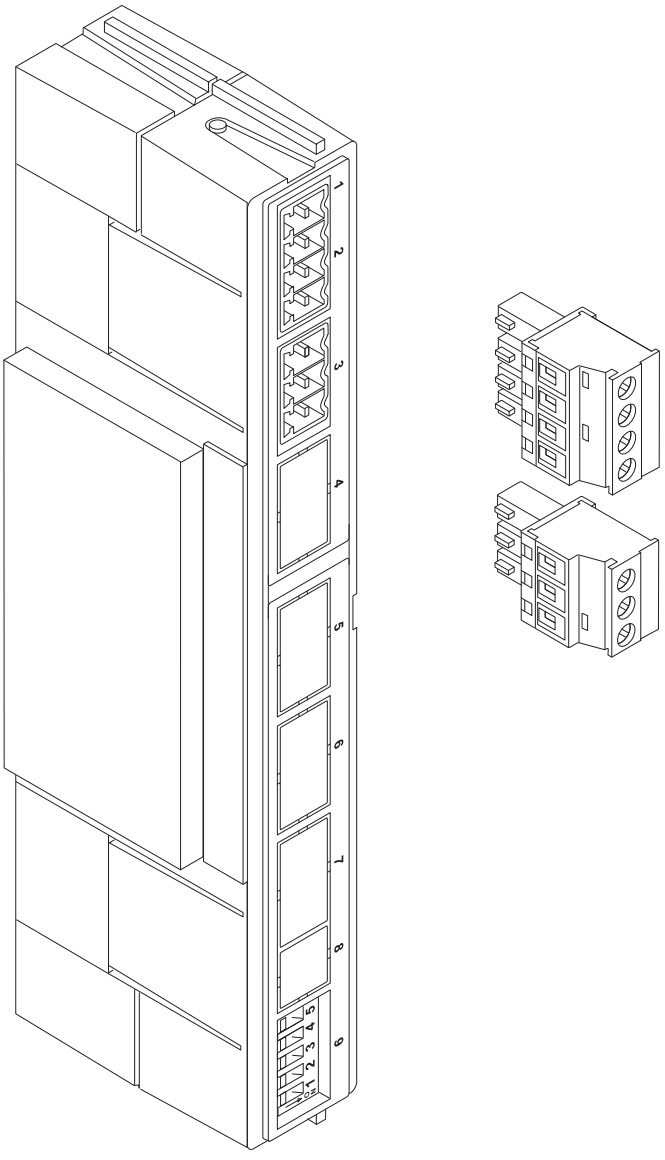
–weishaupt–

manual

Installation and operating instruction



Analogue module EM3/3

83295402 ▪ 1/2019-01

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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.

1.1 Target group

The manual is intended for the operator and qualified personnel. They should be observed by all personnel working with the unit.

Work on the unit must only be carried out by personnel who have the relevant training and instruction.

Persons with limited physical, sensory or mental capabilities may only work on the unit if they are supervised or have been trained by an authorised person.

Children must not play with the unit.

1.2 Symbols

 DANGER	Immediate danger with high risk. Non observance can lead to serious injury or death.
 WARNING	Danger with medium risk. Non observance can lead to environmental damage, serious injury or death.
 CAUTION	Danger with low risk. Non observance can cause damage to the equipment and injury to personnel.
	Important information
▸	Requires direct action
✓	Result after an action
▪	Itemisation
…	Range of values

1.3 Guarantee and Liability

Guarantee and liability claims for personal and equipment damage are excluded, if they can be attributed to one or more of the following causes:

- non approved application,
- non-observance of the manual,
- operation with faulty safety equipment,
- continual operation despite a fault,
- improper installation, commissioning, operation and service,
- repairs, which have been carried out incorrectly,
- the use of non original Weishaupt parts,
- force majeure,
- the installation of additional components, which have not been tested with the unit.

2 Safety

2.1 Designated application

The analogue module EM3/3 is suitable for use with the combustion manager W-FM 25.

2.2 Safety measures

Safety relevant fault conditions must be eliminated immediately.

2.2.1 Electrical connection

For work carried out on live components:
- Observe the accident prevention instructions DGUV Regulation 3 and adhere to local directives,
- tools in accordance with EN 60900 should be used.

2.2.2 Disposal

Dispose of all materials and components in a safe and environmentally friendly way at an authorised location. Observe local regulations.

3 Product description

3.1 Inputs and outputs

The degree of modulation can be controlled via a control signal, which is connected to the input of the analogue module EM3/3.

The current degree of modulation can be signalled via an output from the analogue module EM3/3.

3.1.1 Input

The analogue module EM3/3 has an analogue input.

The input can be set for the following ranges using a DIP switch:
- current input 0 … 20 mA or 4 … 20 mA, depending on the range set,
- voltage input 0 … 10 V or 2 … 10 V, depending on the range set.

3.1.1.1 Gas burner / dual fuel burner gas operation

Degree of modulation	0 … 20 mA	4 … 20 mA	0 … 10 V	2 … 10 V
0 %	0 mA	4 mA	0 V	2 V
10 %	2 mA	5.6 mA	1 V	2.8 V
20 %	4 mA	7.2 mA	2 V	3.6 V
50 %	10 mA	12 mA	5 V	6 V
100 %	20 mA	20 mA	10 V	10 V

3.1.1.2 Oil burner / dual fuel burner oil operation

Degree of modulation	0 … 20 mA	4 … 20 mA	0 … 10 V	2 … 10 V
Stage 1	< 5 mA	< 7.8 mA	< 2.5 V	< 4 V
Stage 2	> 15 mA	> 16 mA	> 7.5 V	> 8 V

3.1.2 Output

The analogue module EM3/3 has two analogue outputs.

The outputs can be set for the following ranges using DIP switches:
- current output 0 … 20 mA or 4 … 20 mA, depending on the range set,
- voltage output 0 … 10 V or 2 … 10 V, depending on the range set.

3.1.2.1 Gas burner / dual fuel burner gas operation

Degree of modulation	0 … 20 mA	4 … 20 mA	0 … 10 V	2 … 10 V
0 %	0 mA	4 mA	0 V	2 V
10 %	2 mA	5.6 mA	1 V	2.8 V
20 %	4 mA	7.2 mA	2 V	3.6 V
50 %	10 mA	12 mA	5 V	6 V
100 %	20 mA	20 mA	10 V	10 V

3.1.2.2 Oil burner / dual fuel burner oil operation

Output 1

The values outside of control mode and stage 1 are identical.

Degree of modulation	0 … 20 mA	4 … 20 mA	0 … 10 V	2 … 10 V
Outside of control mode	0 mA	4 mA	0 V	2 V
Stage 1	0 mA	4 mA	0 V	2 V
Stage 2	20 mA	20 mA	10 V	10 V
Switch off point St 2 running closed	14 mA	15.2 mA	7 V	7.6 V
Switch on point St 2 running open	16 mA	16.8 mA	8 V	8.4 V

Output 2

The values outside of control mode and stage 1 are different.

Degree of modulation	0 … 20 mA	4 … 20 mA	0 … 10 V	2 … 10 V
Outside of control mode	0 mA	4 mA	0 V	2 V
Stage 1	10 mA	12 mA	5 V	6 V
Stage 2	20 mA	20 mA	10 V	10 V
Switch off point St 2 running closed	14 mA	15.2 mA	7 V	7.6 V
Switch on point St 2 running open	16 mA	16.8 mA	8 V	8.4 V

3.2 Technical data

3.2.1 Electrical data

Input

Voltage input	0/2 V … 10 V
Input impedance	200 kΩ
Current input	0/4 mA … 20 mA
Input impedance	500 Ω

Output

Voltage output	0/2 V … 10 V
Internal resistance of source	83 Ω
External impedance	min 12 kΩ
Current output	0/4 mA … 20 mA
Internal resistance of source	100 Ω
External impedance	0.5 … 2.2 kΩ

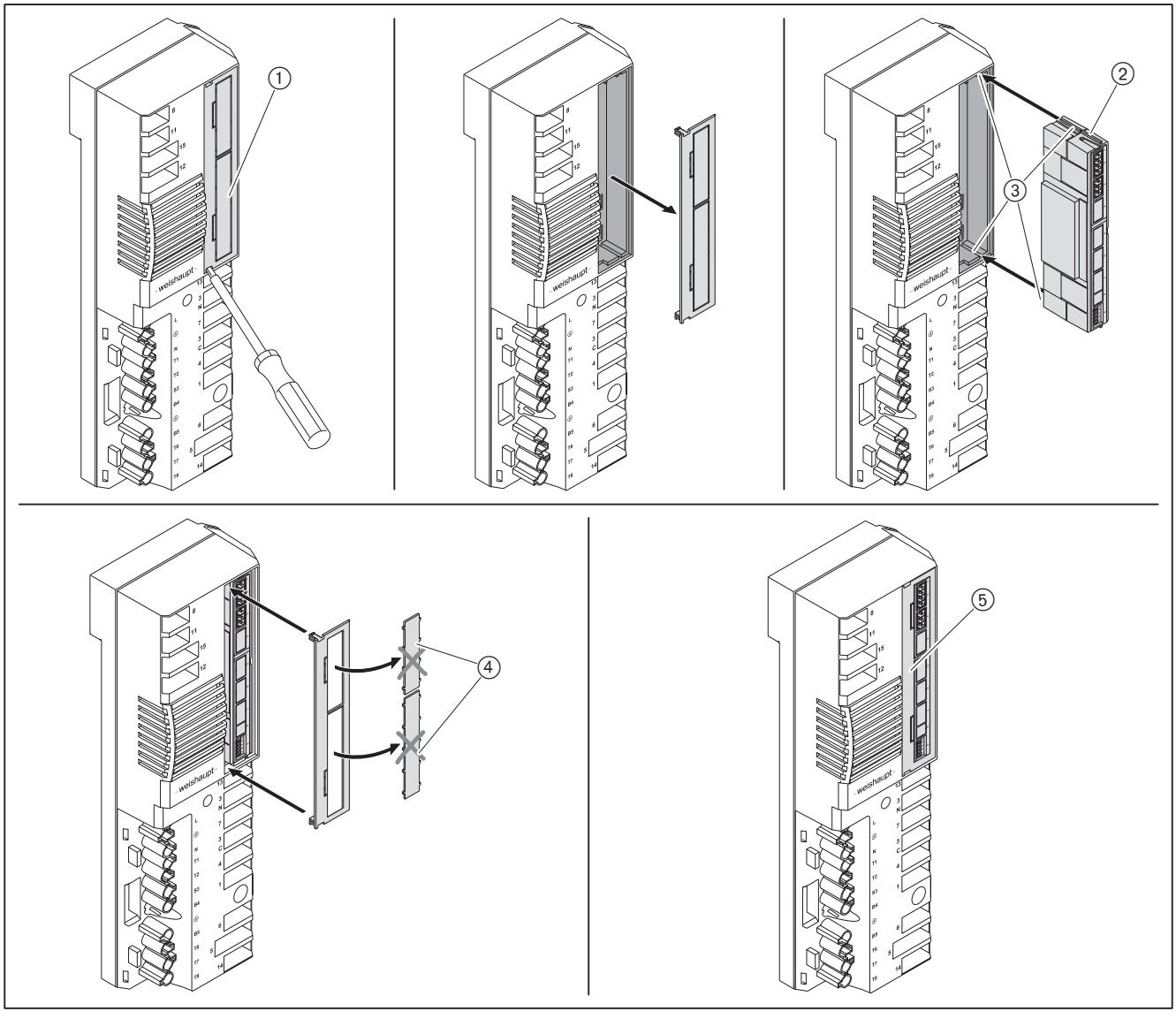
4 Installation

4.1 Installing analogue module

DANGER

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.

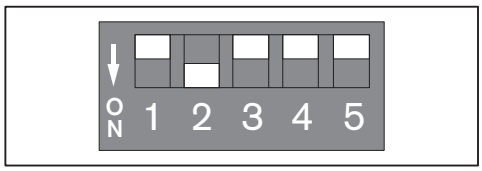
- ► Unplug 7 pole connection plug on burner.
- ► Remove cover ①.
- ► Carefully install module ② using the guides ③.
- ► Break out the pre-cut surfaces ④ and fit cover ①.



You can check if the combustion manager has recognised the module by interrogating Information 13 in the Info level, see installation and operating manual of the burner.

4.2 Setting the DIP switches

► Check and adapt the setting of the DIP switches on the module.



DIP switches	Explanation	Setting	
		OFF	ON
1	Setting range(1	0 … 10 V / 4 … 20 mA	2 … 10 V / 0 … 20 mA
2	Input function	not activated	activated
3	Input setting	Voltage	Current
4	Setting output 1	Voltage	Current
5	Setting output 2	Voltage	Current

(1 The range set applies to the input and both outputs.

If different setting ranges are required for input, output 1 and / or output 2:
► Activate parameter level, see burner installation and operating manual.
► Select parameter 3 and set the value.

The setting can also be changed via the VisionBox Software on the PC using parameter 200.

Value(1	Setting range		
	Output 2	Output 1	Input
1(2	0 … 10 V / 4 … 20 mA	0 … 10 V / 4 … 20 mA	0 … 10 V / 4 … 20 mA
2	Setting DIP switch 1 activated (factory setting).		
3(2	0 … 10 V / 4 … 20 mA	0 … 10 V / 4 … 20 mA	2 … 10 V / 0 … 20 mA
5(2	0 … 10 V / 4 … 20 mA	2 … 10 V / 0 … 20 mA	0 … 10 V / 4 … 20 mA
7(2	0 … 10 V / 4 … 20 mA	2 … 10 V / 0 … 20 mA	2 … 10 V / 0 … 20 mA
9(2	2 … 10 V / 0 … 20 mA	0 … 10 V / 4 … 20 mA	0 … 10 V / 4 … 20 mA
11(2	2 … 10 V / 0 … 20 mA	0 … 10 V / 4 … 20 mA	2 … 10 V / 0 … 20 mA
13(2	2 … 10 V / 0 … 20 mA	2 … 10 V / 0 … 20 mA	0 … 10 V / 4 … 20 mA
15(2	2 … 10 V / 0 … 20 mA	2 … 10 V / 0 … 20 mA	0 … 10 V / 4 … 20 mA

(1 Only set the default values.
(2 Setting deactivates DIP switch 1. The settings of DIP switches 2 … 5 remain effective.

5 Installation

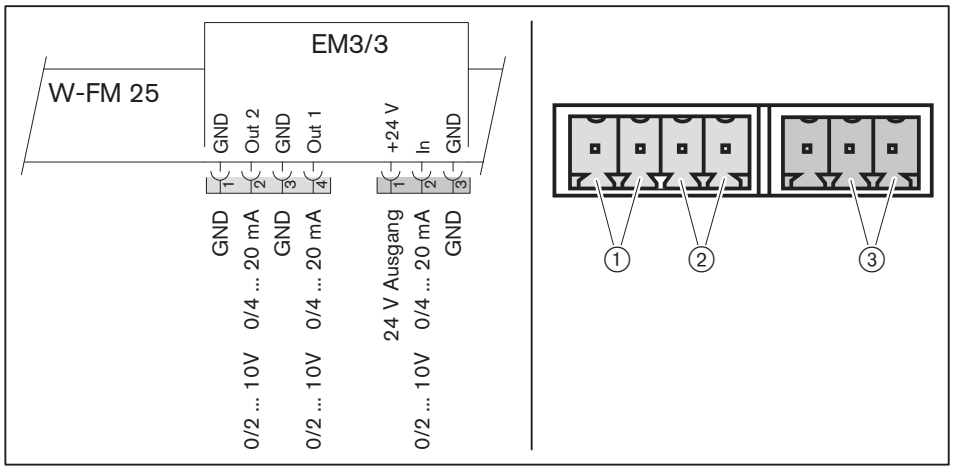
5.1 Electrical connection

DANGER

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.

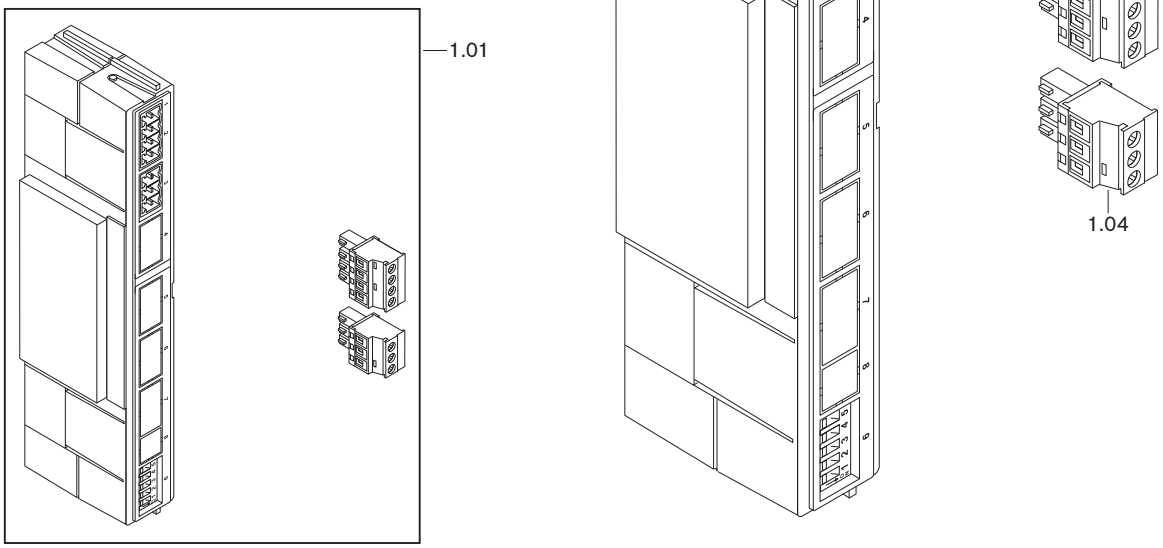
The electrical connection must only be carried out by qualified electricians. Observe local regulations.

- ► Connect inputs and outputs to connection diagram.



① Output 2
② Output 1
③ Input

6 Spares



6 Spares

Pos.	Description	Order No.
1.01	Analogue module set EM 3/3 for W-FM 25	230 110 12 422
1.02	Analogue module EM 3/3 for W-FM 25	660 350
1.03	4 pole plug	716 788
1.04	3 pole plug	716 787

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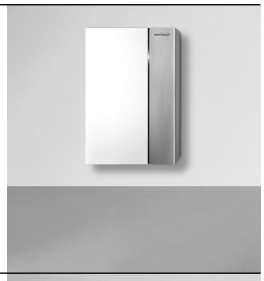
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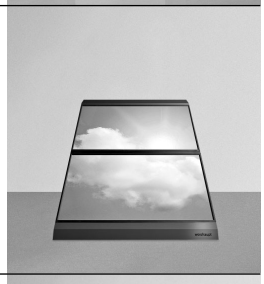
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