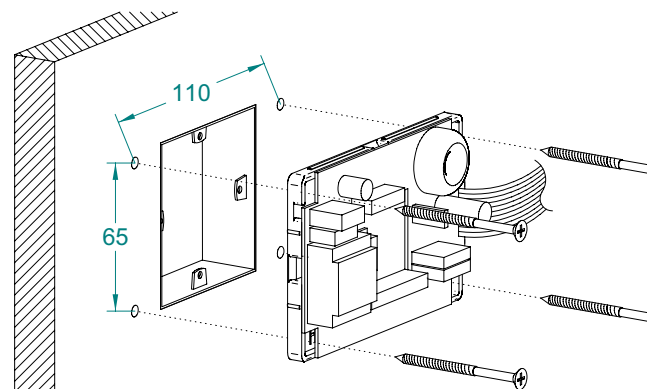


Fig. 5

2.2 Power supply



- Installation of the power supply wire must be carried out in accordance with local laws and regulations.
- The earth wires must always be connected.
- Before the appliance a fused switch must be present that completely disables power to the appliance. The switch must always be switched off when the appliance is not in use.



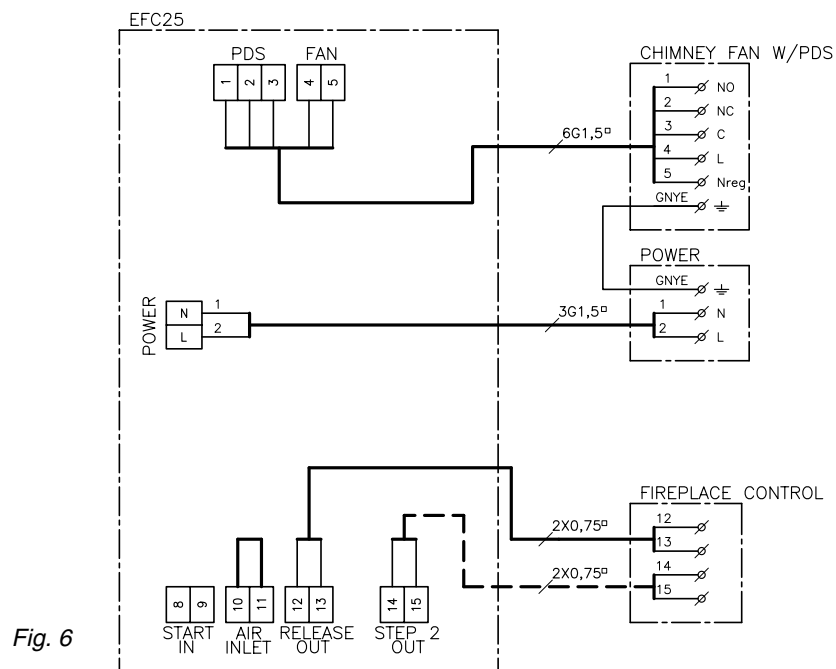
2.3 Standard installation

Description

The example shows how to connect the EFC25 directly to the fireplace control. This installation demands a fire with a control unit which has flame detection and automatic ignition. In case of insufficient flue gas flow (controlled by the PDS in the fan) the fireplace control will be disconnected, by means of a voltage free contact.

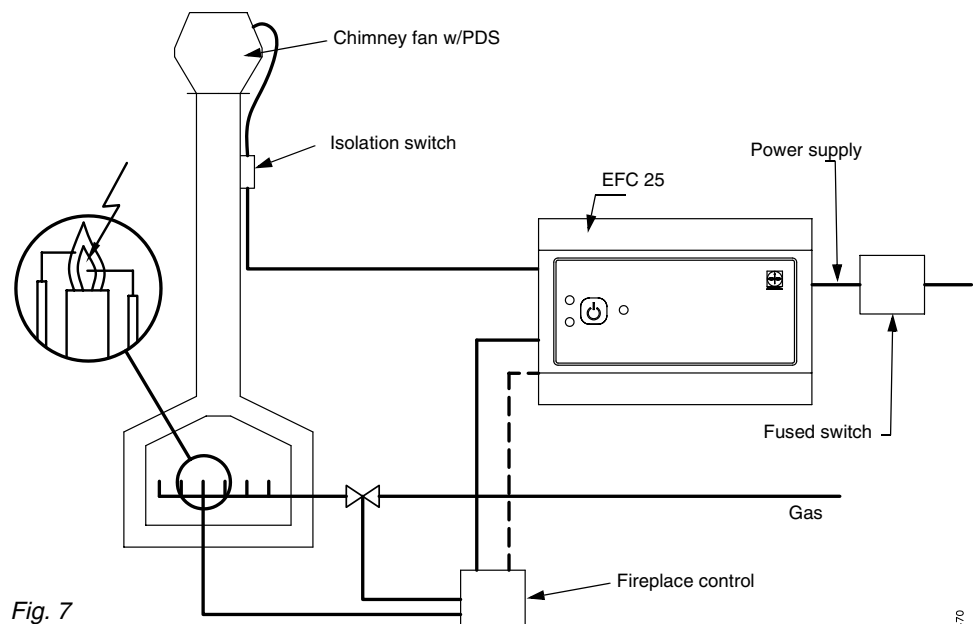
- **Connect the earth wires between power supply and chimney fan**
- Connect the chimney fan and pressure switch to terminals 1-5
- Connect the start/release signal for the burner control to terminals 12-13 (voltage free contact)
- Connect Step 2 signal (if any) to terminals 14-15 (voltage free contact)
- Connect the power supply to the terminals marked "Power".

Diagram



RD10469

Application



RD10470



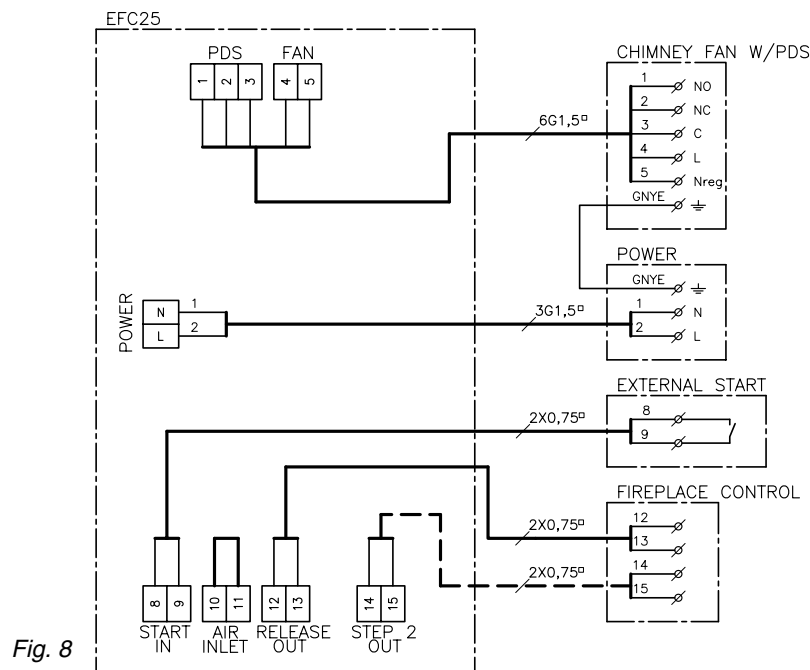
2.4 Installation with external start

Description

The example shows how to connect the EFC25 directly to the fireplace control. This installation demands a fire with a control unit which has flame detection and automatic ignition. In case of insufficient flue gas flow (controlled by the PDS in the fan) the fireplace control will be disconnected, by means of a voltage free contact.

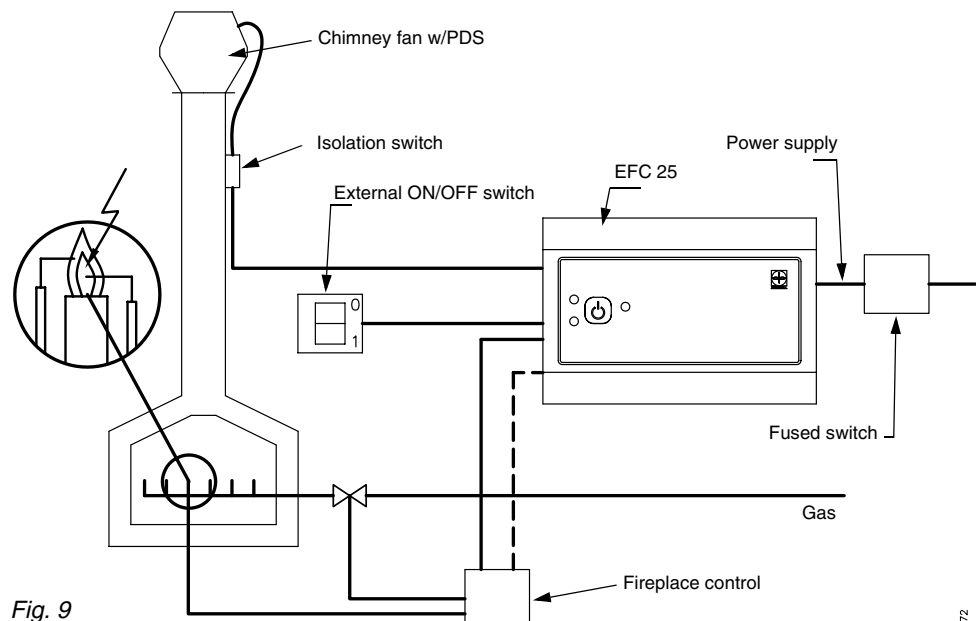
- **Connect the earth wires between power supply and chimney fan**
- Connect the chimney fan and pressure switch to terminals 1-5
- Connect the external ON/OFF switch to terminals 8-9
- Connect the start/release signal for the burner control to terminals 12-13 (voltage free contact)
- Connect Step 2 signal (if any) to terminals 14-15 (voltage free contact)
- Connect the power supply to the terminals marked "Power".

Diagram



RD10471

Application



10472



3. Commissioning



Commissioning is carried out with the control panel open. Only touch the components in the box with electrically insulated tools.

Notice

Before commissioning all windows and doors must be closed; if other types of fans are installed they must be switched on 10 minutes in advance and run at full speed during commissioning.

Dipswitches

Check the factory settings of the dipswitches (Fig. 1-I) before commissioning.

	Dip-switch	Name	Factory setting	OFF	ON
	1	MANUAL RESET	ON	Automatic reset after power failure and draught failure.	Manual reset after power failure and draught failure
	2	AFTER-VENTILATION	OFF	No after-ventilation.	After-ventilation period of 3 minutes

3.1 Service mode



In service mode the safety functions of the flow control (PDS) and the fresh air inlet are bypassed

- Open control panel
- Press ON/OFF button (Fig. 1-C)
- Wait until constant green light, if the fire has to be lit during commissioning
- Press the service mode button (Fig. 1-H) on reverse of front cover. The alarm LED (Fig. 1-A) will flash RED and operation LED (Fig. 1-B) will flash according to the position of the PDS switch as follows:

RED	No flow (C-NC).
GREEN	Flow (C-NO).
YELLOW	No signal from PDS. Check the wiring.

Notice

Service mode is turned off next time the ON/OFF button is pressed or after half-an-hour



3.2 Setting of potentiometer

- The potentiometer (Fig. 1-J) is set at maximum by turning clockwise.
- Adjust the speed slowly down by using the potentiometer. Check for spillage by carrying out a thorough test, all along the edge of the fireplace.
- If spillage is detected, increase the fan speed until spillage cannot be detected.
- If the control unit Step 2 is connected to the gas fire unit, high level can be activated from the remote control (Fig. 2-C)

3.3 Adjustment of pressure differential switch (PDS)

The pressure switch is typically placed inside the chimney fan.

- Set the PDS at minimum by turning anti-clockwise. Minimum is 20 Pa, do not attempt to turn the dial lower than 20 Pa
- Increase slowly the PDS setting until disengagement of the PDS can be registered (click sound) or the operation LED changes from GREEN to RED.
- Register the PDS value of disengagement.
- Turn back the setting of the PDS until it is connected, the operation LED changes to GREEN.
- Set the PDS to 10 Pa below the registered value of disengagement.
- Press the ON/OFF button (Fig. 1-C) and the control turns off the service mode.

3.4 Test of commissioning

- Check the start-up function after commissioning by pressing the ON/OFF button to start the fireplace
- Check the fireplace for spillage with all windows and doors closed; if other types of fans are installed they must be switched on and running at full speed.
- If spillage is detected, repeat commissioning.
- After 10 minutes without spillage switch off the isolation switch for the chimney fan and check the fail-safe function. The fireplace must cut-out 15 seconds after the PDS has disconnected. **Remember to turn the isolation switch back on.**
- Mount the front cover
- Inform the end-user about the functions of the control and leave the instructions with the end-user.

3.5 Complete the commissioning card

- Keep one copy with the appliance
- Post one copy back to EXHAUSTO Ltd. (pre-paid)



4. Daily use

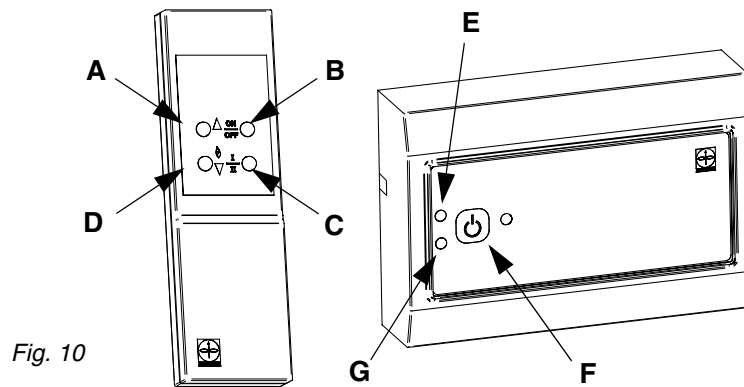


Fig. 10

Operation of EFC from remote control

- Press simultaneously the ON/OFF-button (fig. 10-B) and the Burner start for 1 second (fig. 10-D)
- The operating LED (fig 10-E) will flash GREEN until correct air flow has been confirmed. The operating LED will then turn constant GREEN and the fireplace will get a signal to fire.
- If available, high and low fire can be changed by using the high/low fire button (fig. 10-C). The operating LED will flash once for low fire and twice for high fire.
- The fan speed can be adjusted during operation by activating the fan speed buttons (fig. 10-A/10-D) and at the same time the operating LED will flash. The fan speed cannot be adjusted below the commissioning level.
- To stop the fire and fan press the ON/OFF-button (fig. 10-B).
- For venting purposes press only the ON/OFF-button (fig. 10-B) once. The operating LED will then turn constant YELLOW

Operation of EFC control

- Press the ON/OFF-button (fig. 10-F)
- The operating LED (fig 10-E) will flash GREEN until correct air flow has been confirmed. The operating LED will then turn constant GREEN and the fireplace will get a signal to fire.
- To stop the fire and fan press the ON/OFF-button (fig. 10-F).

Operation from external ON/OFF switch

- The ON/OFF switch can be used for start, stop and reset of the controller
- If the switch is used for start-up it has priority over the control panel and the remote control.

Notice

The switch must be in the off position before trying to restart the controller

Operating LED

Indication of operating LED (fig. 10-E)	Description
Flashing RED	Start-up signal from safety-system is missing. Usually due to restart with the fan still spinning.
Flashing GREEN	<ul style="list-style-type: none"> • Fan has started and control is waiting for confirmation from safety-system of sufficient draught conditions. • Remote control is activated.
Flashing YELLOW	Sufficient draught conditions confirmed but signal from fresh air inlet is missing.
Constant GREEN	Safety is confirmed and the fireplace can be lit.
Constant YELLOW	The fan is operating in venting mode

Alarm LED

Constant RED in the alarm LED only indicates that a power failure has occurred. To reset and start the controller press ON/OFF button once.

If the alarm LED (fig. 10-G) comes on during operation press the ON/OFF-button twice to stop the fan and restart the control. If the alarm LED is still lit after reset please look at fault finding for help.



5. Fault finding

Start up

Observation		Type of fault	Solution
Operating LED	Alarm LED		
	Constant RED	Power failure.	1.Press ON/OFF-button or external ON/OFF switch for resetting and start.
Flashing RED		Failure in failsafe supervision (PDS-check).	1.Check the wiring. 2.Setting of PDS might be too low. 3.Adjust the pressure differential switch.
Flashing GREEN		Application fault.	1.Check isolation switch 2.Check if chimney fan is running, if not check wiring to chimney fan and PDS. 3.Check the flue, chimney and chimney fan for any blocking items. 4.Check flow sensor in chimney fan. 5.Check settings and redo commissioning.
Flashing YELLOW		No signal from air inlet.	1.Re-connect loop on terminal 10-11.
Flashing RED, GREEN or YELLOW	Flashing RED	Service mode on.	1.Press ON/OFF-button.
No response	No response	Battery fault, remote control	1.Change battery

Operating

Observation		Type of fault	Solution
Operating LED	Alarm LED		
Constant GREEN	Constant RED	Insufficient flow , sufficient flow is re-established.	1.Press ON/OFF-button or if external ON/OFF switch is in use turn the switch off for resetting 2.Press ON/OFF-button or use external ON/OFF switch to restart
Flashing GREEN	Constant RED	Flow fault.	1.Check isolation switch. 2.Check if chimney fan is running, if not check wiring to chimney fan. 3.Check the flue, chimney and chimney fan for any blocking items. 4.Check flow sensor in chimney. 5.Check settings and redo commissioning.



6. Technical data

EFC control:

Dimensions:	85 mm x 126 mm x 32 mm
Supply voltage:	230 V \pm 10% / 50 Hz
Fuses :	3,15 A T
Release out :	Max. 3,15 A 250 VAC / 3,15A 30 VDC
Step 2 out :	Max. 5 A 250 VAC / 5A 30 VDC
Chimney fan output :	Max. 1.8 A/230 V (AC3)
Air inlet :	24 VDC (Closed-circuit supply)
External start :	24 VDC (Closed-circuit supply)
Degree of protection :	IP 30
Material :	ABS box
Ambient temperature :	-10 °C to 40 °C

External IR sensor: Cable: 10 m

IR-remote control:

Battery type : Size AAA 1,5 V (3 pcs.)

Ambient temperature : 0 °C to 40 °C

CE Approval:

The EFC control complies with the essential requirements of the

Gas Appliances Directive (90/396/EEC).

The compliance is based on examination to: EN298 (1993), PIN: 0063BN1144

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