

Flame relay

**For semi automatic
oil- and gas power burners**

Possible flame detectors:

- Ionisation probe
- UV-cell
- Infrared flicker detector

INTRODUCTION

The flame relay FFW 930 controls and monitors semi automatic oil- and power gas burners. It is also used together with an oil- or power gas burner control box for special, fully automatic control- and monitor functions.

CONSTRUCTIONAL FEATURES

The flame amplifier circuit and a relay with 4 change-over contacts are housed and protected in a non-inflammable, non-transparent, plug-in type plastic case. A flame indicator bulb and the central locking screw are placed on top of the housing.

The wiring base is equipped with additional loop terminals and – together with the various possibilities for cable entry – enables an universal wiring.

FUNCTION

Depending on the wiring, a semi or fully (only together with a burner control box) automatic control of a burner is possible.

As soon as a flame signal is detected, the built-in relay switches on, the relay contacts change over and activate the various burner components. Simultaneously, the flame indicator bulb on the top of the unit switches on.

TECHNICAL DATA

Supply voltage	220 / 240 V (-15... +10%) 50 Hz (40 - 60 Hz)
Fuse rating	max. 10 A rapid, 6 A slow
Power consumption	5 VA
Max. current per output	4 A
Total	6 A
Amplifier sensitivity	1 µA
Min. current from UV tube or ionisation probe	5 µA
Flame detector cable	max. 20 m cable length
Flame detector	
- Ionisation probe	
- UV tube type	UVZ 780 red
- Infra-red flicker detector	IRD 1020
Weight incl. base	200 g
Mounting attitude	any
Permissible ambient temp.	-0°... +60° C



APPLICATION TECHNOLOGY FEATURES

1. Flame detection

The following types of flame detector can be employed:

- Ionisation electrode, where the mains supply provides a neutral earth connection. Suitable for gas burners (signal current from flame cannot be influenced by interference from ignition spark).
- UV sensor type UVZ 780 red, suitable for gas and combi burners.
- Infra-red flicker detector type IRD 1020 for all types of burner.

2. Safety

The design/construction of the flame relay FFW 930 conforms to the present applicable European standards and regulations.

By use of a UV-cell or IRD flame detector, the flame sensor needs to be checked prior opening of the valves for their correct function (visually/manually or with a suitable wiring of the burner components).

3. Mounting and Electrical Installation

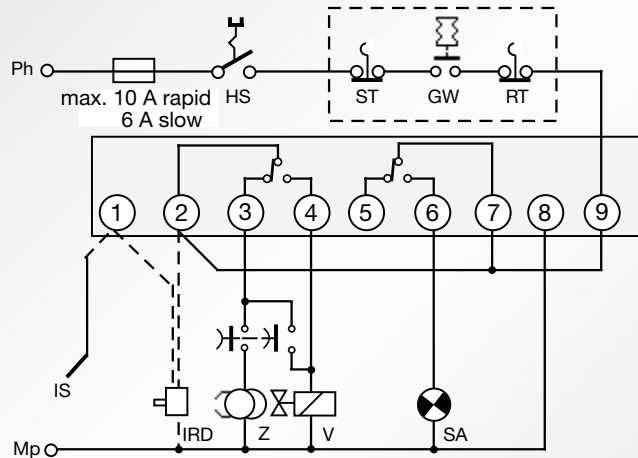
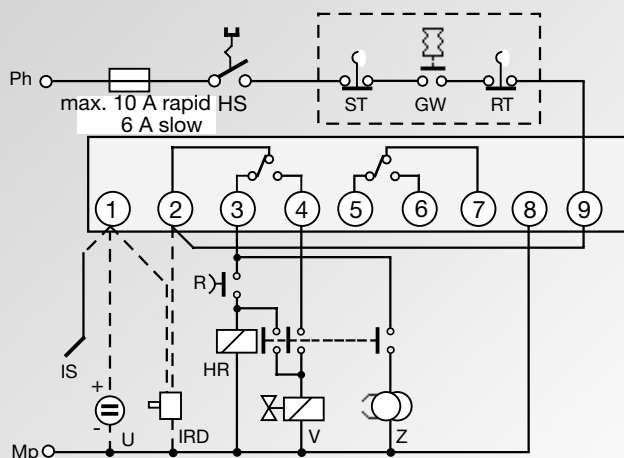
At the base:

- 3 earth terminals, with an additional tag for the burner earth.
- 3 neutral terminals, with a fixed internal through connection to the neutral input, terminal 8.
- 2 separate slide-in plates and 2 fixed, threaded knock-outs (PG 11 thread) as well as 2 knock-outs underneath, facilitate wiring of the base.

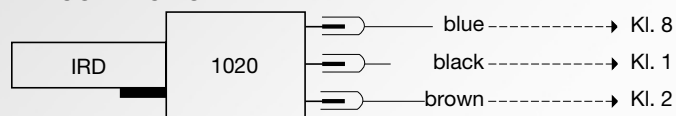
General:

- Can be mounted in any position, insulated as per IP 44 standard (unaffected by water spray). The control box and detector probes should however not be subjected to excessive vibration.
- The applicable installation regulations must be observed during installation.

SCHEMATIC CONNECTION DIAGRAM

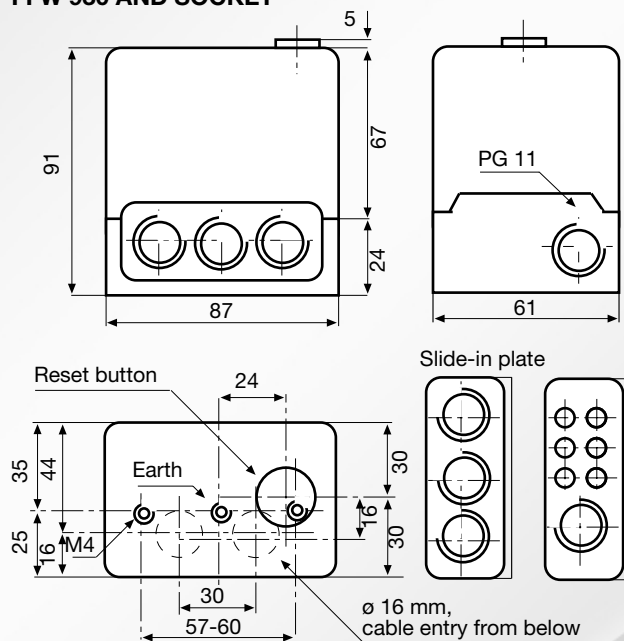


IRD CONNECTION

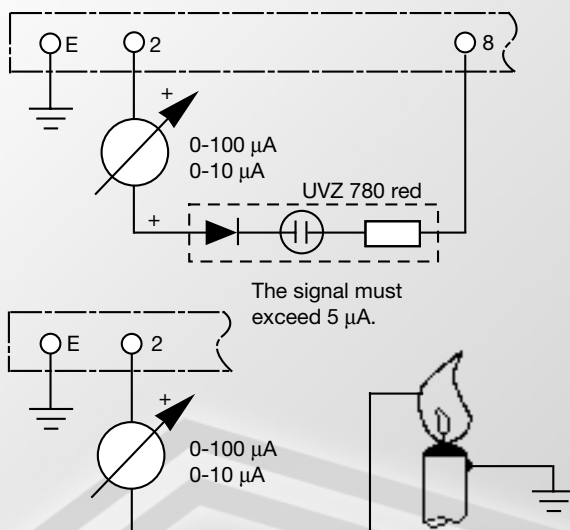


HS	Mains switch	V	Ventil
ST	Limit thermostat	Z	Ignition
GW	Gas pressure switch	SA	External fault indication
RT	Control thermostat	HR	Auxilliary relay
IS	Ionisation probe	R	Temporary switch for start
U	UVZ 780 red		
IRD	IRD 1020 or IRD 820		

FFW 930 AND SOCKET



CHECKING THE FLAMESIGNAL



ORDERING INFORMATION

ITEM	DESIGNATION	ITEM NO.
Flame relay	Flame relay FFW 930	06903
Socket	Wiring base 701 ABEN	70001
Slide-in-plate	PG-plate	70502
or	Cable terminal plate	70501

The above ordering information refers to the standard version.
Special versions are also included in our product range.

Specifications subject to change without notice.