µP Automatic Burner Control MPA 41xx

Automatic burner control for one-stage gas burners

DUNGS®
Combustion Controls

neu novità
nouveau new

- **Automatic gas burner for one-stage burners with pilot burner or direct ignition**
- **Continuous operation**
- **Configurable program sequence**
- **Version with or without display**
- **Two independent flame detectors:**
  Ionisation input
  Gate input
- **Additional functions by extension modules**
- **Profibus**
- **Accessories**
  Flame detector
  Ignition transformers
  Parameterisation and service box

Description

Microprocessor-controlled automatic gas burner for intermittent and continuous operation of one-stage atmospheric burners or fan burners.
The program sequence and times can be customised by setting software parameters.

Versions

- MPA 4111 without display
- MPA 4112 with integrated display

Application

For one-stage gas burners with or without ignition gas. In particular for industrial thermoprocessing equipment to EN 746-2.

Approvals

EC type-examination certificate according to the EC Gas Appliances Directive:

MPA 41xx	CE-0085BU 0487

EC type-examination certificate according to the EC Pressure Equipment Directive:

MPA 41xx	CE0036

Applied for FM and UR approval.

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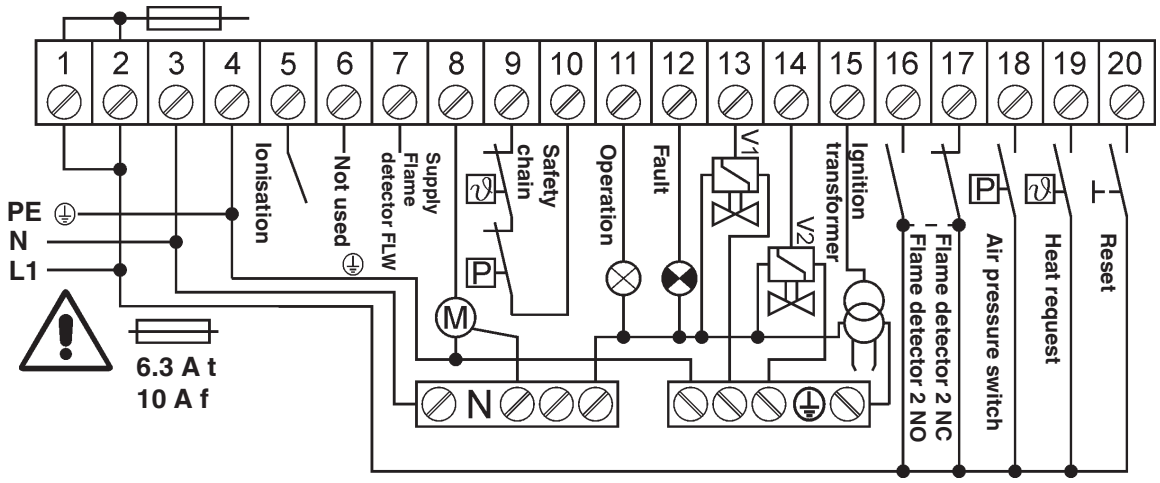
MPA 41xx automatic gas burners are suitable for all types of one-stage gas burners with and without ignition gas.

The flame is monitored either by means of an ionisation input, gate input or both inputs for burners with two flame detector positions.

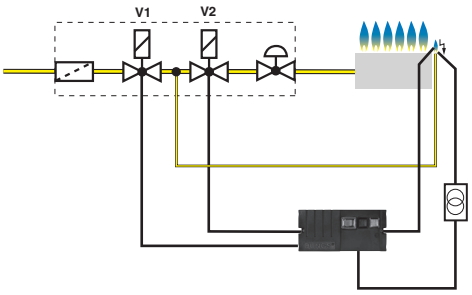
- For atmospheric burners and fan burners
- Suitable for continuous operation
- MPA 4112 without laptop/PC; configuration on display
- Ionisation and gate inputs as flame detectors
- Extension module for Profibus communication

Wiring scheme



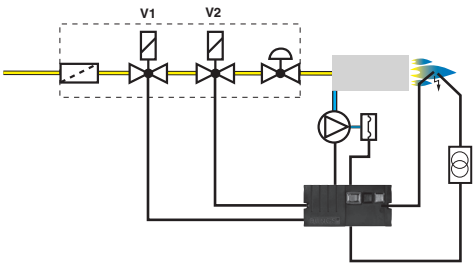
Example for connection

Atmospheric burner with ignition gas output



Atmospheric burner with ignition gas output.
After the heat request and an adjustable delay, the ignition is switched on and V1 is opened.
After the flame has been detected, the main gas flow V2 is opened.

Fan burner, direct ignition:



Fan burner, direct ignition of the main gas flame.
After the heat request, the fan is switched on, and the air pressure is checked by the pressure switch. After the pre-aeration time has lapsed, the ignition is switched on, and the two valves V1 and V2 are opened together.

The program sequence and times can be modified on the mounted display (MPA 4112) to match each application.
A laptop or PC is not required for the modification.
The automatic burners are protected by passwords against unauthorised access.

All settings for the MPA 41xx automatic gas burners can also be made by means of a laptop/PC via MPA Vision Box.

Display modes
Operation display

- Display of the current operating state
- Display of the program state
- Display of bus address

Info display

- Display of flame quality
- Display of resettable counters for start-up, operating hours and operating cycles

Error display
Display of the error memory

- Automatic activation of error messages
- Additional information about faults
- Query of the ten last faults

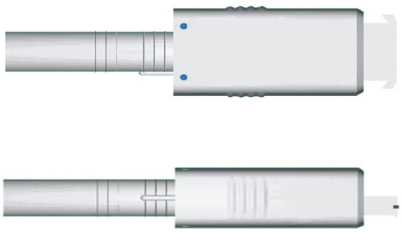
Parameter display

- Password-protected functional levels for service and OEM parameter settings
- Setting of important parameters such as:
  Pre-aeration time
  Safety time for startup phase
  Post-aeration time
  Behaviour after flame lift-off
  Operating modes of V1 and V2
  Continuous or intermittent operation

Accessories

Flame detector
FLW 10
IR flame detector for connection to ionisation input. Suitable for intermittent operation.

FLW 20
UV flame detector for connection to ionisation input. Suitable for intermittent operation.



UV 41
UV flame detector for high mechanical load; metallic version. Suitable for intermittent operation.

With shutter module suitable for continuous operation.

Communication

MPA 41 extension module EM2/2
Additional circuit board and connector set for Profibus DB communication.

Parameter setting and service
MPA 41 parameterisation and service box
Universal support for checking devices in the field; for producing small and medium series.

MPA Vision Box
As addition to MPA41 parameterisation and service box for setting parameters via a PC/laptop.

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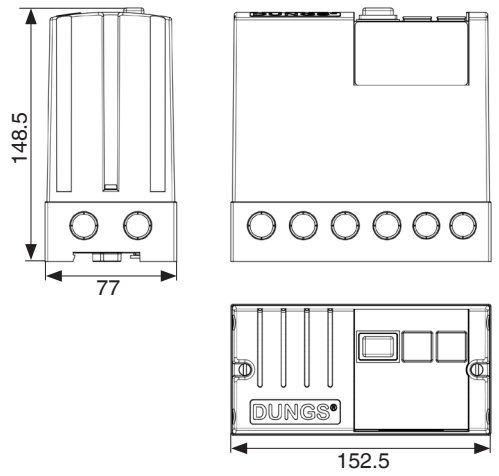
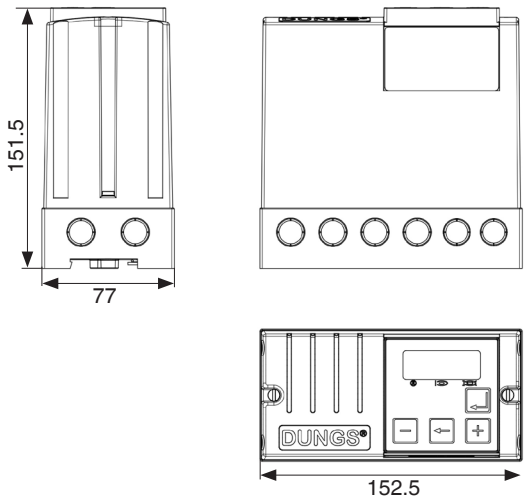
Dimensions [mm]





Technical Data

Rated voltage	115 VAC -15 % ... +10 %
(depending on the model)	230 VAC -15 % ... +10 %
Frequency	50 Hz...60 Hz
Power consumption	max. 10 VA
Fuse	max. 6.3 A slow-blow
	or 10 A fast-blow
Ready signal	max. 1 A
Fault signal	max. 1 A
Gas valves	max. 2 A
Fan	max. 1 A
Ignition	max. 1 A
Flame detector supply	230 VAC / 10 mA
Flame detector	Ionisation
Ionisation current / operation	10-20 µA
Shutdown sensitivity	1 µA
Short-circuit current limit	approx. 280 µA
Unlocking due to fault	Pushbuttons and remote unlocking
Type of protection	MPA4111 / IP 42
	MPA4112 / IP 54
Ambient temperature	-40 °C - +70 °C
Weight	0.82 kg

Ordering data

MPA 4111/230 VAC	Order No. 255 855
MPA 4111/115 VAC	Order No. 256 536
MPA 4112/230 VAC	Order No. 256 537
MPA 4112/115 VAC	Order No. 256 538
Extension module EM2/2 MPA 41xx Profibus + Shutter	Order No. 256 556
Flame detector	
FLW 10 IR	Order No. 255 216
FLW 20 UV	Order No. 250 733
UV 41	Order No. 256 692

Subject to technical modification in the interest of technical progress.

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