

# Power module and parameter chip card for control units BCU 500, FCU 500

## OPERATING INSTRUCTIONS

· Edition 10.24 · EN · 03251022



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## 1 SAFETY

### 1.1 Please read and keep in a safe place



Please read through these instructions carefully before installing or operating. Following the installation, pass the instructions on to the operator. This unit must be installed and commissioned in accordance with the regulations and standards in force. These instructions can also be found at [www.docuthek.com](http://www.docuthek.com).

### 1.2 Explanation of symbols

**1, 2, 3, a, b, c** = Action

→ = Instruction

### 1.3 Liability

We will not be held liable for damage resulting from non-observance of the instructions and non-compliant use.

### 1.4 Safety instructions

Information that is relevant for safety is indicated in the instructions as follows:

#### **DANGER**

Indicates potentially fatal situations.

#### **WARNING**

Indicates possible danger to life and limb.

#### **CAUTION**

Indicates possible material damage.

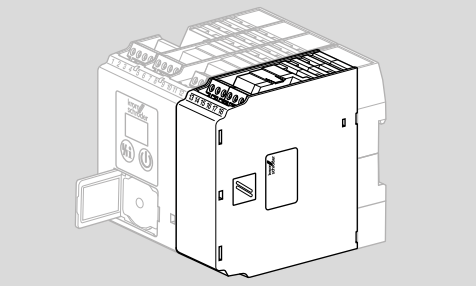
All interventions may only be carried out by qualified gas technicians. Electrical interventions may only be carried out by qualified electricians.

### 1.5 Conversion, spare parts

All technical changes are prohibited. Only use OEM spare parts.

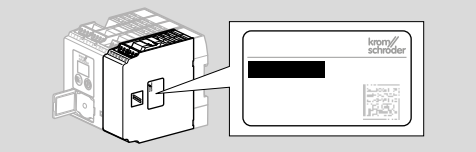
## 2 CHECKING THE USAGE

### Power module



Suitable for control units BCU 500 or FCU 500.  
With relay contacts for the fail-safe outputs, e.g. for fan, butterfly valve and valves. To replace a power module with the same identification number if fault **36** is displayed.

Identification number – see type label.



### Parameter chip card



The parameter chip card is required for operation of control units BCU 500 or FCU 500. All the parameters specific to the system are saved on the parameter chip card. To replace a parameter chip card with identical type code, see type label.

#### Type code

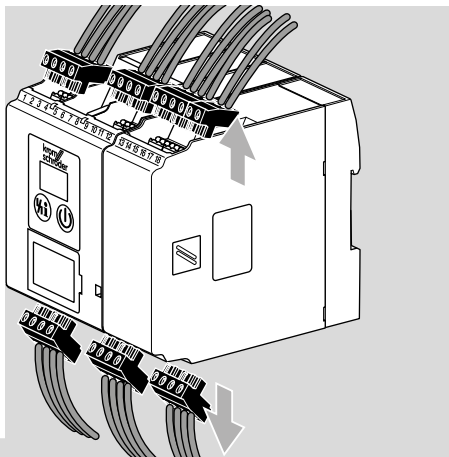
<b>500</b>	Parameter chip card for BCU/FCU 500
<b>Q</b>	Mains voltage: 120 V AC, 50/60 Hz
<b>W</b>	Mains voltage: 230 V AC, 50/60 Hz
<b>C0</b>	No tightness control or POC
<b>C1</b>	With tightness control or POC
<b>F0</b>	No capacity control
<b>F1</b>	With interface for actuator IC
<b>F2</b>	With interface for RBW
<b>H0</b>	No temperature monitoring
<b>H1</b>	With temperature monitoring
<b>K0</b>	No connection plugs
<b>K1</b>	Connection plugs with screw terminals
<b>K2</b>	Connection plugs with spring force terminals

Type code – see type label.

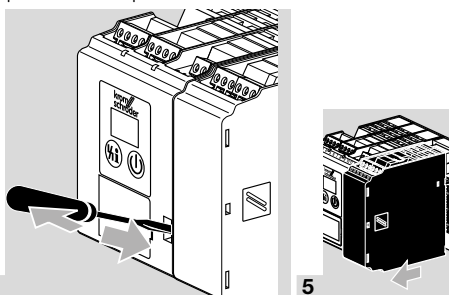


### 3 REPLACING THE POWER MODULE/ PARAMETER CHIP CARD

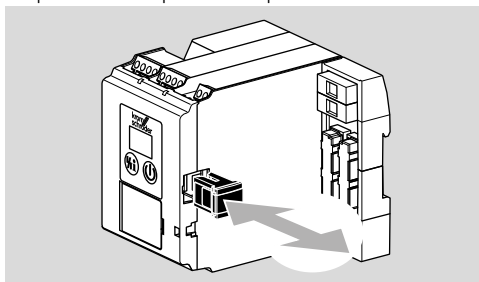
- 1 Disconnect the unit from the electrical power supply.



- 2
- 3 Detach the FCU or BCU from the DIN rail in order to facilitate replacing the power module or parameter chip card.



- 4
- 5
- 6 Having removed the power module, replace the parameter chip card if required.



- The type codes (see type label) of the old and new parameter chip card must be identical.
- If an incorrect or defective parameter chip card is used, the display of the control unit shows the blinking message **bc** on commissioning.
- The identification numbers of the old and new power module must be identical.

→ If an incorrect or defective power module is used, the display of the control unit shows the blinking message **36** on commissioning.

- 7 Slide on the new power module.
  - 8 Place the control unit onto the DIN rail.
  - 9 Reconnect the connection terminals.
- Ensure correct terminal assignment.

#### **⚠ WARNING**

Risk of explosion!

Do not enable the control unit for operation until the parameter settings and wiring are correct and the faultless processing of all input and output signals has been ensured.

- 10 Commission the control unit as described in the operating instructions for the control unit.

### 4 ASSISTANCE IN THE EVENT OF MALFUNCTION

#### **⚠ DANGER**

Electric shocks can be fatal!

Before working on possible live components, ensure the unit is disconnected from the power supply.

Fault-clearance must only be undertaken by authorized trained personnel.

- Faults may be cleared only using the measures described below.
- If the FCU/BCU does not respond even though all faults have been remedied: remove the unit and return it to the manufacturer for inspection.

#### **? Faults**

- ! Cause
  - Remedy

#### **? The 7-segment display does not light up.**

- ! Mains voltage is not applied.
  - Check the wiring, apply mains voltage (see type label).

#### **? The display blinks and indicates 36.**



- ! Incorrect power module, faulty parameterization.
  - Check parameter settings using BCSof.
- ! An internal device error occurred.
- ! No power module.
- ! Relay contact does not open.
  - Remove the unit and return it to the manufacturer for inspection.

## ? The display blinks and indicates bc.



- ! Parameter chip card (PCC) not correct, defective or missing.
- Only the intended parameter chip card is to be used.
  - Replace defective parameter chip card.

**Further control unit fault messages can be found in the operating instructions of the relevant control unit.**

## 5 TECHNICAL DATA

Connection terminals:

Screw terminals:

nominal cross-section 2.5 mm<sup>2</sup>,  
wire cross-section (rigid) min. 0.2 mm<sup>2</sup>,  
wire cross-section (rigid) max. 2.5 mm<sup>2</sup>,  
wire cross-section AWG/kcmil min. 24,  
wire cross-section AWG/kcmil max. 12,  
12 A.

Spring force terminals:

nominal cross-section 2 x 1.5 mm<sup>2</sup>,  
wire cross-section min. 0.2 mm<sup>2</sup>,  
wire cross-section AWG min. 24,  
wire cross-section AWG max. 16,  
wire cross-section max. 1.5 mm<sup>2</sup>,  
rated current 10 A (UL: 8 A),  
to be observed in case of daisy chain.

Contact rating:

control outputs LDS (terminal 16), purge (terminal 17), HT (terminal 18), safety interlocks (terminal 57): max. 1 A, cos  $\phi$  = 1,  
gas valves V1 (terminal 13), V2 (terminal 14), V3 (terminal 15): max. 1 A, cos  $\phi$  = 1,  
air valve (terminals 53, 54 and 55): max. 50 mA, cos  $\phi$  = 1.

The total current for the simultaneous activation of outputs V1, V2, V3, HT, purge, LDS, safety interlocks and air valve must not exceed 2.5 A.

24 V DC signal for fault/operation: max. 0.1 A,  
fan: max. 3 A (start-up current: 6 A < 1 s).

Number of operating cycles of power module:  
control outputs LDS (terminal 16), purge (termi-

nal 17), HT (terminal 18), safety interlocks (terminal 57),  
gas valves V1 (terminal 13), V2 (terminal 14), V3 (terminal 15),  
air valve (terminals 53, 54 and 55),  
fan (terminal 58):  
max. 250,000.

## FOR MORE INFORMATION

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