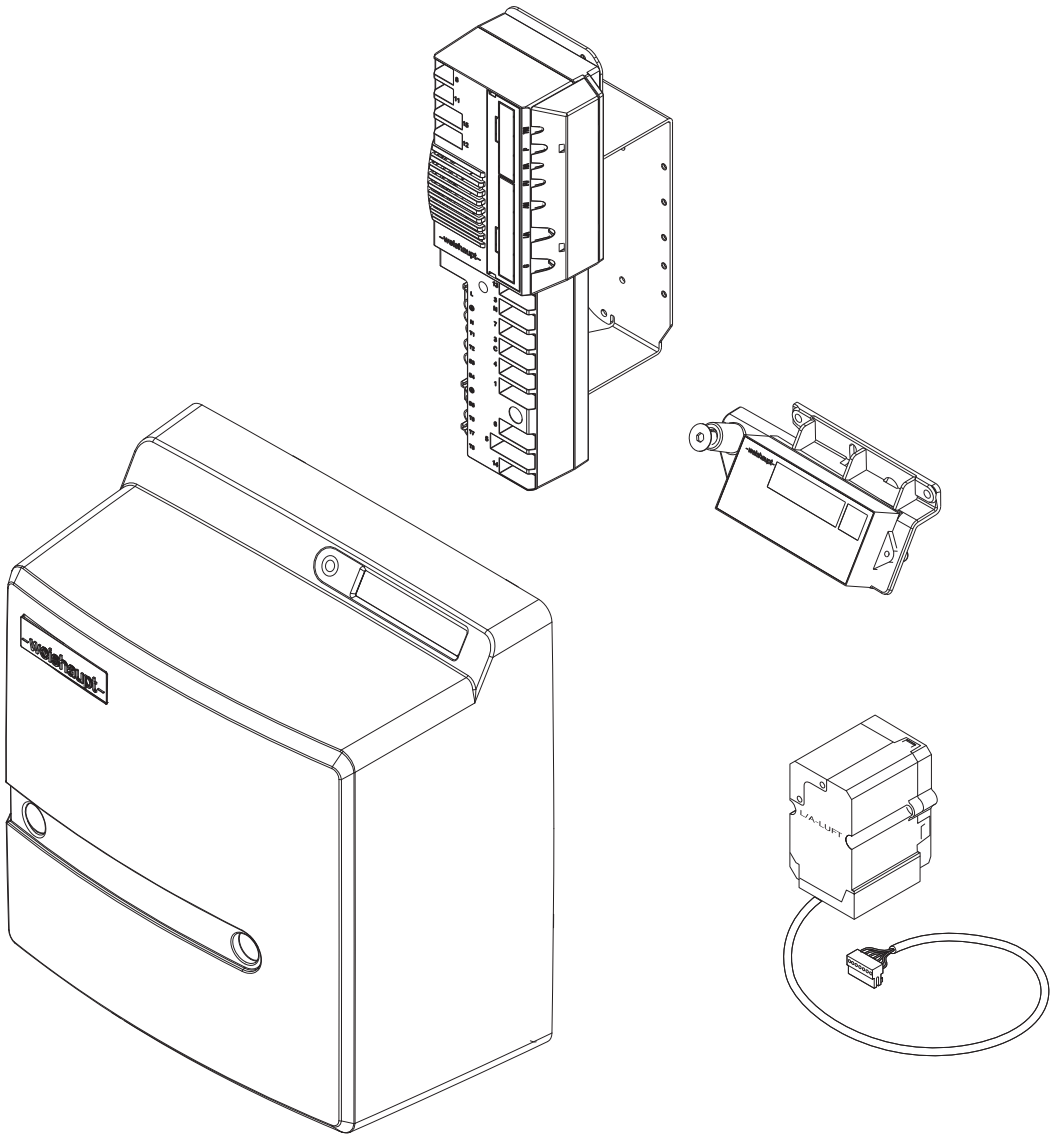
–weishaupt–

manual

Additional sheet



Oil burner WL10…-D Z and WL20…-C Z with W-FM 25

83595202 ▪ 2/2025-07

1 User instructions

Translation of original operating instructions

This manual forms part of the equipment and must be kept on site.

Carefully read the manual prior to working on the unit.

This instruction supplements or replaces chapters in the installation and operating manual of the burner.

All other information given in the installation and operating manual remains valid and must be observed.

WARNING

Danger due to non-observance of safety instructions
All safety instructions in the installation and operating manual must be observed. Non observance can cause damage to the equipment, environmental damage, injury or death.
► Observe safety instructions given in the installation and operating manual.

Application

This supplementary sheet applies to the following burners:
- WL10/1-D Z
- WL10/2-D Z
- WL10/3-D Z
- WL20/1-C Z
- WL20/2-C Z
- WL20/1-C Z-1LN

2 Product description

2.1 Function

2.1.1 Air supply

Air pressure switch (optional)

Depending on the burner application, optional equipment may be required for optimum operation [ch. 9.1].

The air pressure switch monitors the fan pressure. If the fan pressure is insufficient, the combustion manager initiates a lockout.

2.1.2 Oil supply

Minimum oil pressure switch (optional)

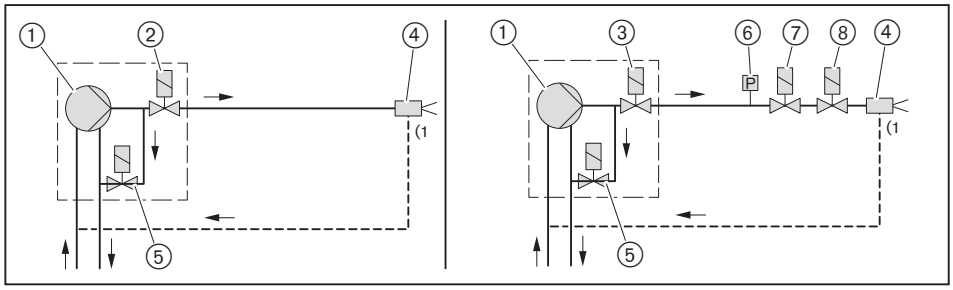
Depending on the burner application, optional equipment may be required for optimum operation [ch. 9.1].

The minimum oil pressure switch monitors the pump pressure in the supply. If the preset pressure is not achieved, the combustion manager initiates a lockout.

Sequence diagram

Burner type:
- WL10/1-D Z
- WL10/2-D Z
- WL10/3-D Z
- WL20/1-C Z
- WL20/1-C Z-1LN

Standard	PED (Pressure Equipment Directive)



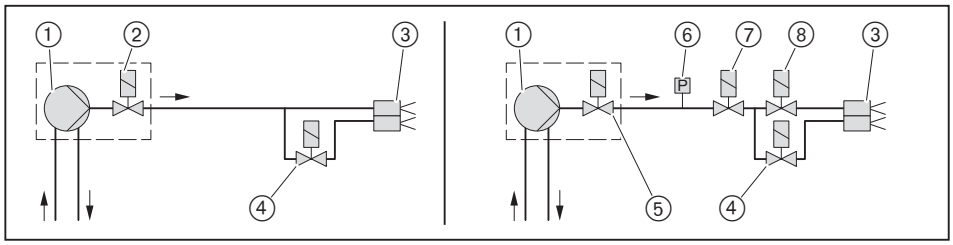
① Oil pump on burner
② Stage 1 solenoid valve (normally closed)
③ Solenoid valve (normally closed) on the pump
④ Nozzle head with nozzle
⑤ Stage 2 solenoid valve (normally open)
⑥ Minimum oil pressure switch
⑦ Additional safety solenoid valve (normally closed)
⑧ Stage 1 solenoid valve (normally closed)

(1 For WL20/1-C Z-1LN with nozzle shut off and spillback line.

Sequence diagram

Burner type:
- WL20/2-C Z

Standard	PED (Pressure Equipment Directive)

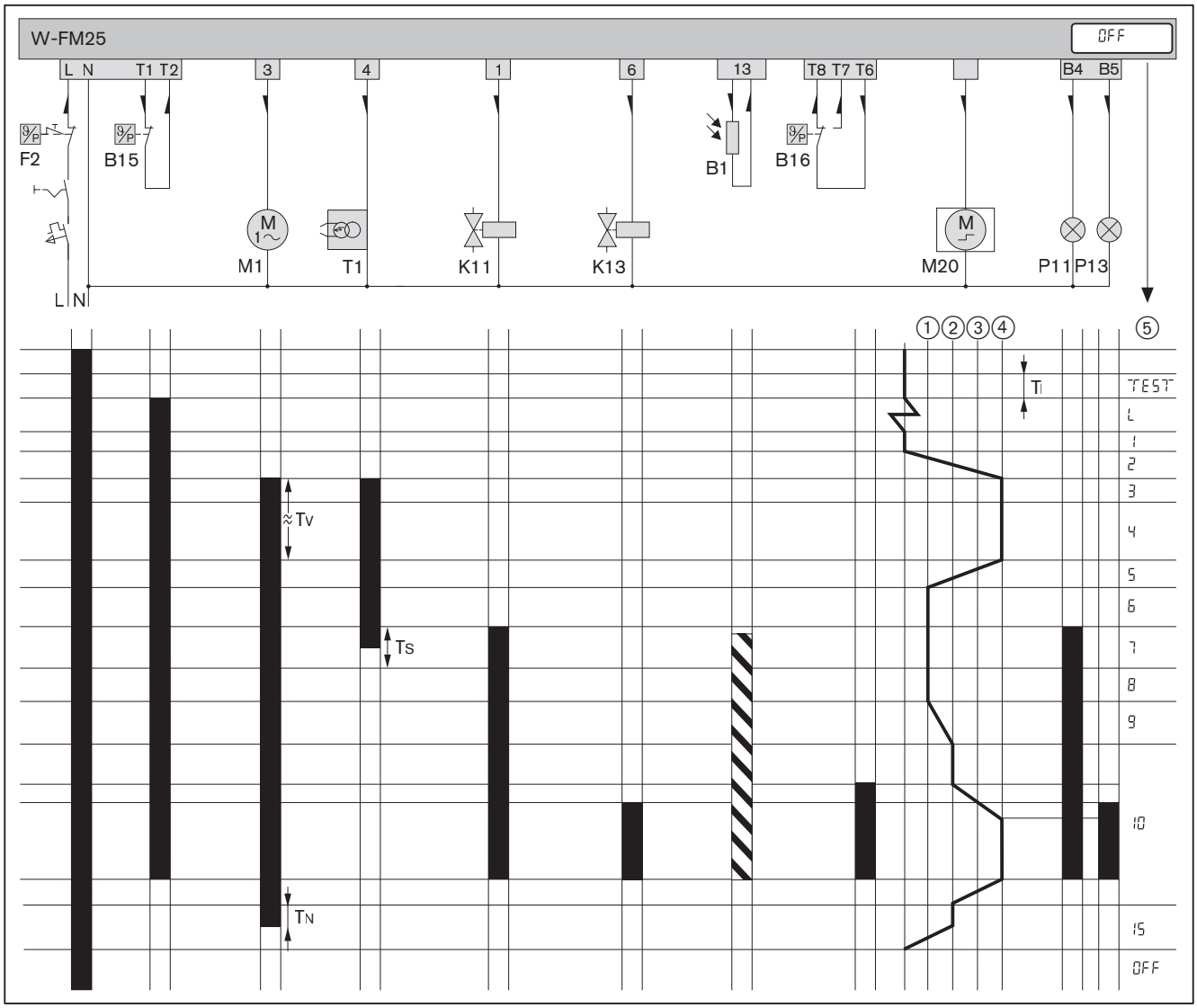


① Oil pump on burner
② Stage 1 solenoid valve (normally closed)
③ Nozzle head with 2 nozzles
④ Stage 2 solenoid valve (normally closed)
⑤ Solenoid valve (normally closed) on the pump
⑥ Minimum oil pressure switch
⑦ Additional safety solenoid valve (normally closed)
⑧ Stage 1 solenoid valve (normally closed)

2.1.3 Program sequence

The operating phases for commissioning the burner are shown on the display.

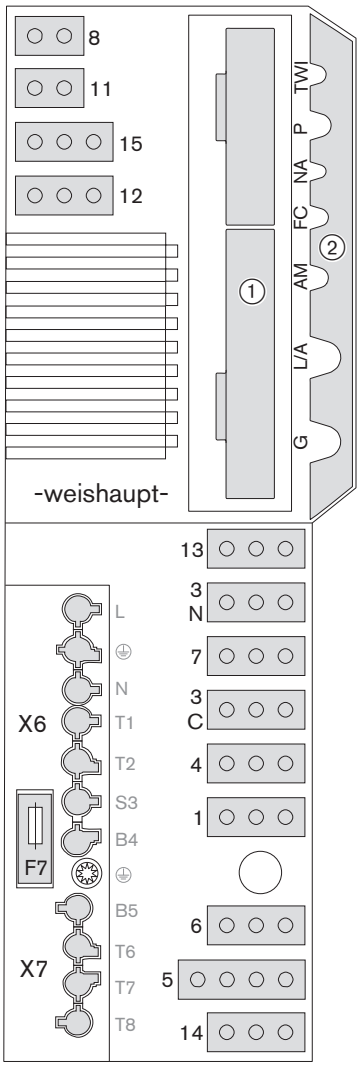
Phase	Function
TEST	After the power supply has been switched on the combustion manager performs a self-test.
L	At heat demand, the air damper actuator drives to the reference point.
1	The combustion manager monitors for extraneous light.
2	The air damper actuator drives to pre-purge, to air damper setting stage 2 (operating point P9).
3	Ignition and pre-purge is initiated.
4	Pre-purge. The remaining pre-purge time is displayed.
5	The air damper actuator drives to ignition position (operating point P0).
6	Waiting time in ignition position.
7	Stage 1 solenoid valve opens. The fuel is released. The safety time begins. The display shows symbol ⌲.
8	Stabilisation time
9	The air damper actuator drives to air damper setting stage 1 (operating point P1).
10	The burner is in operation. Depending on the regulator demand for stage 2, the stage 2 solenoid valve opens or closes.
15	If there is no longer a heat demand, the solenoid valves close and stop the fuel supply. Following the post-purge phase the burner motor switches off. The air damper actuator closes.
OFF	Standby, no heat demand.



B1	Flame sensor	①	Operating point P0 (ignition position)
B15	Temperature or pressure regulator	②	Operating point P1 (stage 1)
B16	Temperature or pressure regulator stage 2	③	Operating point P2 (solenoid valve stage 2)
F2	Temperature or pressure limiter	④	Operating point P9 (stage 2)
K11	Stage 1 solenoid valve	⑤	Operating phase
K13	Stage 2 solenoid valve	T_I	Initialisation time (Test): 3 s
M1	Burner motor	T_N	Post-purge time: 2 [ch. 4.2.3]
M20	Air damper actuator	T_S	Safety time: 3 s
P11	Control lamp operation (optional)	T_V	Pre-purge time: 20 s
P13	Control lamp stage 2 (optional)		Voltage is applied
T1	Ignition unit		Flame signal present
			Current path

2.1.4 Inputs and outputs

Observe wiring diagram supplied.



TWI	TWI interface (VisionBox, accessory)
P	O_2 sensor (accessory)
NA	Speed signal (Namur)
FC	Frequency convertor
AM	Operating panel
L/A	Air damper actuator
G	Coded plug (black)
①	Slot analogue module EM3/3 or Fieldbus module EM3/2
②	W-FM cover
1	Stage 1 solenoid valve (K11)
3C	Burner motor or frequency convertor for continuous running fan
3N	Burner motor or frequency convertor
4	Ignition unit
5	Not used
6	Stage 2 solenoid valve (K13)
7	Bridging plug No. 7
8	Oil meter (impulse generator)
11	Air pressure switch
12	Oil pressure switch
13	Flame sensor QRB4
14	Remote reset
15	Air pressure switch for ducted air intake (APS2)
X6	7 pole connection plug
X7	4 pole connection plug
F7	Internal unit fuse (T6.3H, IEC 127-2/5)

2.2 Technical data

2.2.1 Electrical data

WL10

	WL10/1-D Z	WL10/2-D Z	WL10/3-D Z
Mains voltage / Mains frequency	230 V/50 Hz	230 V/50 Hz	230 V/50 Hz
Consumption at start	max 324 W	max 324 W	max 324 W
Consumption during operation	max 224 W	max 224 W	max 224 W
Power consumption	max 1.4 A	max 1.4 A	max 1.4 A
Internal unit fuse	T6.3H, IEC 127-2/5		
External fuse	max 16 A type B		

WL20

	WL20/1-C Z	WL20/1-C Z-1LN	WL20/2-C Z
Mains voltage / Mains frequency	230 V/50 Hz	230 V/50 Hz	230 V/50 Hz
Consumption at start	max 461 W	max 461 W	max 461 W
Consumption during operation	max 361 W	max 361 W	max 361 W
Power consumption	max 2.3 A	max 2.3 A	max 2.3 A
Internal unit fuse	T6.3H, IEC 127-2/5		
External fuse	max 16 A type B		

3 Installation

3.1 Electrical connection

WARNING

Risk of electric shock
Working on the device when voltage is applied can lead to electric shock.
- ► Isolate the device from the power supply prior to starting any work.
- ► Safeguard against accidental restart.

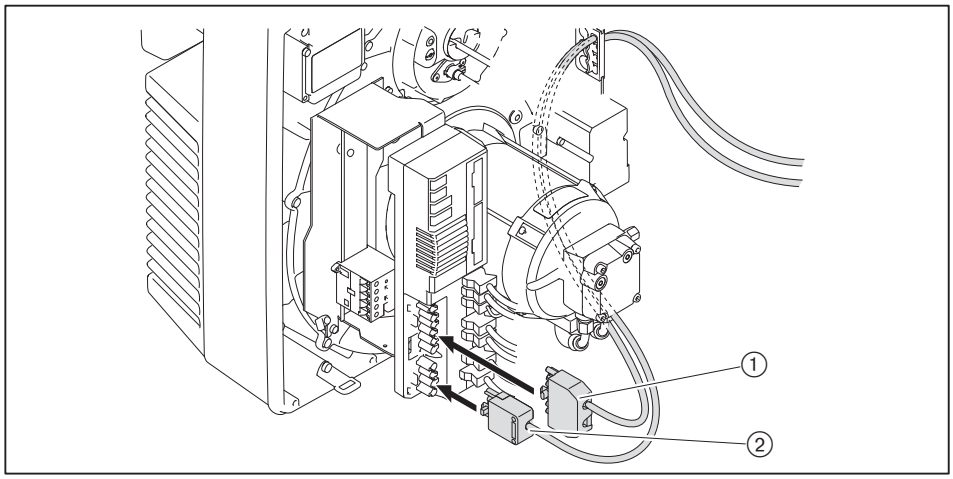
WARNING

Electric shock caused by frequency convertor
It is possible that electrical components continue to carry voltage and cause electric shock even after the voltage supply has been disconnected.
- ► Wait approx. 5 minutes before commencing work.
- ✓ Electric voltage has dissipated.

The electrical connection must only be carried out by qualified electricians.
Observe local regulations.

Observe wiring diagram supplied.

- ► Check polarity and wiring of 7 pole connection plug ① and 4 pole connection plug ②.
- ► Plug in connection plugs.

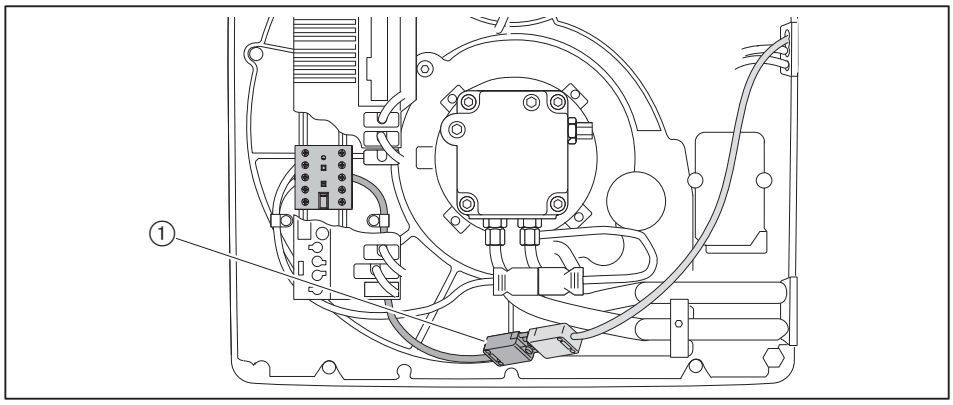


With remote reset, do not exceed maximum cable length of 50 metres.

Separate supply line for burner motor (not with variable speed drive)

Observe wiring diagram supplied.

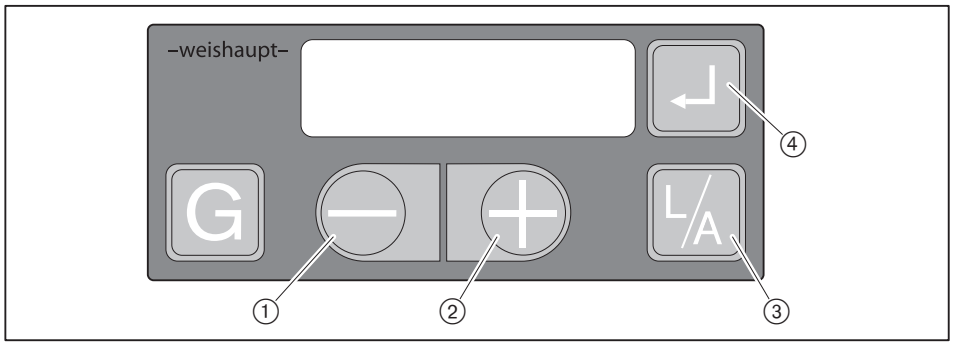
► Plug supply line for burner motor into connection plug ① of the contactor.



External fuse of separate supply line:
- min 10 AT
- max 16 AT

4 Operation

4.1 Operating panel



①	[–]	Change values
②	[+]	
③	[L/A] Air	Select air damper actuator
④	[Enter]	▪ Reset burner ▪ Call up information: - press for approx. 0.5 seconds: Info level - press for approx. 2 seconds: Service level
② and ④	[+] and [ENTER]	press simultaneously for approx. 2 seconds: Parameter level (only possible with display `OFF`)
③ and ④	[L/A] and [Enter]	press simultaneously: select fan speed (only in conjunction with variable speed drive)

Various actions are only triggered when the key is released, for example changing the display, reset.

OFF function

► Press [ENTER], [L/A] and [G] keys simultaneously.
✓ Immediate lockout with error `18h`.

Operating level

The current air damper setting and/or the fan speed can be displayed in the operating level (`10`).

Displaying air damper setting:
► Press key [L/A].

Displaying fan speed:
(only in conjunction with variable speed drive)
► Press [Enter] and [L/A] simultaneously.

Flame signal

The flame signal can be displayed during commissioning (setting level) by using a combination of keys.

► Press [Enter], [L/A] and [G] keys simultaneously.
✓ The flame signal is displayed.

Recommended flame signal, see Service level information `19` [ch. 4.2.2].

Operating status

The exact operating status of the combustion manager can also be displayed. This simplifies determining the cause of a fault during troubleshooting [ch. 8.1].

► Press and hold [–] and [+] simultaneously for approx. 3 seconds.
✓ The combustion manager changes to operating display. The display shows current operating status with a number.

Back to standard display:
► Press and hold [–] and [+] simultaneously for approx. 3 seconds.

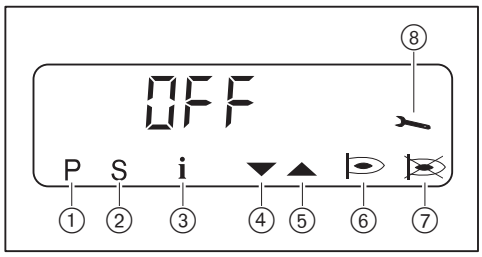
VisionBox Software (optional)

If the VisionBox Software is connected, change-over to the access level must be confirmed via the operating panel.

► Press [+].
✓ Software changes to the access level.

4.2 Display

The display shows the current operating status and operating data.



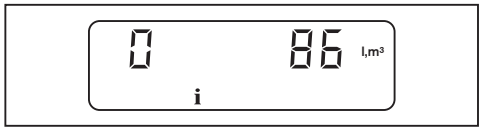
① Setting level activated
② Start phase activated
③ Info level activated
④ Actuator runs CLOSED
⑤ Actuator runs OPEN
⑥ Burner in operation
⑦ Lockout
⑧ Service level activated

TEST	Combustion manager performs self test [ch. 2.1.3]
OFF	Standby, no heat demand
OFF S	Shutdown via contact X3:7 (plug No. 7)
OFFUPr	Unprogrammed condition or programming not completed
OFF E	Standby, no heat demand, shutdown via fieldbus module
10	Current operating phase [ch. 2.1.3]
F1	Under-voltage in Standby or internal device error, see error memory
F9	Connection to Fieldbus faulty Acknowledge error: press [–] and [+] keys simultaneously.

4.2.1 Info level

Burner data can be interrogated in the Info level .

► Press [Enter] for approx. 0.5 seconds.
✓ The Info level is activated.
► Press [Enter] to reach the next information.



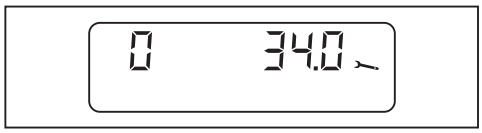
No.	Information
0	Total oil consumption in litres (via X3:8) Reset value: ► Press [L/A] and [+] simultaneously for approx. 2 seconds.
1	Hours run stage 1
2	Hours run stage 2
3	Burner starts
4	Device item number
5	Index of device item number
6	Device number
7	Production date (DDMMYY)
8	Fieldbus address
10	Oil pressure switch function
11	Current fan speed (only in conjunction with variable speed drive) Display of standardised speed: ► Press key [L/A].
12	Current oil consumption (0.1 l/h)
13	Analogue module EM3/3 or Fieldbus module EM3/2 available 0: no 1: yes

After information 13 or a waiting time of approx. 20 seconds the combustion manager changes over to the operating level.

4.2.2 Service level

The service level provides information about:
- actuator position of the individual operating points
- the most recent fault
- flame signal during burner operation

► Press [Enter] for approx. 2 seconds.
✓ The service level is activated.
► Press [Enter] to reach the next information.



Only in conjunction with variable speed drive
The speed set can be displayed at information 0 … 9.

Displaying the fan speed:
► Press key [L/A].

No.	Information
0	Actuator position in operating point P0
1	Actuator position in operating point P1
2	Actuator position in operating point P2 (switch off point stage 2 when running closed)
3	Actuator position in operating point P3 (switch on point stage 2 when running open)
9	Actuator position in operating point P9
10 … 18	Fault memory most recent fault … ninth last occurred fault Display additional information: 1. detailed error codes / operating status: ► Press [+] key. 2. detailed error codes: ► Press [–] and [+] keys simultaneously. Repetition counter: ► Press key [G].
19	Flame signal
	Flame sensor QRB4
	▪ 255 … 121: no flame ▪ 30: high quality recommended value: < 40

After information 19 or a waiting time of approx. 20 seconds the combustion manager changes over to the operating level.

4.2.3 Parameter level

Settings at parameter level must only be carried out by qualified personnel.

The parameter level can only be called up in Standby (OFF) mode.

► Press [+] and [Enter] keys simultaneously for approx. 2 seconds.
✓ The parameter level is activated.

► Press [+] key.
► Press [Enter] to reach the next parameter.
✓ Only then will the value be stored.

Pno.	Parameters	Setting range	Factory setting
1	Fieldbus address	0 … 254 / OFF Switch over to OFF and address: ► Briefly press [–] and [+] simultaneously.	OFF
2	Actuator position in Standby	0.0 … 90.0° Change air damper setting: ► Press [L/A] and [+] or [–].	0.0
		0.0 … 100 % Change fan speed: (only in conjunction with variable speed drive) ► Press [Enter] and [L/A] simultaneously and press [+] or [–].	0.0
3	Function fieldbus module –or– function analogue module	The parameter is dependent on the module used. Setting range of parameters, see installation and operating manual of module. Fieldbus module (response to heat demand): 2: Bus default and control circuit (T1/T2) activated Analogue module: 2: DIP switches activated	2
4	Post-purge time	0 … 4095 s	2
5	Fault memory	0: fault memory is empty 1: fault memory contains data Delete fault memory: ► Press [L/A] and [+] simultaneously for approx. 2 seconds.	–
6	Factor for oil consumption Impulse rate of meter per litre	1 … 65535 200 impulses ≙ 1 litre ► Adjust factor depending on impulse rate of oil meter.	200
7	Oil pressure switch (X3:12)	0: not activated 1: activated	0(1
8	Air pressure switch (X3:11)	0: not activated 1: activated	0(2
9	Operating mode output X3:1	1: Safety solenoid valve 2: tank valve	1

(1 If an oil pressure switch is fitted, set parameter 7 and parameter 8 to 1 and parameter 9 to 2.
(2 If an air pressure switch is fitted, set parameter 8 to 1.

Pno.	Parameters	Setting range	Factory setting
d	Flame sensor	0: ionisation electrode or flame sensor FLW 1: switch input X3:14, flame sensor LFS1/RAR9 2: flame sensor QRB4	2
E	Display mode	0: E-parameter is not activated in the access level 1: E-parameter is activated in the access level Settings 2 and 3 are required for O_2 trim, see supplementary sheet "O_2 trim W burner" (Print No. 835587xx).	0
F	Restart attempts following flame failure	0 … 1	1
H	Actuator setting for post-purge	0.0 … 90.0° Change air damper setting: ► Press [L/A] and [+] or [–].	20.0
		0.0 … 100 % Change fan speed: (only in conjunction with variable speed drive) ► Press [Enter] and [L/A] simultaneously and press [+] or [–].	50.0
L	Load shutdown	0.0 … 4095 seconds If there is no longer a demand for heat, the W-FM reduces the burner capacity and closes the fuel valves after the time set has elapsed. If partial load is reached before the time has elapsed, the fuel valves close immediately.	0
o	Operating mode O_2 trim (only in conjunction with O_2 trim)	0: not activated Additional parameters can be displayed with setting 1 to 4, see supplementary sheet "O_2 trim W-burner" (Print No. 835587xx).	0

(1 If an oil pressure switch is fitted, set parameter 7 and parameter 8 to 1 and parameter 9 to 2.
(2 If an air pressure switch is fitted, set parameter 8 to 1.

After the last parameter or a waiting time of approx. 20 seconds the combustion manager changes over to the operating level.

4.2.4 Access level

Settings at access level must only be carried out by qualified personnel.

The configuration can be adapted relative to the burner type and/or version in the access level.

In the parameter level, the display mode must be configured to `1`, to enable access to parameters E0 … E4.

► Press [G] and [L/A] simultaneously.
✓ The access level is activated.

► Press [+] key.
✓ Parameter `E0` is displayed.
► Press and hold [Enter] key and set the parameter using [+] or [–].
► Press [+] to reach the next parameter.

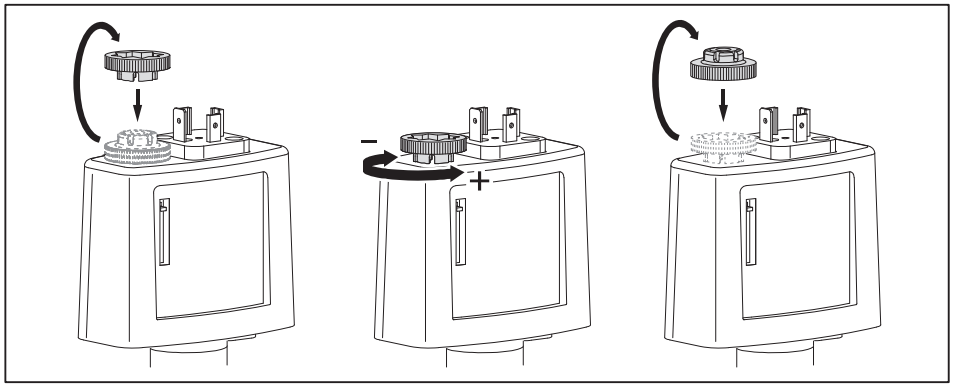
Parameters	Information	Setting range
`E0`	Burner type	`0`: single fuel burner `1`: dual fuel burner
`E1`	Operating mode (display only, no adjustment possible)	`0`: intermittent operation `1`: continuous operation
`E2`	Flame sensor type	`0`: Ionisation electrode or flame sensor KLC `1`: Switch input X3:14, flame sensor LFS1/RAR9 `2`: Flame sensor QRB4
`E3`	Fan configuration	`0`: Off `1`: fan control `2`: fan control with fan monitoring `3`: VSD `4`: fan control according to modulating degree specified `5`: DAU control `6 … 255`: off
`E4`	Pre-ignition delay	`0 … 4094`: the time (seconds) runs down from operating status `09`, then ignition starts `OFF`: ignition only from operating status `15`

5 Commissioning

5.1 Set minimum oil pressure switch (optional)

Depending on the burner application, optional equipment may be required for optimum operation [ch. 9.1].

- ► Remove end cap.
- ► Set minimum oil pressure switch to 1.5 bar below the minimum pump pressure.
- ► Refit end cap.



Check function

Pressure gauge for pump pressure must be connected.

- ► Start the burner.
  - ▪ With single-stage pump: drive to stage 2 (full load).
  - ▪ With two-stage pump: drive to stage 1 (partial load).
- ► Check and record the pump pressure.
- ► Slowly reduce the pump pressure, observing the combustion values and flame stability. Record the number of turns made on the pressure regulator screw.
- ✓ The oil pressure switch minimum, switches off 1.5 bar below the set flow pressure.
- ✓ The combustion manager initiates a controlled shutdown.
- ► Re-adjust the pressure regulating screw once it has been turned.
- ► Re-start the burner.
- ► Check combustion values, if necessary re-adjust the burner.

5.2 Adjusting the burner

5.2.1 Burner without variable speed drive

WARNING

Risk of electric shock
Touching the ignition device can lead to electric shock.
► Do not touch ignition device during the ignition process.

► During commissioning check:
  ▪ suction resistance or flow pressure of oil pump,
  ▪ mixing pressure.

1. Preset combustion manager

► Unplug bridging plug No. 7 on combustion manager.
► Switch on voltage supply.
✓ Combustion manager drives to Standby.

► Press [G] and [L/A] keys simultaneously.
✓ Combustion manager changes to access level.

► Press [+] key.
✓ Combustion manager changes into the setting level for step points.

Preset P9

► Press [+] key.
✓ Factory setting operating point P9 (stage 2) is displayed.

► Press and hold [L/A] key and set air damper setting determined using the [–] or [+] key.

Preset P1

► Press [+] key.
✓ Factory setting operating point P1 (stage 1) is displayed.

► Press and hold [L/A] key and set air damper setting determined using the [–] or [+] key.

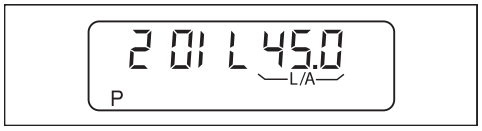
Preset P0

► Press [+] key.
✓ Factory setting operating point P0 (ignition position) is displayed.

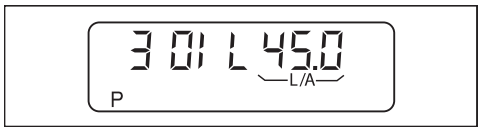
► Press and hold [L/A] key and set the same values as for P1 using the [-] or [+] key.

Preset P2 and P3

► Press [+] key.
✓ Factory setting operating point P2 (switch off point stage 2 when running closed) is displayed.



► Press and hold [L/A] key and set P2 approx. 3 … 8° above P1 using the [–] or [+] key.
► Press [+] key.
✓ Factory setting operating point P3 (switch on point stage 2 when running open) is displayed.



► Press and hold [L/A] key and set the same values as for P2 using the [-] or [+] key.
► Press [+] key.
✓ Combustion manager is preset.

2. Adjusting the operating points

► Open oil shut off devices.

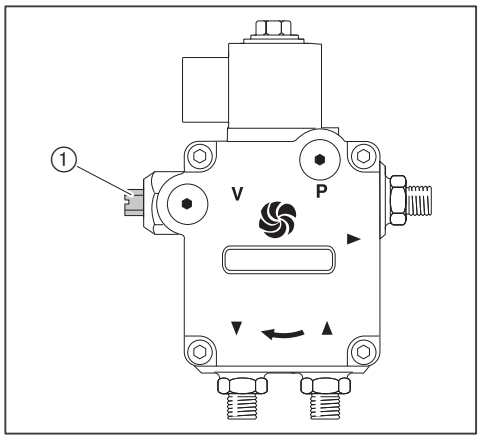
If a controlled shutdown or lockout occurs during setting:
► Briefly press [G] and [L/A] keys simultaneously.
► Press [+] key.
✓ Combustion manager changes to setting level.

► Plug in bridging plug No. 7 on combustion manager.
✓ Burner starts in accordance with program sequence and stops in operating point P0 (ignition position).

Set pump pressure (only in conjunction with 1 stage pump)

The pump pressure must be set according to the nozzle selected.

► Check pump pressure at pressure gauge.
► Set pressure using pressure regulating screw ①:
- increase pressure: clockwise rotation
- decrease pressure: anticlockwise rotation



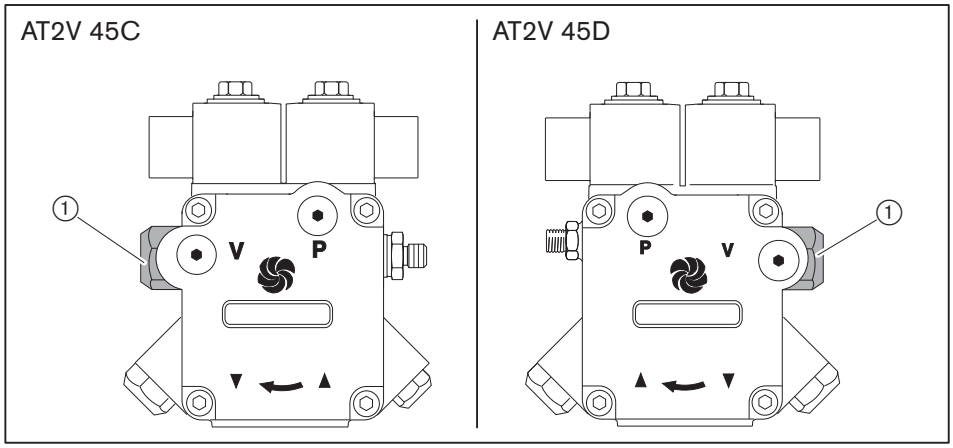
► Press [+] key.
✓ Burner drives to operating point P1.

► Press [+] key.
✓ Burner drives to operating point P9.

Set pump pressure stage 1 (only in conjunction with 2 stage pump)

The pump pressure must be set according to the nozzle selected.

- ► Check pump pressure at pressure gauge.
- ► Set pressure using pressure regulating screw ①:
  - increase pressure: clockwise rotation
  - decrease pressure: anticlockwise rotation



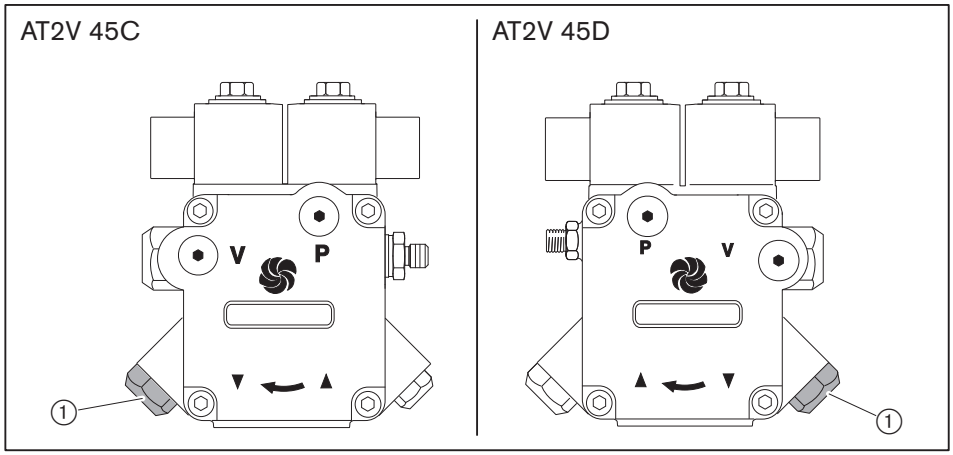
- ► Press [+] key.
- ✓ Burner drives to operating point P1.

- ► Press [+] key.
- ✓ Burner drives to operating point P9.

Set pump pressure stage 2 (only in conjunction with 2 stage pump)

The pump pressure must be set according to the nozzle selected.

- ► Check pump pressure at pressure gauge.
- ► Set pressure using pressure regulating screw ①:
  - increase pressure: clockwise rotation
  - decrease pressure: anticlockwise rotation



Adjust P9

- ► Check combustion values.
- ► Determine combustion limit.
- ► Set excess air via air damper setting [L/A].

Adjust P1

- ► Press [-] key.
- ✓ Burner drives to stage 1 (P1).

- ► Check combustion values.
- ► Determine combustion limit.
- ► Set excess air via air damper setting [L/A].

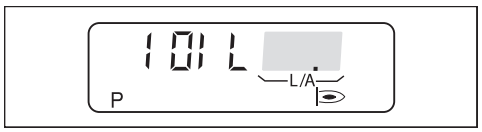
Adjust P0

- ► Press [-] key.
- ✓ Burner drives to operating point P0 (ignition position).

- ► Press and hold [L/A] key and set P0 to the same value as P1 using the [-] or [+] key.
- ► Check mixing pressure

Mixing pressure in ignition position, see installation and operation manual of the burner.

- ► If necessary, adjust mixing pressure via air damper setting [L/A].
- ► Press [-] key.
- ✓ Burner drives to stage 1 (P1).



- ► Press [+] key.
- ✓ Burner drives to stage 2 (P9).

Adjust P2 and P3

► Press [+] key.
✓ Switch off point stage 2 when running closed (P2) is displayed.

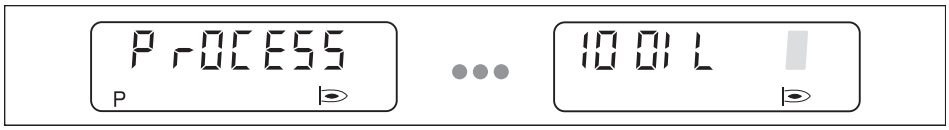
Set switch off point stage 2 when running closed (P2) to approx. ⅓ of the setting movement between P1 and P9.

Formula

$$P2 = (P9 - P1) \cdot 0.33 + P1$$

► Press and hold [L/A] key and set P2 using [–] or [+] key.
► Press [+] key.
✓ Switch on point stage 2 when running open (P3) is displayed.

► Press and hold [L/A] key and set the same values as for P2 using the [-] or [+] key.
► Press [G] and [L/A] keys simultaneously.
✓ Combustion manager changes to operating level (10), depending on heat demand stage 1 or stage 2 is displayed.



3. Check start behaviour and on/off switch points

► Switch off and restart burner.
► Check start behaviour
► Check on and off switch point stage 2:
  ▪ excess air phase (CO content) prior to switch over must not be too long,
  ▪ flame must not fail.
► If necessary correct ignition position P0.
► If necessary correct switch on point P3 and switch off point P2.

If the existing settings have been changed:
► re-check start behaviour and on and off switch points.

5.2.2 Burner with variable speed drive (optional)

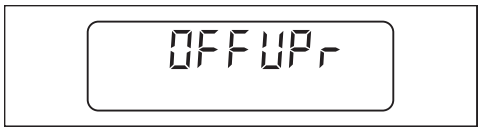

WARNING

Risk of electric shock
Touching the ignition device can lead to electric shock.
► Do not touch ignition device during the ignition process.

► During commissioning check:
  ▪ suction resistance or flow pressure of oil pump,
  ▪ mixing pressure.

1. Preset combustion manager

► Unplug bridging plug No. 7 on combustion manager.
► Switch on voltage supply.
✓ Combustion manager drives to Standby.



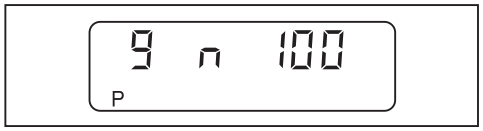
► Press [G] and [L/A] keys simultaneously.
✓ Combustion manager changes to access level.

► Press [+] key.
✓ Combustion manager changes into the setting level for step points.

Preset P9

► Press [+] key.
✓ Factory setting operating point P9 (stage 2) is displayed.

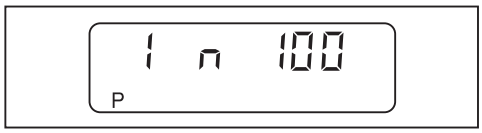
► Press and hold [L/A] key and set air damper setting determined using the [–] or [+] key.
► Press [Enter] and [L/A] simultaneously.
✓ Factory setting fan speed (100 %) is displayed.



Preset P1

► Press [+] key.
✓ Factory setting operating point P1 (stage 1) is displayed.

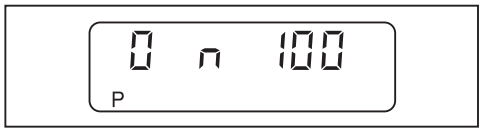
► Press and hold [L/A] key and set air damper setting determined using the [–] or [+] key.
► Press [Enter] and [L/A] simultaneously.
✓ Factory setting fan speed (100 %) is displayed.



Preset P0

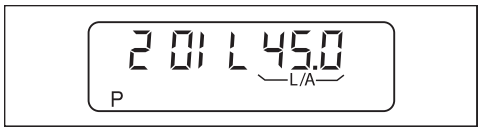
► Press [+] key.
✓ Factory setting operating point P0 (ignition position) is displayed.

► Press and hold [L/A] key and set the same values as for P1 using the [-] or [+] key.
► Press [Enter] and [L/A] simultaneously.
✓ Factory setting fan speed (100 %) is displayed.

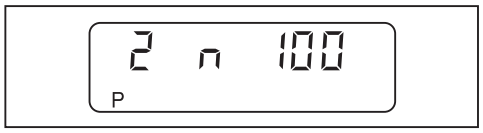


Preset P2 and P3

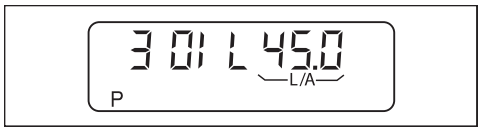
► Press [+] key.
✓ Factory setting operating point P2 (switch off point stage 2 when running closed) is displayed.



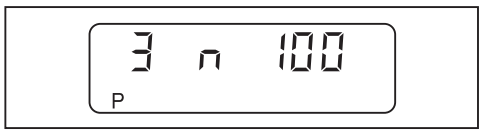
► Press and hold [L/A] key and set P2 approx. 3 … 8° above P1 using the [–] or [+] key.
► Press [Enter] and [L/A] simultaneously.
✓ Factory setting fan speed (100 %) is displayed.



► Press [+] key.
✓ Factory setting operating point P3 (switch on point stage 2 when running open) is displayed.



► Press and hold [L/A] key and set the same values as for P2 using the [-] or [+] key.
► Press [Enter] and [L/A] simultaneously.
✓ Factory setting fan speed (100 %) is displayed.



► Press [+] key.
✓ Combustion manager is preset.

2. Adjusting the operating points

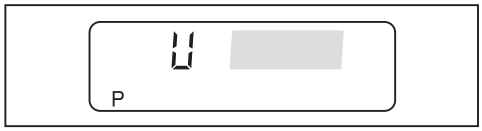
► Open oil shut off devices.

If a controlled shutdown or lockout occurs during setting:
► Briefly press [G] and [L/A] keys simultaneously.
► Press [+] key.
✓ Combustion manager changes to setting level.

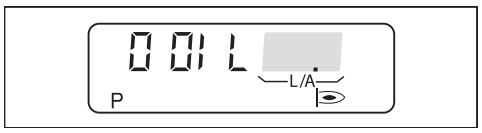
► Plug in bridging plug No. 7 on combustion manager.
✓ Burner starts.

Speed standardisation is started.

► Press [+] key within 20 seconds.
✓ Speed standardisation is carried out.
✓ U and the current fan speed are displayed.



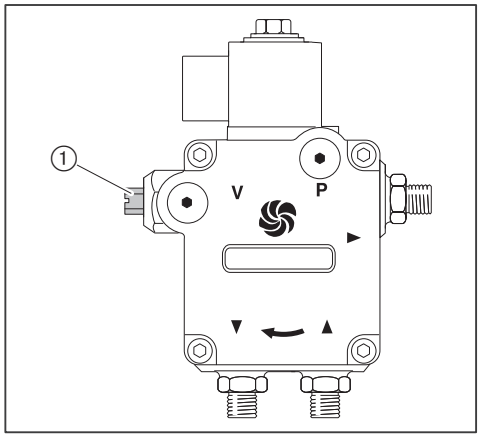
► Wait approx. 5 seconds, until the fan speed has stabilised.
► Press [+] key within 15 seconds.
✓ Speed standardisation is complete.
✓ Burner starts in accordance with program sequence and stops in operating point P0 (ignition position).



Set pump pressure (only in conjunction with 1 stage pump)

The pump pressure must be set according to the nozzle selected.

- ► Check pump pressure at pressure gauge.
- ► Set pressure using pressure regulating screw ①:
  - increase pressure: clockwise rotation
  - decrease pressure: anticlockwise rotation



- ► Press [+] key.

✓ Burner drives to operating point P1.

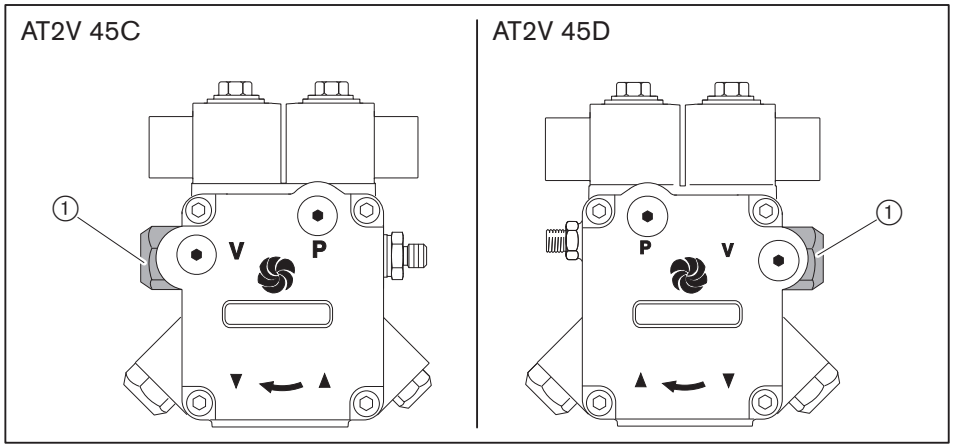
- ► Press [+] key.

✓ Burner drives to operating point P9.

Set pump pressure stage 1 (only in conjunction with 2 stage pump)

The pump pressure must be set according to the nozzle selected.

- ► Check pump pressure at pressure gauge.
- ► Set pressure using pressure regulating screw ①:
  - increase pressure: clockwise rotation
  - decrease pressure: anticlockwise rotation



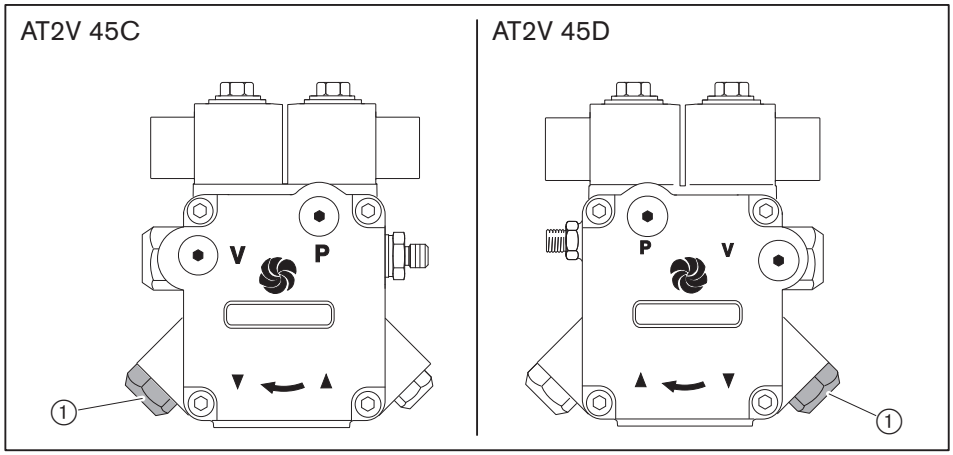
- ► Press [+] key.
- ✓ Burner drives to operating point P1.

- ► Press [+] key.
- ✓ Burner drives to operating point P9.

Set pump pressure stage 2 (only in conjunction with 2 stage pump)

The pump pressure must be set according to the nozzle selected.

- ► Check pump pressure at pressure gauge.
- ► Set pressure using pressure regulating screw ①:
  - increase pressure: clockwise rotation
  - decrease pressure: anticlockwise rotation



5 Commissioning

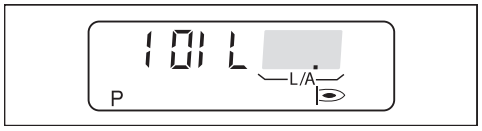
Adjust P9

Select speed at full load as low as possible, but not less than 80 %. In doing so:
- observe flame stability,
- maintain required mixing pressure.
- maintain minimum pump pressure, see installation and operating manual of the burner.

- ► Check combustion values.
- ► Determine combustion limit.
- ► Set excess air via air damper setting and speed.

Adjust P1

- ► Press [-] key.
- ✓ Burner drives to stage 1 (P1).



Reduce speed only so far as to ensure safe operating behaviour whilst:
- maintaining speed of 60 %,
- do not operate burner outside the capacity graph.
- maintain minimum pump pressure, see installation and operating manual of the burner.

- ► Slowly reduce speed using [L/A] and [ENTER] key, whilst opening air damper setting alternately using the [L/A] key.
- ► Check combustion values.
- ► Determine combustion limit.
- ► Set excess air via air damper setting [L/A].

Adjust P0

The ignition speed should be 100 %.

► Press [-] key.
✓ Burner drives to operating point P0 (ignition position).

► Check mixing pressure

Mixing pressure in ignition position, see installation and operation manual of the burner.

► If necessary, adjust mixing pressure via air damper setting [L/A].
► Press [-] key.
✓ Burner drives to stage 1 (P1).

► Press [+] key.
✓ Burner drives to stage 2 (P9).

5 Commissioning

Adjust P2 and P3

A speed of 100 % is recommended at the switch-off and switch-on point of stage 2.

► Press [+] key.
✓ Switch off point stage 2 when running closed (P2) is displayed.

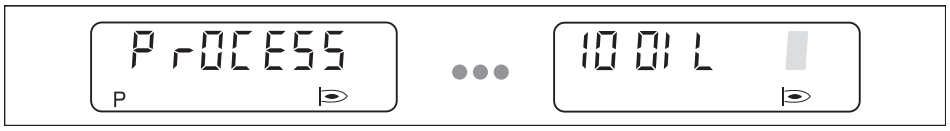
Set switch off point stage 2 when running closed (P2) to approx. ⅓ of the setting movement between P1 and P9.

Formula

$$P2 = (P9 - P1) \cdot 0.33 + P1$$

► Press and hold [L/A] key and set P2 using [–] or [+] key.
► Press [+] key.
✓ Switch on point stage 2 when running open (P3) is displayed.

► Press and hold [L/A] key and set the same values as for P2 using the [-] or [+] key.
► Press [G] and [L/A] keys simultaneously.
✓ Combustion manager changes to operating level (10), depending on heat demand stage 1 or stage 2 is displayed.



3. Check start behaviour and on/off switch points

► Switch off and restart burner.
► Check start behaviour
► Check on and off switch point stage 2:
  ▪ excess air phase (CO content) prior to switch over must not be too long,
  ▪ flame must not fail.
► If necessary correct ignition position P0.
► If necessary correct switch on point P3 and switch off point P2.

If the existing settings have been changed:
► re-check start behaviour and on and off switch points.

5.3 Set air pressure switch (optional)

Depending on the burner application, optional equipment may be required for optimum operation [ch. 9.1].

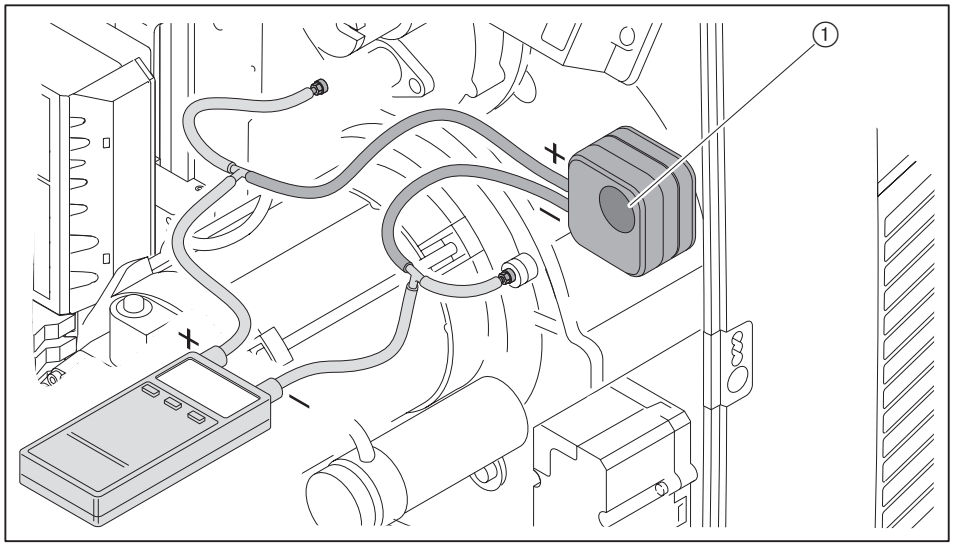
The switch point must be checked and if necessary adjusted during commissioning.

- ▶ Connect pressure measuring device for differential pressure measurement.
- ▶ Start the burner.
- ▶ Carry out differential pressure measurement across the whole capacity range of the burner and determine the lowest differential pressure.
- ▶ Calculate switch point (80 % of release pressure or lowest differential pressure).
- ▶ Set the switch point determined at the setting cam ①.

Example

Lowest differential pressure	4.5 mbar
Switch point air pressure switch (80 %)	4.5 mbar × 0.8 = 3.6 mbar

Site specific influences on the air pressure, (e. g. by the flue gas system, heat exchanger, installation location or air supply) may make it necessary to vary the setting of the air pressure switch.

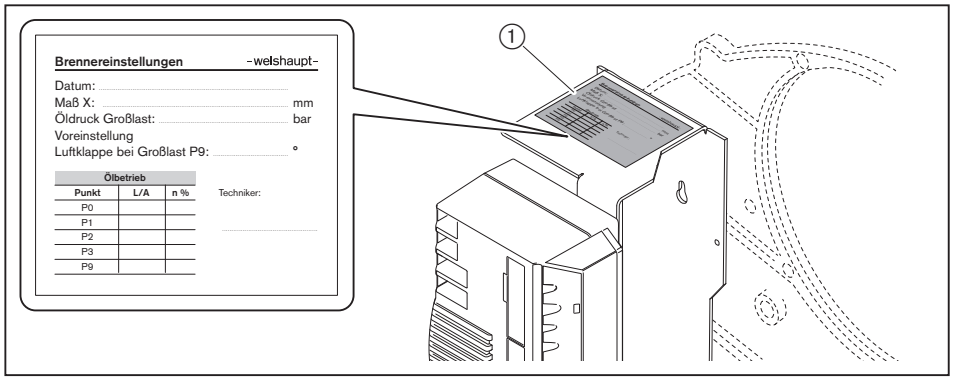


5.4 Concluding work

NOTICE

Oil leakage from oil pressure measuring devices due to constant load
Oil pressure measuring devices could be damaged and cause environmental pollution through leakage.
- ▶ Remove oil measuring devices once commissioning is complete.

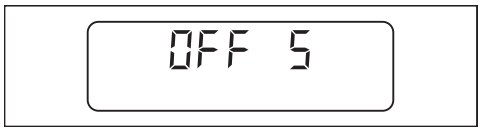
- ▶ Check control and safety devices.
- ▶ Check tightness of oil carrying components.
- ▶ Enter type and serial number into the text box.
- ▶ Enter combustion values and settings in the commissioning record and/or test sheet.
- ▶ Enter setting values on the sticker ① supplied.
- ▶ Adhere sticker to the burner.
- ▶ Mount cover on burner.
- ▶ Inform the operator about the use of the equipment.
- ▶ Hand the installation and operating manual to the operator and inform him that this should be kept with the appliance.
- ▶ Point out to operator that the installation should be serviced annually.



5.5 Subsequent optimisation of operating points

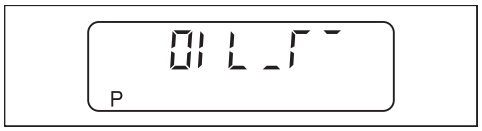
If necessary, the combustion values can subsequently be corrected.

► Unplug bridging plug No. 7 on combustion manager.
✓ Combustion manager drives to Standby.



► Briefly press [–] and [+] simultaneously.
✓ Combustion manager changes to access level.

► Press [+].
✓ Combustion manager changes to setting level.



► Plug in bridging plug No. 7 on combustion manager.
✓ Burner starts and stops in operating point P0 (ignition position).
► Initiate the other operating points using the [+] or [-] key and optimise if required.

Exit setting level

► Press [G] and [L/A] simultaneously.
✓ The combustion manager changes to operating level.

6 Servicing

6.1 Service plan

Components	Criteria / design lifespan[1]	Service procedure
Combustion Manager	250 000 burner starts or 10 years[2]	▶ Replacement recommended [ch. 6.4].
Flame sensor QRB4	Soiling	▶ Clean
	Damage 250 000 burner starts or 10 years[2]	▶ Replace
Flame sensor	Soiling	▶ Clean
	Function / damage 250 000 burner starts or 10 years[2]	▶ Replace
Air pressure switch	Switch point	▶ Check [ch. 5.3].
	250 000 burner starts or 10 years[2]	▶ Replace
Oil pressure switch	Switch point	▶ Check [ch. 5.1].
	500 000 burner starts	▶ Replace

[1] The specified design lifespan applies for typical use in heating, hot-water and steam systems as well as for thermal process systems to EN ISO 13577-2.
[2] If a criterion is reached, carry out maintenance measures.

6.2 Removing and refitting air damper actuator

Observe notes on servicing.

Removing

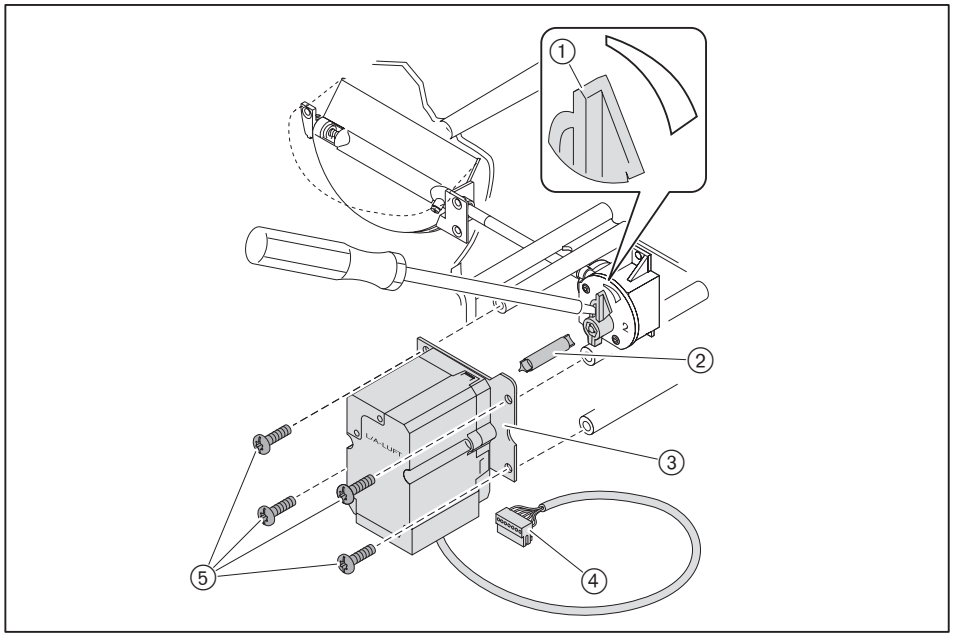
- ► Remove actuator plug ④ from combustion manager.
- ► Remove screws ⑤.
- ► Remove actuator with fixing plate ③ and shaft ②.

Refitting

NOTICE

Damage to the actuator caused by turning the hub
Actuator could be damaged.
- ► Do not turn hub manually or with tool.

- ► Plug in actuator plug ④ at the combustion manager.
- ► Unplug bridging plug No. 7 on combustion manager.
- ► Switch on voltage supply.
- ✓ The combustion manager checks the actuator and drives to the reference point.
- ► Interrupt voltage supply.
- ► Fit shaft ② to actuator.
- ► Set indicator ① on angle drive to 0 (air damper Closed) and hold.
- ► Fit shaft with actuator to angle drive.
- ► Secure actuator.
- ► Plug in bridging plug No. 7 on combustion manager.



6.3 Removing and refitting angle drive

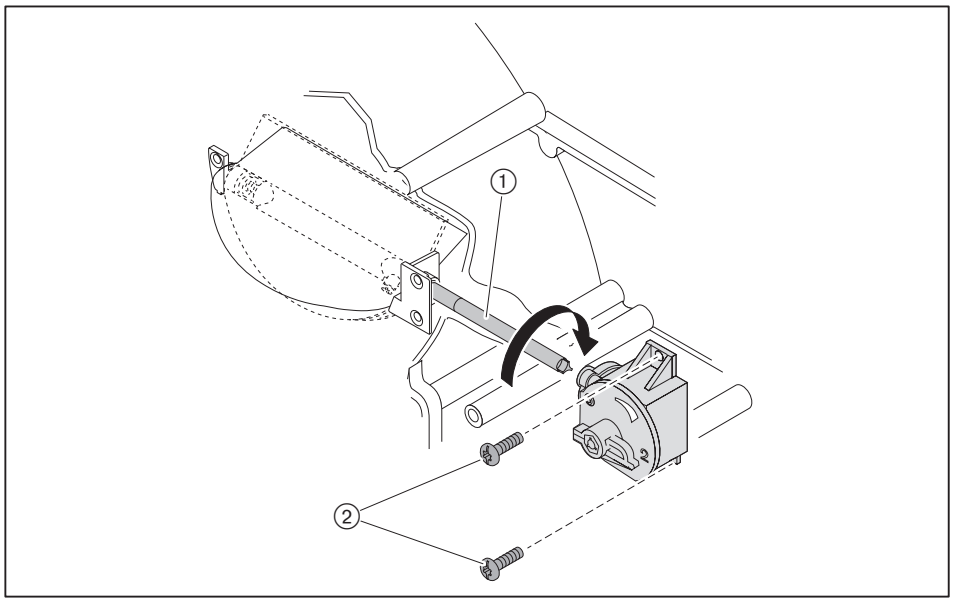
Observe notes on servicing.

Removing

- ► Remove air damper actuator [ch. 6.2].
- ► Remove screws ②.
- ► Remove angle drive.

Refitting

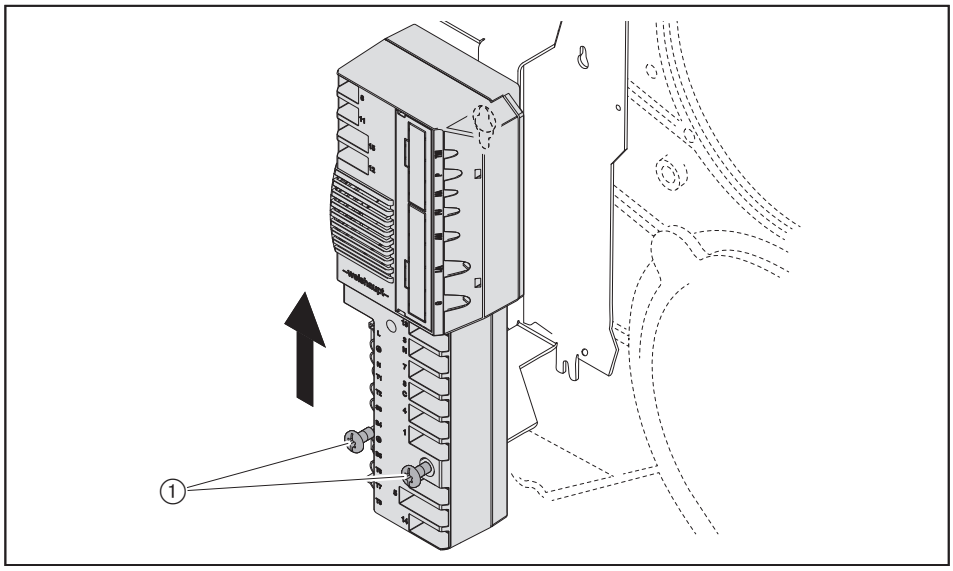
- ► Turn shaft ① to its stop (air damper Open) and hold.
- ► Fit angle drive to shaft.
- ► Secure angle drive.



6.4 Replacing the combustion manager

Observe notes on servicing.

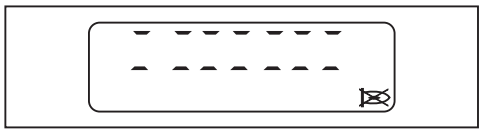
- ► Unplug all plugs.
- ► Undo screws ①.
- ► Push combustion manager upwards and replace.



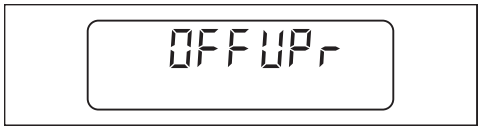
- ► Connect all plugs again.

Preset combustion manager

- ► Unplug bridging plug No. 7 on combustion manager.
- ► Switch on voltage supply.
- ✓ The unprogrammed condition of the combustion manager is indicated by a flashing display.
  The burner goes to lockout.



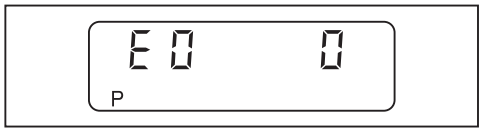
- ► Press [Enter].
- ✓ Burner has been reset.
- ✓ Combustion manager drives to Standby.



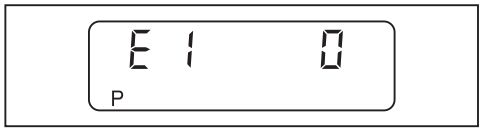
If an oil pressure switch is fitted, set parameter 7 and 8 to 1, see [ch. 4.2.3].
If an air pressure switch is fitted, set parameter 8 to 1, see [ch. 4.2.3].

- ► Press [G] and [L/A] simultaneously.
- ✓ Combustion manager changes to access level.

► Press [+].
✓ Setting level (parameter E0) is displayed.



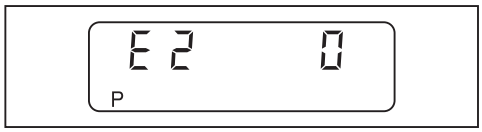
► Adopt value 0 (single fuel burner) and if necessary adjust using [Enter] and [–] key.
► Press [+].
✓ E1 is displayed.



The value of parameter E1 can not be altered.

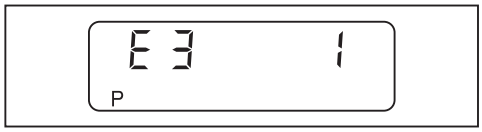
- 0: intermittent operation (Standard)
- 1: continuous operation

► Press [+].
✓ E2 is displayed.



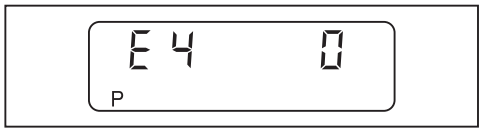
► Set value using [Enter] and [+].
- 1: switch input X3:14, flame sensor LFS1/RAR9
- 2: flame sensor QRB4

► Press [+].
✓ E3 is displayed.



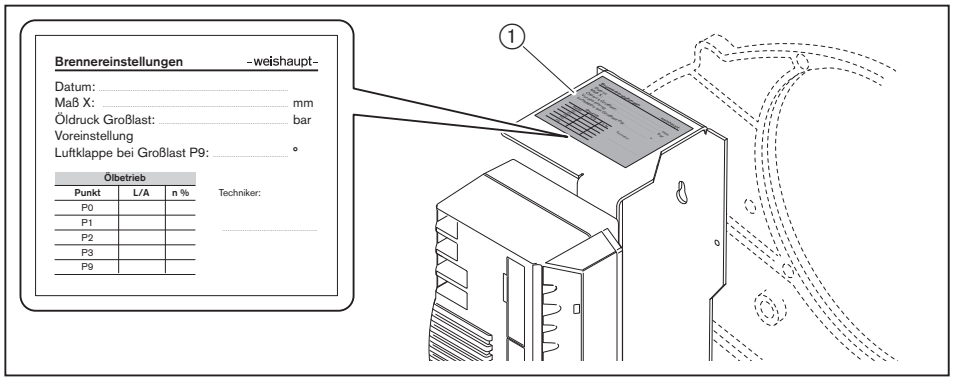
► If required, set value using [ENTER] and [+] keys.
- 1 (fan control): burner without variable speed drive
- 3 (variable speed drive): burner with variable speed drive

► Press [+].
✓ E4 is displayed.



► Adopt value 0 (no ignition delay), and if necessary set using [Enter] and [-].
► Press [+].
✓ Combustion manager changes into the setting level for step points.

► Determine the operating points from the sticker ①.
► Set the burner using these operating points and adjust [ch. 5.2].



Deactivate E-Parameters

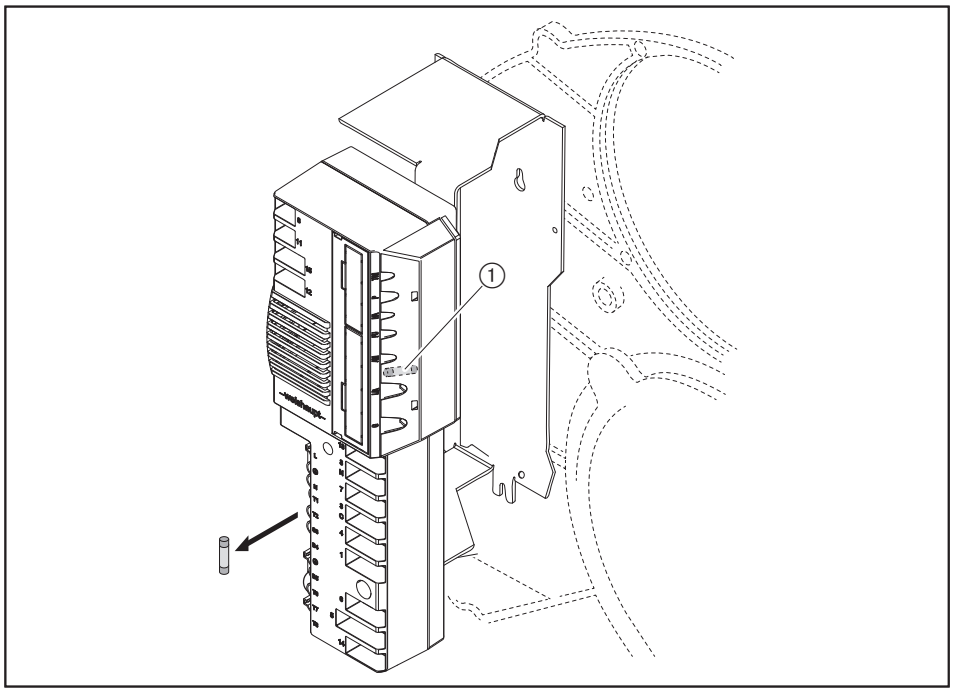
Following commissioning, set parameter E to 0.

► Press [Enter] and [+] keys simultaneously for approx. 2 seconds.
✓ The parameter level is activated.
► Press [+].
► Press [Enter] key until parameter E is displayed.
► Set parameter E to 0 .
✓ E-Parameters are not shown in the setting level.
► Press [Enter] key twice.
✓ The combustion manager returns to the operating level.

6.5 Replacing the fuse

Observe notes on servicing.

- ▶ Unplug connection plug from combustion manager.
- ▶ Replace fuse (T6.3H, IEC 127-2/5).



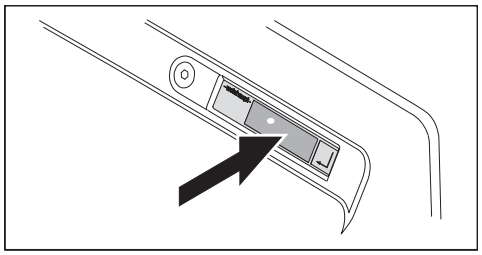
① Replacement fuse

7 Troubleshooting

7.1 Procedures for fault conditions

The combustion manager recognises irregularities of the burner and displays these on the display.

The following conditions can occur:
- Display off [ch. 7.1.1]
- Display OFF [ch. 7.1.2]
- Display flashes [ch. 7.1.3]



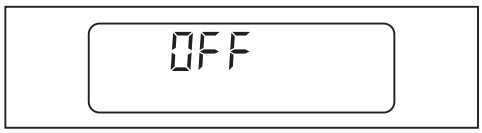
7.1.1 Display off

The following faults may be corrected by the operator:

Fault	Cause	Rectification
Burner not operating	External fuse has tripped(1	▸ Check fuse.
	Heating switch is set to Off	▸ Switch on heating switch.
	Temperature limiter or pressure limiter on heat exchanger has triggered(1	▸ Reset temperature limiter or pressure limiter on heat exchanger.
	Low water safety interlock on heat exchanger has triggered(1	▸ Top up water. ▸ Reset low water safety interlock on heat exchanger.

(1 Notify your heating contractor or Weishaupt Customer Service if the problem occurs repeatedly.

7.1.2 Display OFF

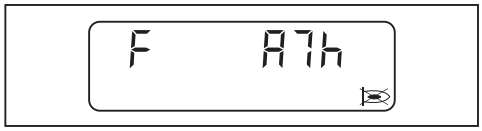


The following faults may be corrected by the operator:

Fault	Cause	Rectification
Burner not operating	Temperature regulator or pressure regulator on heat exchanger has been set incorrectly	▸ Adjust temperature regulator or pressure regulator on heat exchanger.
	Boiler or heating circuit control is not functioning or has not been set correctly	▸ Check function and setting of boiler or heating circuit control.

7.1.3 Display flashes

A burner fault has occurred. The burner is in lockout. The error code is displayed flashing.



- ► Read error code, e. g. `A7h`.
- ► Rectify cause of fault [ch. 7.2].

Reset

WARNING

Danger resulting from incorrect fault repair
Incorrect fault repair can cause damage to the equipment and injure personnel.
- ► Do not carry out more than 2 lockout resets successively.
- ► Faults must be rectified by qualified personnel.

- ► Press [Enter].
- ✓ Burner has been reset.

Fault memory

The last 9 faults are saved in the fault memory [ch. 4.2.2].

7.1.4 Detailed fault codes

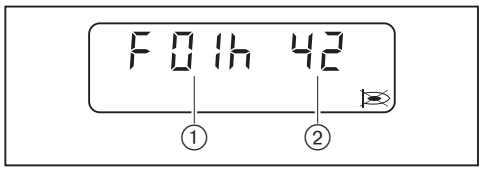
Additional information, which breaks down the error in more detail, can be displayed by pressing a button.

The first detailed fault code and the second detailed fault code are only relevant for the following faults:

- 03h
- 18h
- 41h
- 65h

1. detailed error codes / operating status

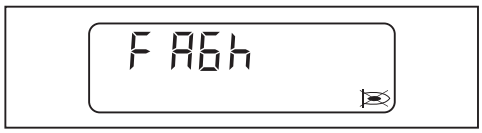
► Press [+] key.



① First detailed fault code
② Operating status

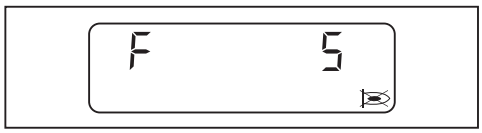
Second detailed fault code

► Press [–] and [+] keys simultaneously.



Repetition counter

► Press key [G].



7.2 Rectifying faults

Faults must only be rectified by qualified personnel:

Fault codes	Cause	Rectification
01h … 02h 05h … 0bh 0Eh … 10h 13h … 15h 17h 19h … 1Ch 1Eh 43h 45h 50h 56h 69h … A0h A4h … A5h ACh b0h … b2h b9h	Internal unit fault	▶ Interrupt the voltage supply temporarily ▶ Reset the burner, if fault reoccurs replace the combustion manager [ch. 6.4]

Faults must only be rectified by qualified personnel:

Fault codes	Cause	Rectification
03h	First detailed fault code: 09h Ambient temperature too high	▶ Interrupt the voltage supply temporarily ▶ Check ambient temperature ▶ Reset the burner, if fault reoccurs replace the combustion manager [ch. 6.4]
	Internal unit fault	▶ Interrupt the voltage supply temporarily ▶ Reset the burner, if fault reoccurs replace the combustion manager [ch. 6.4]
04h	More than 5 resets in the last 15 minutes	▶ Press and hold reset key for 5 seconds. ✓ Display flashes. ▶ Reset burner
0Ch	Burner configuration incorrect	▶ Check burner configuration ▶ Check values in parameter level [ch. 4.2.3] ▶ Check parameter E0 … E4 [ch. 4.2.4]
	Pre-purge phase less than 5 seconds (sum from parameters 60 and 61).	▶ Increase pre-purge phase (only possible with VisionBox).
11h	Low voltage	▶ Check voltage supply
12h	Voltage supply was temporarily interrupted	▶ Check voltage supply
16h	Communication with TWI interface (VisionBox) incorrect	▶ Plug in and unplug participants on the TWI Bus only when de-energised ▶ Reduce the number of participants on the TWI Bus ▶ Reduce cable length

Faults must only be rectified by qualified personnel:

Fault codes	Cause	Rectification
18h	Switch off via PC Software	–
	Second detailed fault code: A1h Invalid Bus address	▶ Check Bus address
	Second detailed fault code: A5h Configuration at output B4 incorrect	▶ Check configuration at output B4
	Second detailed fault code: A6h No keystrokes where made for 30 minutes in the setting mode	–
	Second detailed fault code: A7h Off function was activated	–
	Second detailed fault code: A8h No calibration values were stored in the EEPROM	–
	Second detailed fault code: A9h No Bus connection	▶ Check Bus connection
	Second detailed error code: AAh Communication to the expansion module failed	▶ Interrupt the voltage supply temporarily ▶ Check analogue module or Fieldbus module slot.
	Second detailed fault code: C1h Operating mode O_2 trim not permitted	▶ Check operating mode O_2 trim [ch. 4.2.3].
	Second detailed fault code: 01h … 1Bh Internal unit fault	▶ Interrupt the voltage supply temporarily ▶ Reset the burner, if fault reoccurs replace the combustion manager [ch. 6.4]
	Second detailed fault code: E1h … E7h Calibration values in EEPROM incorrect	–
	Second detailed fault code: EEh Communication to W-FM25 failed	–
	Second detailed fault code: EFh Extension module to W-FM25 not compatible	▶ Check version
1dh	EMC interference	▶ Optimise EMC measures.
40h	Speed standardisation outside of limits set	▶ Carry out speed standardisation
41h	First detailed fault code: 01h Speed differs for too long	▶ Check parameters 44 and 45
	First detailed fault code: 02h Speed difference is too great	▶ Check speed signal
	First detailed fault code: 03h Speed setting value outside of tolerance for too long	▶ Re-adjust burner ▶ Check parameters 44 and 45
42h	Speed signal (Namur) not plugged in	▶ Plug in speed signal
44h	Operating points were changed without approval	▶ Re-adjust burner
	Parameter E3 set incorrectly	▶ Check parameter E3 [ch. 4.2.4].
	Parameter 46 was changed and speed was not re-standardised	▶ Re-adjust burner
46h	Rotational direction of burner incorrect	▶ Check rotation direction of burner motor
47h	Type of air actuator invalid	▶ Check parameter 34 (only possible with VisionBox).

7 Troubleshooting

Faults must only be rectified by qualified personnel:

Fault codes	Cause	Rectification
48h	Tolerance fault actuator	▶ Check freedom of movement of air damper and / or angle drive ▶ Replace actuator [ch. 6.2]
49h	Actuator does not drive to reference point correctly	▶ Check freedom of movement of air damper and / or angle drive ▶ Replace actuator [ch. 6.2]
4Ah	Set parameter E0 to 1 and plug in coded plug	▶ Check parameter E0 [ch. 4.2.4].
63h	Speed learning curve incorrect	▶ Re-adjust burner
65h	First detailed fault code:00h Tolerance fault air actuator or frequency convertor	▶ Check freedom of movement of air damper and / or angle drive ▶ Replace actuator [ch. 6.2] ▶ Check frequency convertor or fan, replace if necessary
	First detailed fault code: 01h Tolerance fault air actuator	▶ Check freedom of movement of air damper and / or angle drive ▶ Replace actuator [ch. 6.2]
	First detailed fault code: 02h Tolerance fault frequency convertor	▶ Check frequency convertor or fan, replace if necessary
	First detailed fault code: 04h Tolerance fault air actuator or frequency convertor	▶ Check freedom of movement of air damper and / or angle drive ▶ Replace actuator [ch. 6.2] ▶ Check frequency convertor or fan, replace if necessary
	First detailed fault code: 05h Tolerance fault air actuator	▶ Check freedom of movement of air damper and / or angle drive ▶ Replace actuator [ch. 6.2]
	First detailed fault code: 06h Tolerance fault frequency convertor	▶ Check frequency convertor or fan, replace if necessary
	First detailed fault code: 07h Time run out during speed standardisation Time in setting mode run out	▶ Press [+] key within 20 seconds during speed standardisation ▶ Press key within 30 minutes in setting mode
67h	Flame sensor short circuit	▶ Replace flame sensor
A2h	Safety circuit is open	▶ Check safety circuit
A6h	Flame simulation/extraneous light	▶ Find and eliminate extraneous light source ▶ Check flame sensor
A7h	No flame signal after safety time	▶ Check oil nozzles, if necessary replace ▶ Set ignition electrodes ▶ Check the ignition unit and replace if necessary ▶ Check solenoid valve coil and cable, replace if necessary ▶ Check flame sensor and cable, if necessary replace ▶ Check mixing pressure, if necessary reduce ▶ Check burner setting ▶ Replace combustion manager [ch. 6.4]
A8h	Flame failure during operation	▶ Check burner setting ▶ Check oil supply ▶ Check oil nozzles, if necessary replace ▶ Check flame sensor, if necessary replace
A9h	Flame failure during stabilisation time	▶ see A7h

Faults must only be rectified by qualified personnel:

Fault codes	Cause	Rectification
AAh	Switch contact of air pressure switch not in Standby	▶ Check air pressure influences ▶ Check air pressure switch setting ▶ Check air pressure switch and cable, replace if necessary ▶ Replace combustion manager [ch. 6.4]
Abh	Air pressure switch does not react	▶ Check air pressure switch setting ▶ Check hoses on air pressure switch ▶ Check air pressure switch and cable, replace if necessary ▶ Check burner motor and cable, replace if necessary
bAh	Flame simulation/extraneous light at start-up	▶ Find and eliminate extraneous light source ▶ Check flame sensor
bbh	Burner shutdown via contact X3:7 (plug No. 7)	–
CCh	Oil pressure switch does not switch	▶ Check oil supply ▶ Check oil pump, if necessary replace ▶ Check oil pressure switch and cable, if necessary replace ▶ Check burner motor and cable, replace if necessary
Cdh	Air pressure switch 2 does not react	▶ Check air pressure switch setting ▶ Check hoses on air pressure switch ▶ Check air pressure switch and cable, replace if necessary
CEh	Bridging plug No. 15 is missing	▶ Plug in bridging plug
CFh	No start release (X3:14)	▶ Check start release
d1h	Connection to actuator faulty	▶ Rectify the fault using the following procedure: ▪ Interrupt voltage supply. ▪ Plug in plug on combustion manager correctly ▪ Fit W-FM cover [ch. 2.1.4].
	Coded plug on actuator slot missing	▶ Plug in coded plug
	Parameter E0 not configured correctly	▶ Check configuration of parameter E0 see [ch. 4.2.4].
d2h	More than 5 resets in the past 15 minutes by remote reset (X3:14)	▶ Rectify cause of fault ▶ Reset via operating panel on burner. ▶ Press and hold reset key for 5 seconds. ✓ Display flashes. ▶ Reset burner
d4h	External voltage at operating signal X7:B5	▶ Find and eliminate external voltage source
	Internal unit fault	▶ Interrupt the voltage supply temporarily ▶ Reset the burner, if fault reoccurs replace the combustion manager [ch. 6.4]

8 Technical documentation

8.1 Program sequence

The exact operating status of the combustion manager can also be displayed.
Activate operating status [ch. 4].

Operating phase	Operating status	Condition / function
F ..	00	Fault present
OFFUPr	01	Unprogrammed condition or programming not completed
OFF	02	Standby, no heat demand
1	03	Extraneous light check
2	04	Shutdown check air pressure switch
	05	Initialisation W-FM
	06	Waiting for start release / waiting time O_2 trim
	07	Internal sequence
	08	Driving air damper actuator to pre-purge
3	09	Waiting for speed standardisation confirmation
	10	Start burner motor and ignition oil operation
	11	Waiting for air pressure
4	12	Pre-purge
	13	Internal sequence
5	14	Driving to ignition position
6	15	Waiting time in ignition position.
	16	Waiting time in ignition position.
7	17	First safety time - fuel release
	18	First safety time - flame detection
8	19	First stabilisation time
	20	Stop setting mode: P0 -A
	21	Second safety time
	22	Second stabilisation time
	23	End setting mode: P0 -B
9	24	Driving to air damper setting stage 1 (operating point P1)
10	25	Operation (load control is activated)
15	26	Internal sequence
	27	Driving to stage 1
	28	Close fuel valves
	29	Internal sequence
	30	Start post burn time / post-purge
	31	Post-purge contact dependent (X3:14)
	32	Post burn time
16	33	Restart interlock
L	40	Reference search air damper actuator
	42	Drive to Standby position
	43	Internal sequence
OFF S	46	Safety circuit open (X3:7)

9 Project planning

9.1 Additional requirements

Additional requirements for burners for liquid and gaseous fuels to EN 267:
- the pressure equipment operates in accordance with the Pressure Equipment Directive 2014/68/EU
- as a component of an industrial thermo-processing system to EN ISO 13577-2
- on steam and hot-water water-tube boilers to EN 12952-8

2014/68/EU	EN ISO 13577-2	EN 12952-8	Components	Requirement
X			Burner control, combustion manager	Designed for continuous operation greater than 1200 kW
		X	Flame monitor, flame sensor	self-checking
X			Control device air/fuel ratio	ISO 23552-1
X	X	X	Air monitoring device	Min. air pressure switch to EN 1854
X(2	X	X	Monitoring device minimum fuel pressure	Minimum oil pressure switch
X	X	X	Monitoring device maximum fuel pressure	Max. oil pressure switch(1
		X	Oil solenoid valve	2 x flow, 2 x return, ISO 23553-1
	X		Manual shut off device for all fuels	Ball valve
	X		Safety devices for save operation	Connected to the input of the combustion manager in the closed circuit current principle
		X	Electrical equipment	EN 50156

(1 Only for burners with return flow nozzle.
(2 Only for continuous operation without monitoring.

10 Notes

–weishaupt–

Max Weishaupt SE · 88475 Schwendi

Weishaupt close by? Addresses, telephone numbers etc. can be found at www.weishaupt.de

Das ist Zuverlässigkeit. C'est la fiabilité. That's reliability. Questa è affidabilità. 信頼性とは、ころいろものです。Това е надеждност. Ez a megbízhatóság. Đó là sự đáng tin cậy. تسا نانیمطلا تدابقا نیا To je zanesljivost. Güvence budur. Αυτό σημαίνει αξιοπιστία. 그것은 바로 신뢰성입니다. To je spoľahlivosť. Dat is betrouwbaarheid. Tämä on luotettavuutta. ةيقوقوثلا يه هذه See on usaldusväärsus. Pouzdana tvrtka. To jest niezawodność. นั่นคือความเชื่อถือได้ Це надійність. Isto é fiabilidade. To je spolehlivost. यही वश्विसनीयता है. Det är pålitlighet. .זאת אמינות Esto es fiabilidad. Это надежность. Itulah kepercayaan. 值得信赖。 Is é sin iontaofacht. Iyan ang maaasahan. Aceasta este fiabilitatea. ہ ےہ وشوسنیی ات۔ Tai - patikimumas. Det er pålitelighet. Tā ir uzticamība. Sa se fyab. To je pouzdanost. La fiabilité avant tout. Det er pålidelighed.

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