

CoCo-Web service and maintenance interface

Technical Information · GB

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krom
schroder

- Simple configuration and monitoring of heating systems using a computer or mobile phone, via LAN, USB and GSM/GPRS
- Log data stored on micro SD card
- Simple connection to system via CAN Bus, eBUS and M-Bus connector
- Wall mounted cover with multiple attachment options, for fixed integration into heating systems



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1 Application



The CoCo-Web cover is designed for permanent mounting. It can be screwed on or mounted on a top-hat rail.

The CoCo-Web service and maintenance interface is used for configuring and logging process and device readings on heating equipment, such as temperature history, heating times, malfunctions, warnings, actuator switching statuses (pumps, mixers, burners), and for controlling functions such as warning messages.

Connection to complex heating systems is enabled via the CAN Bus and eBus interfaces. Connection to measurement transducers is enabled via the M-bus interface.

The CoCo-Web provides the option of connecting to heating systems via ethernet, USB or GSM/GPRS. It has an integrated web server, which can be accessed via the Internet.

Configuration parameters and log data can be stored on a removable micro SD card inside the CoCo-Web cover.

1.1 Typical applications

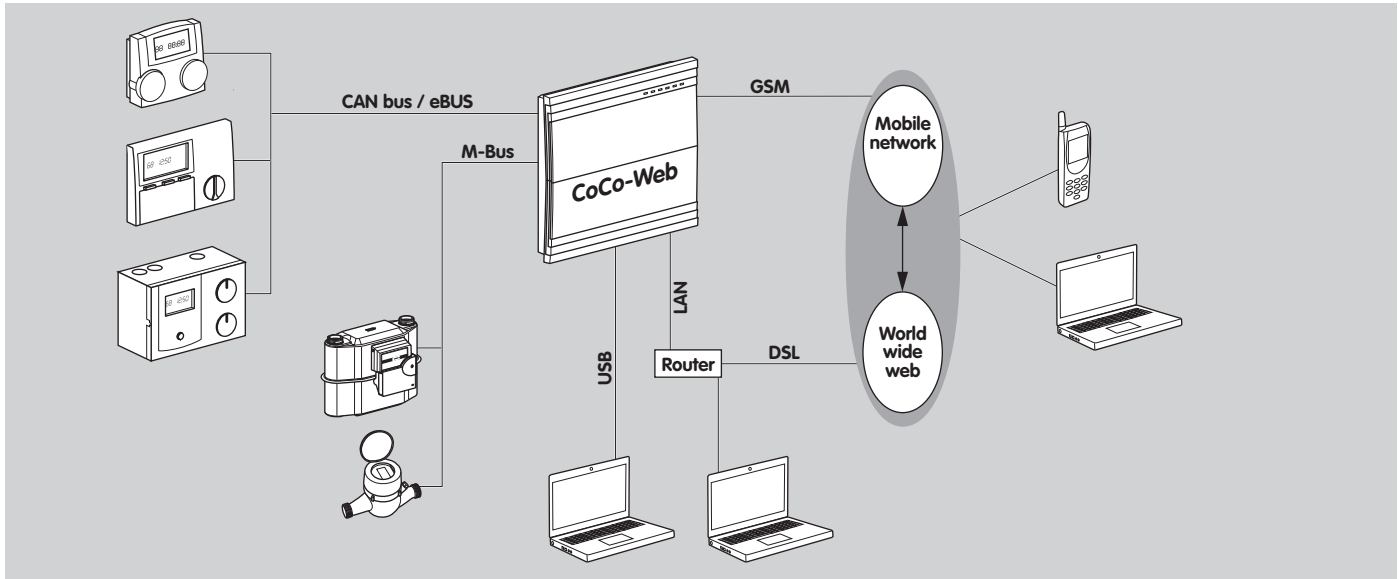


CoCo-Web remotely controlling heating systems in building complexes.



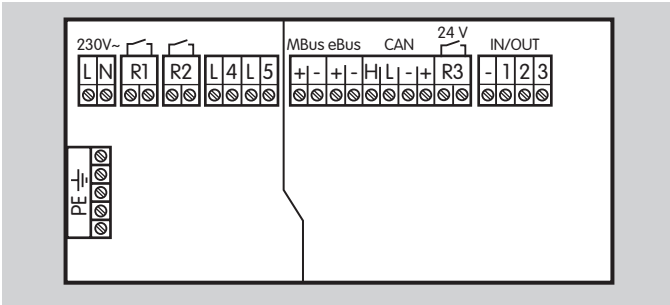
Simple switch commands such as 'Heating On/Off' can be conveyed from a mobile phone via the CoCo-Web to the heating system.

2 Functioning



The CoCo-Web functions can be configured for operation depending on the application: see [Configuration options – p. 7]. A computer is used as a configuration input/output device. The computer is connected to the CoCo-Web via an ethernet connection, USB connection or via GSM/GPRS. A browser can now be used to set up a connection to the web server in the CoCo-Web, to create settings or to monitor the heating system. The CoCo-Web uses the bus interfaces to connect to the individual control modules and meters in the heating system. Log data is stored on a removable micro SD card in the CoCo-Web. Simple commands such as 'Heating On/Off' can also be conveyed from a mobile phone to the heating system via SMS. And conversely, warning messages can be sent to a mobile phone via SMS or via email.

2.1 Electrical connection diagram



Key

L, N, PE	Mains
R1, R2	230V relays
L4, L5	230V optical coupler input
R3	24V low voltage relay
IN/OUT	3 low voltage inputs*

* Depending on the configuration of the CoCo-Web , 2 additional low voltage inputs and 1 output are also possible.

3 Configuration options

The following functions can be configured via the web server in the CoCo-Web:

- Message targets
- EWI filter for message targets
- Error log
- Data logger (log function)
- In- and outputs
- Monitoring function

3.1 Message targets

A mobile phone number or email address can be entered as a message target. Instead of a mobile phone number or email address, a name can be entered for easier allocation. This name appears on the various pages on the web server where message targets can be selected. Up to five message targets can be entered.

The CoCo-Web can be configured so that a message is sent to the message target as an SMS or email whenever a switching or metering event occurs at one of the CoCo-Web inputs, a bus error occurs, or one of the CoCo-Web outputs receives a turn-on pulse. There is also an option for resending messages after 24 hours.

3.2 EWI filter (Error, Warning, Info)

Errors, warnings and information that occur during operation of the heating system are sent via the bus system to the web server.

In general, when an error occurs, a message is sent to a preset mobile phone number or email address. The EWI filter can be used to select 10 errors for which no message is sent.

In addition, 10 warnings and information messages can be selected via the EWI filter where, if these occur, a message is sent via SMS or email.

3.3 Error log

Any device connected to the CoCo-Web via the bus is stored with a device number. If an error occurs in connecting to the device, a new entry is recorded in the error log with the date, time and device number. The error log can be called up and reset via the web server. If the memory is full, the oldest message is overwritten with a new message.

3.4 Data logger (log function)

The data logger can periodically request and store up to 8 metered values from devices connected to the CoCo-Web via the bus system. The metered values can be viewed online via a graphic and, if required, downloaded from the web server in tabular form. If the data logger is not operating online, the metered values can also be stored offline on the integrated micro SD card, to be downloaded from there later.

3.5 In- and outputs

Turn-on or meter pulses can be received via three inputs on the CoCo-Web. If a turn-on or meter pulse is received, a message can be sent via email or SMS or one of the two CoCo-Web outputs can be switched off depending on the CoCo-Web configuration. In addition there are two optical coupler inputs that can analyse 230V signals to generate messages via an SMS or email.

The CoCo-Web outputs can be configured so that they are activated if an error message occurs on the bus, or a threshold value is exceeded, or a metered value on the input is reached. Furthermore the outputs can be switched on or off on receipt of an SMS or email.

3.6 Monitoring functions

Where the minimum/maximum values need to be monitored to check that they are within their thresholds, up to eight values for devices connected via the bus can be metered. If a threshold value is exceeded or not reached, a message can be sent or an output activated. The sample rate for the monitoring function can be defined via the web server. Any violation of a threshold value is recorded in the error log.

The current metered value of a connected device can be sent as a message daily at a specified time, weekly, or monthly.

4 Project planning information

4.1 Electrical connection

The maximum cable thickness is 1.5mm².

We recommend a 3 × 1.5mm² cable with a 2A fuse for power supply.

4.1.1 Configuring the CoCo-Web

To configure the CoCo-Web, a computer with a web browser and an ethernet connection, USB connection or GSM modem is required to be able to connect to the CoCo-Web.

4.2 GSM/GPRS

A SIM card from a mobile network service provider is required for communicating via GSM.

Ensure that the SIM card is enabled for data transfer.

4.3 M-Bus

Up to 10 meters (e.g. flow rate meter, heat volume meter) can be connected to the CoCo-Web via the M-bus interface. The meters can be from different manufacturers. Meter numbers, manufacturer codes, energy, volumes, error rates, down time, output, flow rate and flow temperature can be requested and displayed via the web server.

4.4 System time

On power-up, the CoCo-Web attempts to synchronise itself with the system time master at intervals of no more than 15 minutes (the system time can be supplied by e.g. a heating regulator). The system time is the basis for all timed functions and time stamps used (e.g. data logger, error log).

If the system time cannot be synchronised, a pseudo-system time is estimated by the CoCo-Web.

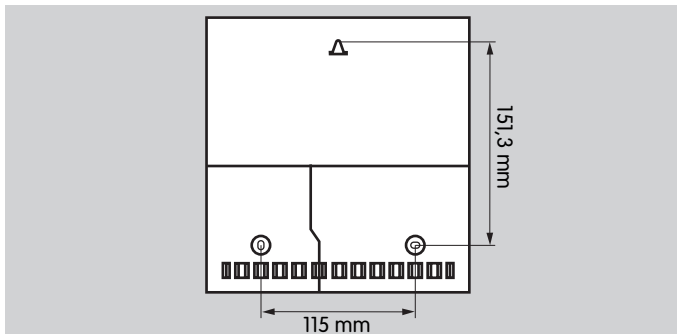
4.5 Installation

Installation position: vertical (cable glands at bottom).

When installing, ensure there is room to open the CoCo-Web.

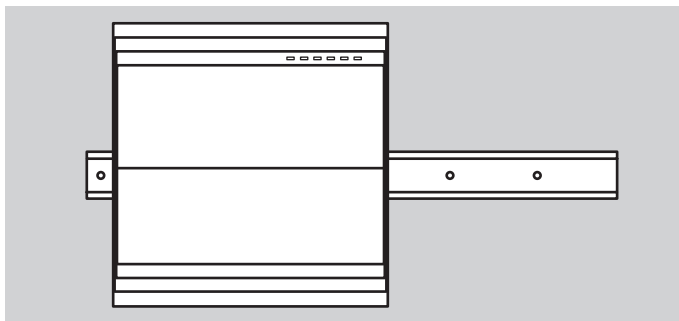
4.5.1 Attaching with screws

The device is supplied with screw holes.



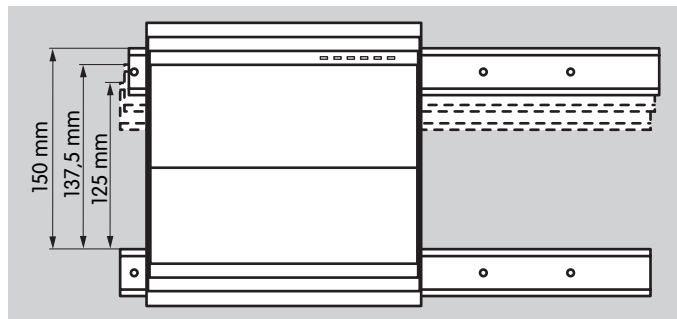
4.5.2 Attaching to top-hat rails

The CoCo-Web can be attached to top-hat rails in accordance with EN 50022. The CoCo-Web is attached to one or two top-hat rails using the sliding catch supplied.



When attaching the CoCo-Web to one top-hat rail, it is mounted using the central top-hat rail attachment. When using the

central top-hat rail attachment, top-hat rails with a profile of $35 \times 15\text{mm}$ must be used.



When attaching the CoCo-Web to two top-hat rails, the CoCo-Web is mounted using the top and bottom top-hat rail attachments. The upper top-hat rail can be mounted at three different attachment points. The distance between the upper and lower top-hat rails can thus be 125, 137.5 or 150mm. Top-hat rails with a profile of $35 \times 7.5\text{mm}$ or $35 \times 15\text{mm}$ can be used.

5 Technical data

Mains voltage: 230V AC, -15 to +10%, 50/60Hz.

Power consumption: max. 70mA.

5.1 Inputs

3 separated extra low voltage (SELV) inputs

Terminals 1, 2 and 3 to ground (GND),

Terminals 1 and 2 configurable digitally or by analogue,

Terminal 3 configurable as a digital in- or output.

Digital:

3.3V/0.8mA switched to ground

maximum frequency 1kHz with 1:1 pulse-pause ratio

Analogue:

0...3.3V, $\pm 2.5\%$, 10 bit resolution

Pull-up resistance $4.02\text{k}\Omega/\pm 0.25\%$, suitable for NTC ($5\text{k}\Omega$)

and silicon PTC ($1\text{k}\Omega$ and $2\text{k}\Omega$) temperature sensors.

2x 230V AC

Optical coupling inputs, -15 to +10%, 0.5mA, maximum frequency 1Hz with 1:1 pulse-pause ratio

Terminals 4 and 5 to Terminal L1.

5.2 Connection options

CAN Bus

4-pole terminal: high data line, low data line, supply (ground), supply (+).

eBUS

2-pole terminal: eBUS+, eBUS-.

Bus supply: 15mA, can be switched off.

Address setting: automatic.

M-Bus

2-pole terminal: M-Bus+, M-Bus-.

Bus supply: for 10 slaves, 15mA.

The CoCo-Web is master on the M-Bus.

Baud rate: 2400 baud.

USB

Connector: mini-B type.

USB specification: 2.0 (full speed 12Mbit/s)

USB function: device.

Driver required in PC: ...RNDIS (Thesycon); if necessary Bonjour (Apple)

Ethernet

Connector: RJ45, Auto-MDIX.

Maximum speed: 100 Mbit/s

GSM

Type: GSM/GPRS Class 10, Dual Band 900/1800 MHz.

Antenna:

Impedance: 50 Ohm, SMA connector (male).

Receiving frequency: 925 to 960 MHz, 1805 to 1880 MHz

Transmission frequency: 880 to 915 MHz, 1710 to 1785 MHz

Output: 2W (900 MHz), 1W (1800 MHz).

5.3 Switching outputs

Transistor output

Open Collector, Terminal 3 switching to ground (GND)
 maximum load 24V/50mA
 protected by suppressor diode with breakdown voltage
 $\geq 26.7V$

Relay outputs

2× mains voltage, 1× SELV (low voltage), switchable.

230V~ potential free, maximum contact load:

30V=, 0.2A

250V~, 1A.

SELV potential free, maximum contact load:

24V~/=, 0.2A.

5.4 Card slots

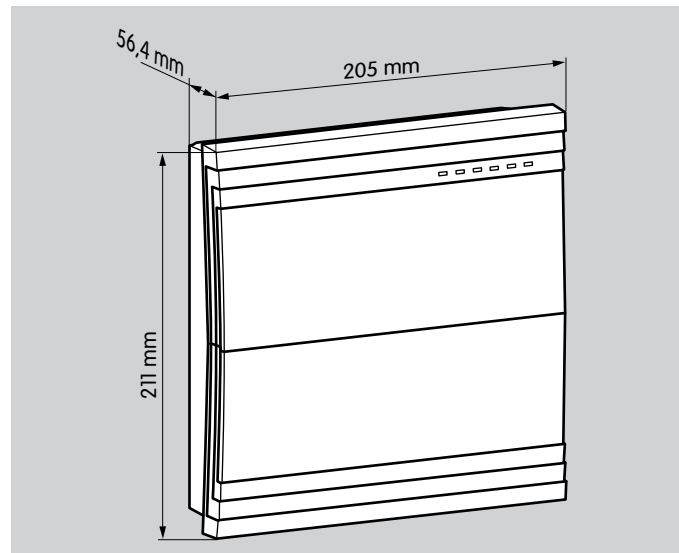
Micro SD

Memory size: max. 2 GB.

SIM

Suitable for commercially available SIM cards (prepaid and contract).

5.5 Dimensions



Weight: 0.9kg.

Feedback

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Clarity

Found information quickly
Searched for a long time
Didn't find information
What is missing?
No answer

Comprehension

Coherent
Too complicated
No answer

Scope

Too little
Sufficient
Too wide
No answer

Use

To get to know the product
To choose a product
Planning
To look for information

Navigation

I can find my way around
I got "lost"
No answer

My scope of functions

Technical department
Sales
No answer

Remarks

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