Translation from the German © 2018 Elster GmbH · Edition 01.18

03251275

(D) (GB) (F) (NL) (I) (E) (DK) (S) (N) (P) (GR)
(TR) (CZ) (PL) (RUS) (H) ➔ www.docuthek.com

Operating instructions
Operator-control unit OCU



Contents

Operator-control unit OCU 1
Contents 1
Safety. 1
Checking the usage 2
Control keys 2
Installation 3
Wiring 3
Plain-text display 3
Status display 3
Service mode. 4
Adjustment 4
Commissioning. 5
Manual mode 6
Switching on when the control unit is switched off 6
Switching on when the control unit is switched on 6
Initiate start-up. 6
Adjust actuator. 6
Exit. 6
Scanning process values, parameters, statistics and device information 7
Process values. 7
Parameters 7
Statistics 7
Information. 8
Assistance in the event of malfunction 9
Technical data 10
Designed lifetime 10
Logistics 10
Certification 10
Contact 10

Safety

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.

Explanation of symbols

•, **1**, **2**, **3**... = Action
▷ = Instruction

Liability

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

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.

Conversion, spare parts

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

Changes to edition 06.16

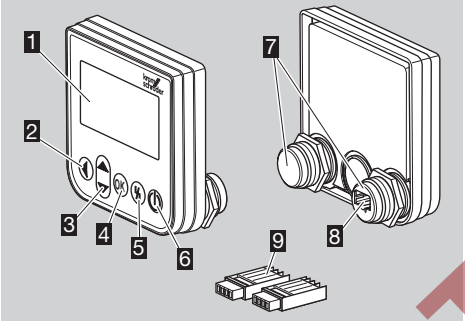
The following chapters have been changed:
– Certification

NOT UP-TO-DATE
www.docuthek.com

Checking the usage

Operator-control unit OCU for connection to a protective system control FCU 500 or burner control unit BCU 570 (as of firmware 02). For mounting on the outside of a control cabinet door in order to read out process values, statistics, flame signal intensities or parameter values, to change settings on the OCU or to control or adjust connected valves in manual operation.

Part designations



1 Plain-text display (illuminated)
2 Back key
3 UP/DOWN navigation keys
4 OK key
5 Reset key
6 ON/OFF key
7 Threaded adapter incl. nut (M22×1.5), suitable for 22 mm mounting
8 Socket for plug
9 Plug with insulation displacement terminals

Control keys

▷ The OCU is equipped with 5 control keys for the OCU and for the connected control unit.

	**ON/OFF** Use the ON/OFF key to switch the control unit on or off.
	**Reset** Use the Reset key to reset the control unit to its starting position in the event of a fault.
	**OK** Press the OK key to confirm a selection or query. Starting from the status display, you can use the OK key to change to Service mode.
	**Back** In Service mode, you can use the Back key to switch from one setting level to the next higher one. By holding down the key for a certain time, you can change directly to the status display.
	**Navigation UP/DOWN** In Service mode, the navigation keys can be used to select individual functions on one level. In Manual mode, those keys can be used to open and close an activated valve.

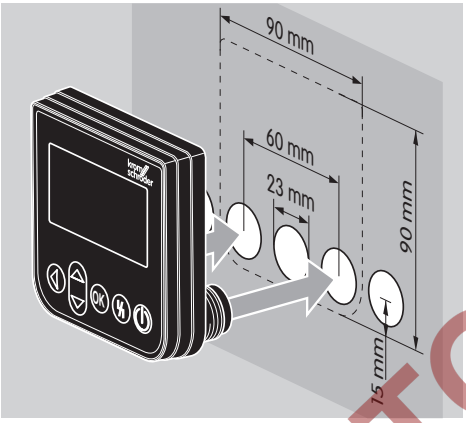
NOT UP-TO-DATE
www.docuthek.com

Installation

▷ The threaded adapters of the OCU are designed for a 22 mm mounting grid in control cabinet doors.

1 Unscrew the threaded adapter nuts.

2 Mount the OCU on the front side of the control cabinet door.



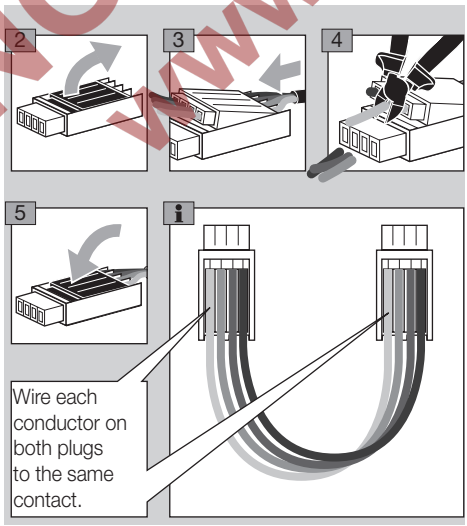
3 Screw the nuts on to the threaded adapters so that the OCU is firmly attached to the door.

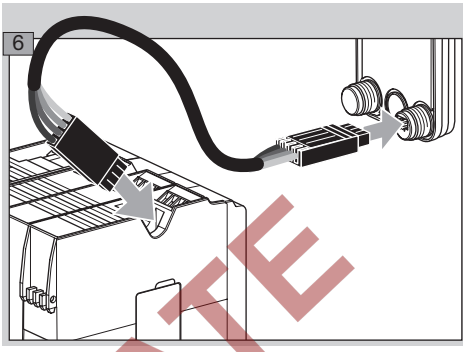
Wiring

▷ The OCU is to be connected to the control unit using the two plugs provided.

▷ Required signal and control line:
cable length max. 10 m,
4-pin,
min. 0.25 mm² (AWG 24),
max. 0.34 mm² (AWG 22).

1 Disconnect the system from the electrical power supply.





▷ When an OCU is connected, the ON/OFF button and the Reset/Information button on the control unit are disabled. The LED display of the control unit shows [UI] (UI = user interface).

▷ A device error (internal error of the control unit, 80 to 99 in the display) can only be reset using the Reset/Information button on the control unit.

Plain-text display

▷ The plain-text display lighting is activated when pressing any of the control keys.

▷ The lighting will be switched off automatically after 5 minutes.

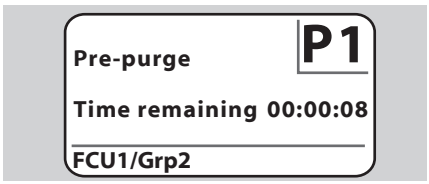
▷ In case of a fault in the control unit program sequence, the OCU light starts blinking.

▷ You can choose between the indicating ranges **status display** and **Service mode**.

Status display

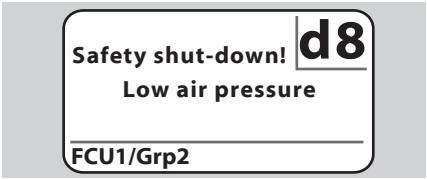
▷ The status display shows the **program status** or a **message that a fault has occurred**. In the case that a device designation has been entered into the control unit using the software BCSoft, this will be shown in the bottom row of the plain-text display (e.g. FCU1/Grp2).

▷ **Program status:** the display shows the program status in text form (e.g. Pre-purge) and the corresponding program code (e.g. P1). If the remaining time of the corresponding program status can be read from the control unit, it will be displayed in the row “Time remaining” in hrs:min:sec.



NOT UP-TO-DATE
www.docuthek.com

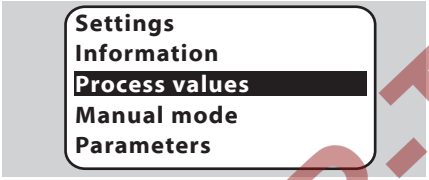
▷ **Fault message:** the display shows the fault message in text form (e.g. Safety shut-down! Low air pressure) and the corresponding fault code (e.g. d8). The light blinks.



Service mode

▷ The Service mode allows you to read out process values, parameter settings, statistics or information on the OCU or FCU/BCU firmware version and ID number. In addition, you can operate connected control units in Manual mode.

1 In order to change from the status display (program status or fault message) to Service mode, press the OK key.



▷ In order to change back from Service mode to the status display, press the Back key.

▷ Once the light has been switched off automatically, the display changes back to the status display.

Adjustment

⚠ WARNING

Risk of explosion! Check the system for tightness before switching it on.

Do not switch on the control unit using the OCU until you are sure that all parameters have been set properly, that the wiring is correct and that faultless processing of all input and output signals on the control unit is guaranteed.

1 Switch on the system.

▷ The LED display of the control unit shows UI (UI = user interface).

▷ In order to change these settings, the OCU needs to be in Service mode, see page 4 (Service mode).

2 In order to switch to Service mode, press the OK key, see page 2 (Control keys).

3 Choose “Settings” using the UP/DOWN navigation keys:

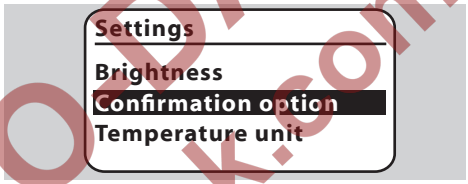


4 Press the OK key.

5 Use the UP/DOWN navigation keys to choose the desired option (**Confirmation option, Temperature unit, Contrast, Language** or **Brightness**).

6 Confirm your selection by pressing the OK key.

Confirmation option



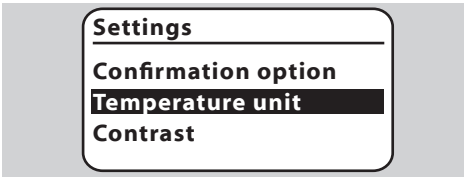
▷ Use the confirmation option to define whether the processes of switching the control unit on or off have to be confirmed by pressing the OK key.

▷ Confirmation options:
Switch on and off: each switching on and off has to be confirmed using the OK key.
Switch on: each switching on has to be confirmed using the OK key.
Switch off: each switching off has to be confirmed using the OK key.
None: the control unit is switched on/off directly by pressing the ON/OFF key.

7 Select the desired option using the UP/DOWN navigation keys.

8 Press the OK key to confirm the selected option.

Temperature unit



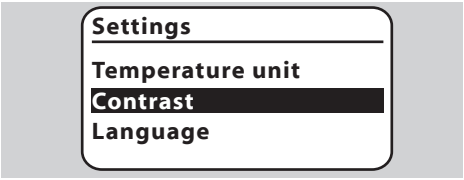
▷ The temperature can be displayed in **Celsius**, **Fahrenheit** or **Kelvin**.

7 Select the desired temperature unit using the UP/DOWN navigation keys.

8 Press the OK key to confirm the selected option.

NOT UP-TO-DATE
www.docuLink.com

Contrast



▷ Adjustable from 1 to 10.

7 Select the desired value using the UP/DOWN navigation keys.

8 Press the OK key to confirm the new value.

Language



7 Select the desired language using the UP/DOWN navigation keys (e.g. English).

8 Press the OK key.

▷ The display shows: “Do you really want to change the language?”.

9 Press the OK key.

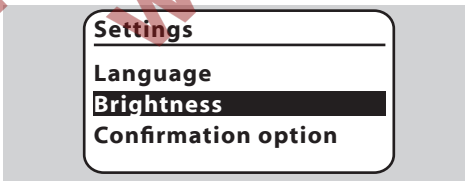
▷ The display shows: “Language being changed”.

▷ Afterwards, the display shows the confirmation in the new language (e.g. in English “Language changed!”).

▷ The standard language of the OCU is English. By pressing the UP/DOWN navigation keys and the OK key simultaneously, you can change to English anytime.



Brightness



▷ Adjustable from 1 to 10.

7 Select the desired value using the UP/DOWN navigation keys.

8 Press the OK key to confirm the new value.

Commissioning

⚠ WARNING

Risk of explosion! Check the system for tightness before commissioning.
Do not commission the control unit using the OCU until you are sure that all parameters have been set properly, that the wiring is correct and that faultless processing of all input and output signals on the control units is guaranteed.

1 Switch on the system.

▷ The LED display on the control unit shows 01.

2 Switch on the control unit by pressing the ON/OFF key.

▷ Depending on the selected confirmation option, the display shows: “Do you really want to switch on the device?”. Press the OK key to confirm.

▷ The program sequence of the control unit is started.

▷ The display shows the current program status (e.g. Standby, Pre-purge, Tightness test) of the control unit.

▷ Once the program sequence has ended and the control unit is in operation, the display shows “Operation” and 08.

▷ In order to switch to Manual mode, to change settings or process values, or to scan parameters and statistics, press the OK key to change to Service mode, see page 4 (Service mode).

▷ Press the ON/OFF key to switch off the control unit. Depending on the selected confirmation option, the display shows: “Do you really want to switch off the device?”. Press the OK key to confirm.

NOT UP-TO-DATE
www.docutek.com

Manual mode

- ▷ To adjust a device that is connected to the control unit (e.g. valve, burner) or for fault-finding.
- ▷ In Manual mode, the light will be activated continuously and in the program code field, two dots will blink.
- ▷ In Manual mode, the control unit operates independently of the input status. Further information can be found in the operating instructions for the control unit.

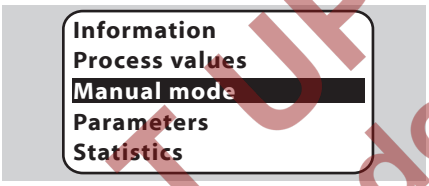
Switching on when the control unit is switched off

1 Press the ON/OFF key while holding down the Reset key in order to switch on the control unit.
- ▷ The display shows: “Do you want to start Manual mode?”.
- ▷ If you do not want to start Manual mode, press the Back key.

2 Press the OK key to start Manual mode.
- ▷ The display shows the possible options.

Switching on when the control unit is switched on
- ▷ The OCU has to be in Service mode, see page 4 (Service mode).

1a In Service mode, choose “Manual mode” using the UP/DOWN navigation keys.

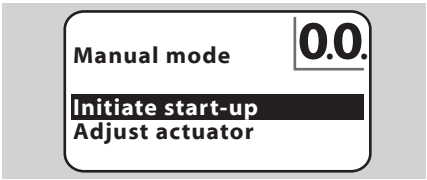


1b Press the OK key.
- ▷ The display shows: “Do you want to start Manual mode?”.
- ▷ If you do not want to start Manual mode, press the Back key.

2 Press the OK key to start Manual mode.
- ▷ The display shows the possible options.

Initiate start-up
- ▷ The control unit program sequence can be controlled manually step by step, see control unit operating instructions, section entitled “Manual mode”.

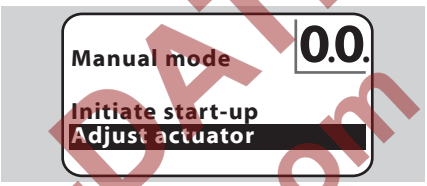
3 Select “Initiate start-up” using the UP/DOWN navigation keys.



4 Press the OK key to confirm.
- ▷ The program sequence starts.
- ▷ **FCU/BCU..F1, FCU/BCU..F2:** when program status 08 has been reached, a valve can be opened or closed by pressing the UP/DOWN navigation keys.

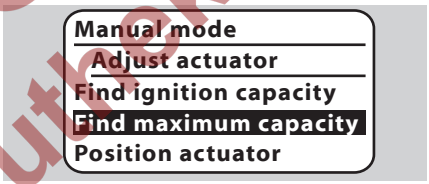
Adjust actuator
- ▷ Only available for FCU 500/BCU 570..F1 and F2.
- ▷ The actuator can be controlled cyclically or operated manually (e.g. to adjust the ignition position).

3 Select “Adjust actuator” using the UP/DOWN navigation keys.



4 Press the OK key to confirm.

5 Select the desired option (e.g. Find maximum capacity) by pressing the UP/DOWN navigation keys and confirm with the OK key.



- ▷ **Find maximum capacity, Find ignition capacity, Find minimum capacity:** the actuator approaches the selected capacity automatically in cycles. With the fan switched on, you can adjust the respective valve position, see operating instructions for the valve.
- ▷ **Position actuator:** the valve opens or closes as long as the UP/DOWN navigation keys are held down.

Exit
- ● Repeatedly press the Back key until the status display appears.
- ▷ The control unit stays on.

Or
- ● Press the ON/OFF key.
- ▷ The control unit is switched off.

NOT UP-TO-DATE
www.docuthek.com

Scanning process values, parameters, statistics and device information

▷ The control unit must be switched on.
▷ The OCU has to be in Service mode, see page 4 (Service mode).
1 In Service mode, use the UP/DOWN navigation keys to choose the desired option (**Process values, Parameters, Statistics** or **Information**).
2 Press the OK key.

Process values



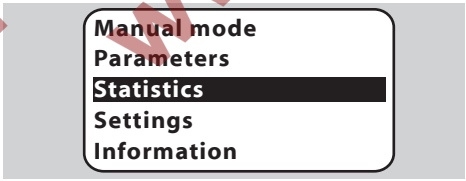
▷ When using control units with a temperature module, the temperatures measured by the connected temperature sensors can be displayed.
▷ When using control units with a flame amplifier, the flame signal intensity can be read out.

Parameters



▷ Allows to scan the current parameter values of the control unit.
▷ The display shows the parameter list.
3 Press the OK key to query the parameter details (parameter value, description).
▷ Use the UP/DOWN navigation keys to change directly to the detailed view of the next parameter.

Statistics



▷ The current values of the **device statistics, user statistics, power module statistics** or **fault history can be displayed**. Furthermore, the **user statistic** or the **fault history can be cleared**.

3 Select the desired function (e.g. Device statistics) using the UP/DOWN navigation keys:



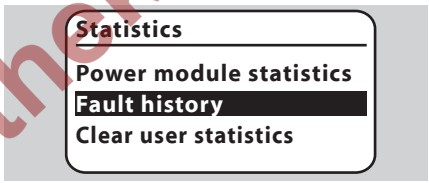
4 Confirm your selection by pressing the OK key.

Device, user, power module statistics

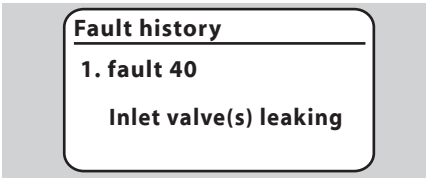
▷ The display shows the details of the statistics (e.g. switching frequency, fault frequency).
▷ Use the UP/DOWN navigation keys to scroll through the details of the statistics.

Fault history

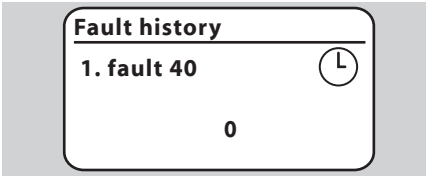
▷ The cause of the last 10 faults and the time at which they occurred can be queried via the fault history. On the FCU, the program step and the terminal concerned by the fault on the control unit can also be queried.
• Select "Fault history" using the UP/DOWN navigation keys:



• Confirm your selection by pressing the OK key.
▷ The display indicates the fault/error number (e.g. 1. fault with error 40) and the cause (e.g. Inlet valve(s) leaking), see also the section entitled "Assistance in the event of malfunction" of the BCU 570 or FCU 500/505 operating instructions.



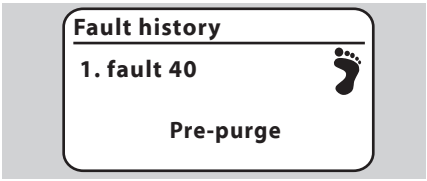
▷ The last 10 faults can be queried using the UP/DOWN navigation keys.
• Press the OK key to query the time at which a fault occurred.



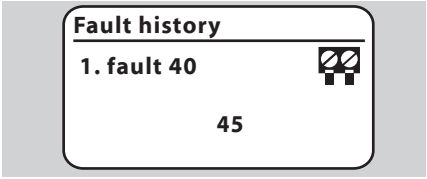
▼

NOT UP-TO-DATE
www.docuthek.com

- FCU: press the OK key again to query the program step during which the fault occurred.

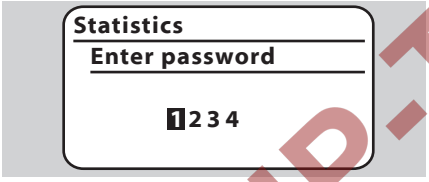


- FCU: press the OK key to query the terminal at which the fault occurred.



Clear fault history, clear user statistics

▷ In order to clear the statistics, enter the control unit password (four-digit number code).



▷ Look up the password for the control unit in the plant documentation or ask the system supplier.

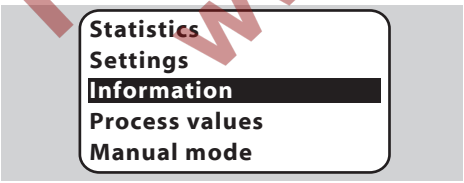
5 Select the corresponding numbers using the UP/DOWN navigation keys.

6 Confirm your selection by pressing the OK key.

▷ The display shows “Fault history being cleared” or “User statistics being cleared” und subsequently confirms “Fault history has been cleared” or “User statistics have been cleared”.

▷ If the display shows “Password invalid”, re-enter the password.

Information



▷ Information on the OCU or FCU/BCU firmware version and ID number can be queried using the UP/DOWN navigation keys.

NOT UP-TO-DATE
www.locuthek.com

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 OCU or the control unit 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 displays of the OCU and control unit are dark.**
! Control unit is not supplied with mains voltage.
• Apply mains voltage to the control unit.

? **The OCU display is dark, the control unit display does not show** 01.
! Plug not wired correctly or incorrectly plugged into the socket.
• Check plug.

? **Language cannot be read.**
! Incorrect language.
▷ The standard language of the OCU is English.
• Press the UP/DOWN navigation keys and the OK key simultaneously to change to English.

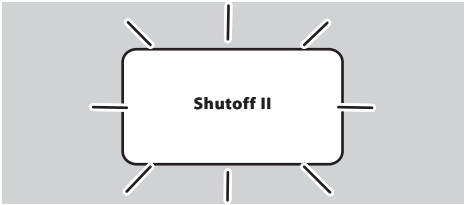




? **The light blinks and the display shows "Safety shut-down!", "Fault lock-out!", "Warning!" or "Device error!" including the corresponding fault text and code.**
! Fault in the control unit program sequence.
• Remedy the fault (see operating instructions for the control unit).
• Press the Reset key on the OCU.
▷ A device error (internal fault of the control unit, 80 to 99 in the display) can only be reset using the reset button on the control unit.



? **The light blinks and the display shows "!DEVICE ERROR!".**
! OCU fault.
• Press the OK key.
• If the fault cannot be remedied by doing this, remove the unit and return it to the manufacturer for inspection.



? **The light blinks and the display shows "Shutoff II".**
! The control unit was switched on when connecting the OCU.
• Disconnect the control unit from the electrical power supply.
• Switch the control unit on again after approx. 10 s.
▷ The OCU tries to remedy the fault on its own.
• If the fault has not been remedied after one minute, remove the unit and return it to the manufacturer for inspection.

NOT UP-TO-DATE
www.docuthek.com

Technical data

Required signal and control line:
cable length max. 10 m, 4-pin,
min. 0.25 mm^2 (AWG 24),
max. 0.34 mm^2 (AWG 22).
Ambient temperature: -20 to +60°C.
Storage temperature: -20 to +60°C.
Enclosure, mounted in the control cabinet door:
IP 65 for external part,
IP 40 for internal part.
Number of operating cycles of the control keys:
1000.
Weight: 120 g.

Designed lifetime

Max. service life under operating conditions:
10 years after date of production.

Logistics

Transport

Protect the unit from external forces (blows, shocks, vibration). On receipt of the product, check that the delivery is complete, see page 2 (Part designations). Report any transport damage immediately.

Storage

Store the product in a dry and clean place.
Storage temperature: see page 10 (Technical data).
Storage time: 6 months in the original packaging before using for the first time. If stored for longer than this, the overall service life will be reduced by the corresponding amount of extra storage time.

Packaging

The packaging material is to be disposed of in accordance with local regulations.

Disposal

Components are to be disposed of separately in accordance with local regulations.

Certification

▷ The OCU is not an independent device. For this reason, no certification is required (declaration of conformity, CSA, FM, SIL/PL or EAC approval). The declaration of conformity/approval of the control unit (BCU, FCU) is applicable.

NOT UP-TO-DATE
www.docuthek.com

Contact

If you have any technical questions, please contact your local branch office/agent. The addresses are available on the Internet or from Elster GmbH.

We reserve the right to make technical modifications in the interests of progress.

Honeywell
kromschroder
Elster GmbH
Strotheweg 1, D-49504 Lotte (Büren)
Tel. +49 541 1214-0
Fax +49 541 1214-370
hts.lotte@honeywell.com, www.kromschroeder.com