FFW 930.1

FLAME RELAY

HANDBOOK

INTRODUCTION

The flame relay FFW 930.1 controls and monitors semi automatic burners. It is also used together with an oil- or gas burner control box for special, fully automatic control- and monitor functions.
The FFW 930.1 is fully compatible with the FFW 930

CONSTRUCTIONAL FEATURES

The flame amplifier circuit and a relay with 2 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	
– ionisation probe	max. 20 m cable length
– UV tube	max. 2 m cable length
Flame detector	
– Ionisation probe	
– UV tube type	UVZ 780 red
Weight incl. base	200 g
Mounting attitude	any
Permissible ambient temp.	-0 °C … +60 °C

APPLICATION TECHNOLOGY FEATURES

1. Flame detection

The following types of flame detector can be employed:
- **Ionisation probe**, 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

2. Safety

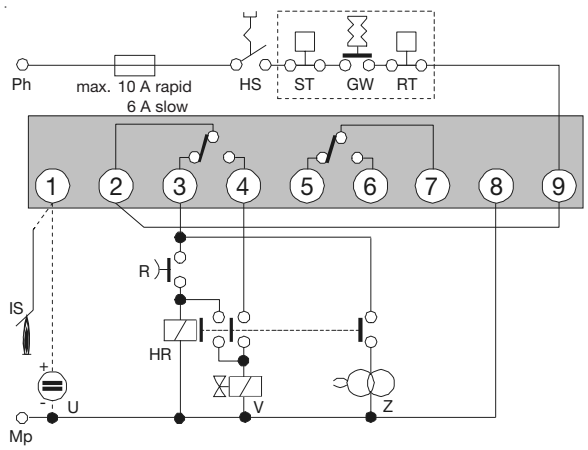
The design/construction of the flame relay FFW 930.1 conforms to the present applicable European standards and regulations.
By use of a UV-cell, the flame sensor needs to be checked prior opening of the valves for their correct function (visually/manually or with a suitable wiring) of the burner components.

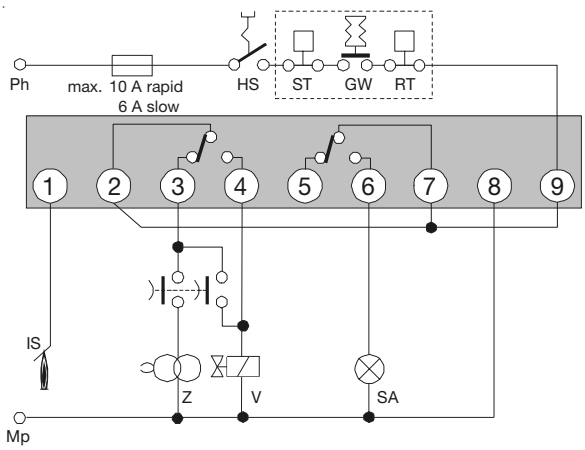
3. Mounting and Electrical Installation

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 knockouts as well as 2 knockouts underneath, facilitate wiring of the base.

General:
- Can be mounted in any position, insulated as per IP 40 standard. The control box and detector probes should however not be subjected to excessive vibration.
- The applicable installation regulations must be observed during installation.

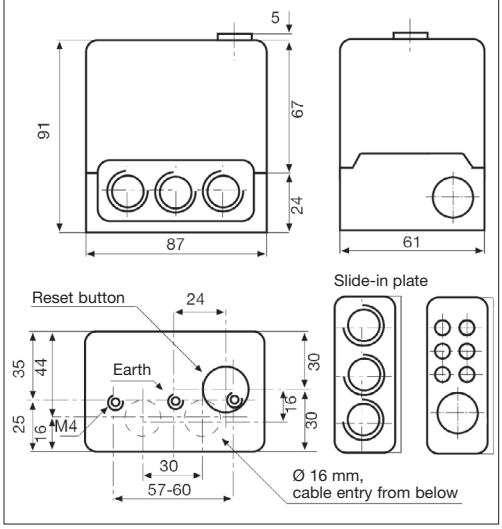
SCHEMATIC CONNECTION DIAGRAM



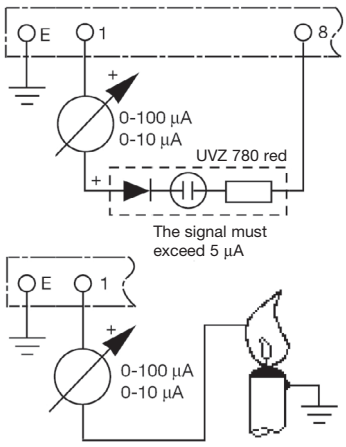


HS	Mains switch	IS	Ionisation probe	SA	External flame signal
ST	Limit thermostat	U	UVZ 780 red	HR	Auxiliary relay
GW	Gas pressure switch	V	Valve	R	Temporary switch for start
RT	Control thermostat	Z	Ignition		

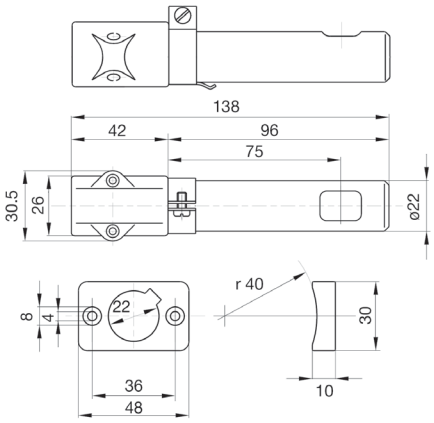
FFW 930.1 WITH SOCKET



CHECKING THE FLAMMENSIGNAL



UVZ 780 AND HOLDER



ORDERING INFORMATION

ITEM	DESIGNATION	ITEM NO.
Control box	Flame relay FFW 930.1	0690320
Socket	Wiring base 98 9-pin	75300
Socket	Wiring base 98 12-in	75310
Flame detector	UVZ 780 red	18813
Support for UVZ	Holder for UVZ	18807
Slide-in plate	PG-plate	70502
or	Cable terminal plate	70503

The above ordering information refers to the standard version.

Specifications subject to change without notice.

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