

⚠ Before installing the control and regulation unit DDC "CR-BS"/ "CR-BX"/ "CW-BS"; as well as its accessory components, please read and follow the short operating instructions and the operating manual for the respective "DynaTemp" system in full!

Installation, commissioning, operation and maintenance must only be performed by trained and specialised staff in compliance with applicable rules and regulations!

The short operating instructions, the operating manual as well as all other valid documentation is to be forwarded to the system operator!

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Fig. 1.1 Control and regulation unit (DDC)

1 General information

1.1 Information about the short operating instructions and the operating manual

These short operating instructions are to be used by the trained and specialised staff to properly install, commission and configure the control and regulation unit (**DDC**). For the configuration and operation, the operating manual is to be downloaded and possibly printed from the DCC as PDF document using an Internet browser, e.g. "Mozilla Firefox" ("**HELP/INFO - Documentation**").

Additionally applicable documentation - instructions for all system components as well as applicable technical rules - are to be complied with.

1.2 Safekeeping of documentation

The short operating instructions and the operating manual are to be kept in a safe place by the system operator for later use.

1.3 Symbol explanation

Safety guidelines are displayed by symbols. These guidelines are to be observed to prevent accidents, damage to property and malfunctions.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE

NOTICE indicates a situation which, if not addressed, may result in property damage.

1.4 Copyright

The short operating instructions and the operating manual are protected by copyright.

Usage of the control and regulation unit is subject to a license. The license text can be found on the DCC "**HELP/INFO - Documentation**" submenu. By using the product you agree to the license agreement.

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Subject to technical modification without notice.

115315081 05/2017

2 Safety instructions

CAUTION

Any work on the unit must only be performed in a de-energised state!
The unit must only be connected to the power supply by a qualified electrician!
The unit must only be installed in dry rooms that are not subject to explosion hazards!
Assembly on flammable ground is not permitted!

2.1 Intended use

Operational safety can only be ensured for intended use of the "DynaTemp" control and regulation unit and its accessories. Any additional and/or other usage of the control and regulation unit is prohibited and is considered as contrary to intended use. Any claims against the manufacturer and/or his authorised representatives for damages as a result of non-intended use cannot be recognised. The intended use also includes proper compliance with the short operating instructions, the operating manual as well as the installation instructions of all accessories. The content of these short operating instructions is solely intended for the transmission of information. The customer is personally responsible for data backup.

2.2 Risks posed by the place of installation and transport

The possibility of an external fire was not considered when designing the control and regulation unit and its accessories.

WARNING

Hot or cold surfaces!

Risk of injury! Only touch with suitable protective gloves. During operation, the heating valve can get as hot as the medium.

Sharp edges!

Risk of injury! Only touch with suitable protective gloves. Threads, holes and edges are sharp-edged.

Small parts!

Risk of accidental swallowing! Do not store and install the control and regulation unit and its accessories within the reach of children.

Allergies!

Health hazard! Do not touch items and avoid any contact if allergies to materials used are known.

3 Transport, storage and packaging

3.1 Transport inspection

Check consignment for completeness and any transport damage immediately after receipt and before installation. If such or other defects are found, only accept the consignment with reservation. File a complaint. Observe complaint deadlines in doing so.

3.2 Storage

Only store the control and regulation unit under the following conditions:

- Store indoors in dry and dust-free conditions.
- Do not expose to aggressive media or heat sources.
- Protect from solar radiation and excessive mechanical vibrations.
- Storage temperature: -20°C ... +70°C
- Relative humidity (r.h.): 10 ...95%, non-condensing

3.3 Packaging

All packaging material is to be disposed of in an environmentally sound manner. Please do not let your children play with any packaging materials – they could be a danger to them.

4 Technical specifications

4.1 General

Operating conditions:

Temperature: 0...+50°C

Humidity: 10 ...95% r.h., non-condensing (DIN EN 61131-2)

Storage conditions:

Temperature: -20...+70°C

Humidity: 10 ...95% r.h., non-condensing (DIN EN 61131-2)

Connection housing complete unit:

Dimensions (without screw connections): 250 × 175 × 100

Length × Width × Height (installation depth) in mm

Weight: approx. 1500g

Material / colour: Plastic ABS base part; light grey (RAL 7035)

Cover: transparent, printing similar to anthracite (RAL 7021)

Protection type: IP30

Protection class: III, extra-low voltage

Type of installation: Assembly (surface-mounted installation)

Cable inlet: 4 × stepped nipple M20

Housing DDC:

Dimensions: 125 × 108.5 × 77, L × W × H in mm

Weight: approx. 585g

Type of installation: Sturdy metal housing

Industrial design for top hat rail mounting

Material / colour: Aluminium, black (RAL 9005)

Protection class: III, extra-low voltage

Protection type: IP20

Electrical connection DDC:

Power supply (X1): AC 24V ± 10%, 50 ...60Hz

Power consumption **DDC**:

DDC's with 32 C-Bus addresses 24VA

DDC's with 64 C-Bus addresses 35VA

Communication DDC:

USB (X2): 1× type B, USB port standard B (Service)

TCP/IP (X3): 1× RJ45 Ethernet connection 10/100 MBit/s

RS485-1 (X4): not used

RS232-1 (X7): not used

C-Bus line (X9): twisted, shielded data line

0.5 mm² ...2.5 mm², max. 400 mA,

Line length in the entire C-Bus network max. 1000 m

Memory DDC:

SD-RAM: 32 MB main memory

NVRAM: 2 MB data storage for data points are buffered by a battery (CR 1632), which is accessible from outside.

FLASH SD card: 1 GB for program and configuration data

Other DDC:

Real time clock (RTC), automatic summer / winter time.

Buffered by a battery (CR 1632), which is accessible from outside.

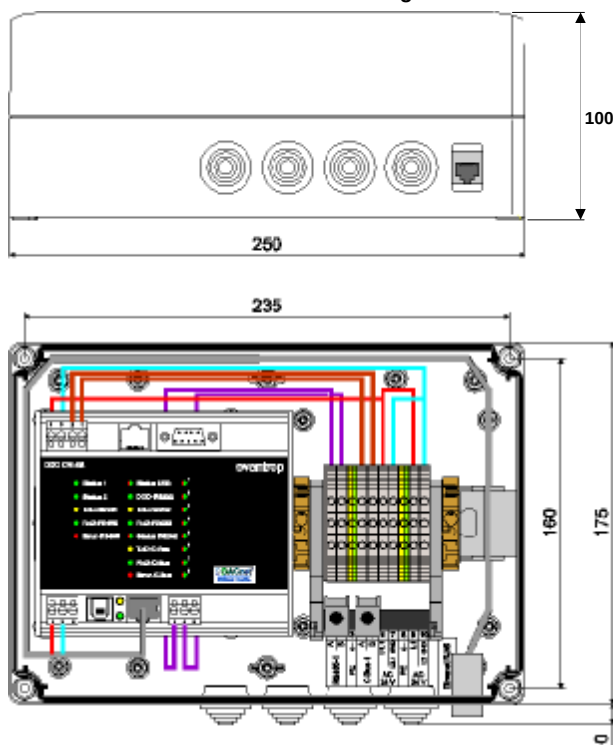
4.2 DDC "CR-BS"/ "CR-BX"/ "CW-BS"

4.2.1 Terminal assignment of the DDC

The terminal names are affixed to the DCC.

Name	Terminal name / Description	
Connector X1	Power input	Permitted cable cross sections 0.5mm ² ...2.5mm ²
1	L1	AC 24V
2	L2	GND / 0V
3		Grounding housing, via top hat rail
Socket X2	USB service	USB socket (type B) for communication and parameterisation via TCP/IP
Socket X3	Ethernet 10/100	Ethernet connection (RJ45) for communication and parameterisation via TCP/IP
Connector X4	RS485-1	Permitted cable cross sections 0.5mm ² ...2.5mm ²
1	A1	RS485-1, bus interface not used
2	B1	
3	Shield	Grounding / shielding RS485-1
Socket X7	RS232-1	Serial interface for modem
1	DCD	Data Carrier Detect
2	RxD	Receive Data
3	TxD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	-	-
Socket X8	E-HMI	not used
Connector X9	C-Bus	Permitted cable cross sections 0.5mm ² ...2.5mm ²
1	A	C-Bus, bus interface
2	B	
3	Shield	Grounding / shielding C-Bus
4	-	-

4.2.2 Dimensions connection housing



The dimensions for the bore holes are also located at the rear of the housing.

5 Assembly and installation

5.1 First steps

Before the actual installation it is recommended to configure the control and regulation unit for the present network. Here, the control is connected to a PC or Notebook via a switch or directly with a patch cable, and then supplied with voltage via a 24V AC transformer.

The terminal strips 9 and 10, connections L1 and L2 GND are used for this purpose.

At delivery, the control and regulation unit has the following settings:

- **IP address:** <http://192.168.135.1> (factory setting)
- **Subnet mask:** 255.255.255.0
- **Gateway:** 0.0.0.0

The network card of the PC or Notebook must now be configured so that it is in the same network area of the preset IP address. If in doubt, please contact your system administrator.

By entering the IP address "<http://192.168.135.1>" into a web browser (e.g. Mozilla Firefox), the control and regulation unit can be accessed. The login window is displayed. Before clicking on < Anmelden / Login / Connexion >, the user name and password must be entered. At delivery this is:

- **User name:** admin
- **Password:** admin

The current building status is displayed in the "**OVERVIEW**" menu. The detailed operating manual can be downloaded to a computer in PDF format with the "**HELP/INFO**" menu option and from the "**Documentation**" submenu. Please read the manual before you continue with the installation!

Programming is performed in a web browser, e.g. "Mozilla Firefox", no other program is required.



5.2 Assembly instructions

Always install the housing vertically with the cable inlets downwards and distortion-free on all four fastening points provided, preventing moisture from penetrating and the cover closing tightly.

⚠ Warnings regarding assembly and installation

Observe (safety instructions)!

Before you continue with installation of the unit and its accessories, you must refer to the respective operating manual and the instructions of the components used.

⚠ CAUTION

Any work on the unit must only be performed in a de-energised state!

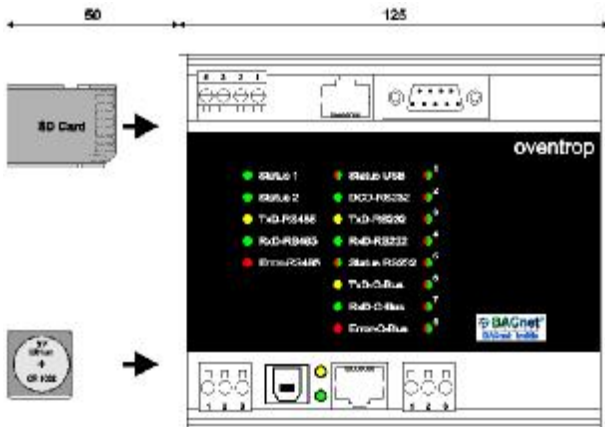
Before commissioning the system, the cabling and wiring is to be checked for correctness and to be documented!

The unit must only be connected to the power supply by a qualified electrician!

The unit must only be installed in dry rooms that are not subject to explosion hazards!

Assembly on flammable ground is not permitted!

5.3 Removing and inserting the SD card and battery



NOTICE

Only use original SD cards of OVENTROP GmbH & Co. KG. When using other SD cards, continuous and proper functioning of the unit cannot be guaranteed.

Normally, the SD card does **not** need to be removed.

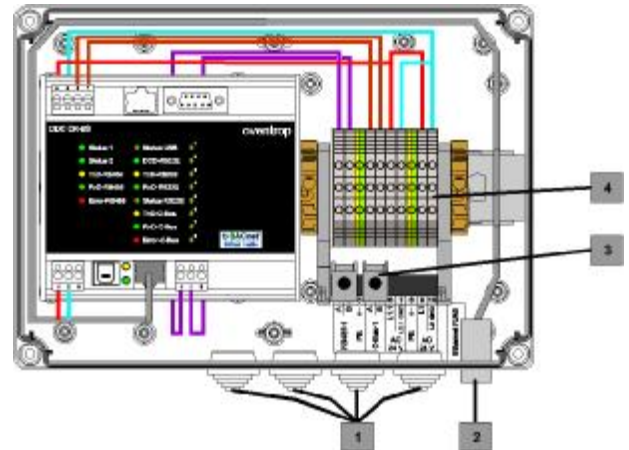
Before performing any work, the unit must always be disconnected from the power supply.

The SD card must only be removed in emergencies. In order to remove it, the DDC must be dismantled from the top hat rail. For this purpose, the unit is pushed upwards and first of all released at the top.

The SD card must then be pushed into the unit slightly to open the interlock (same mechanism as for ballpoint pen). The SD card now protrudes a small bit and can be pulled out. This procedure is to be followed in reverse to re-insert the SD card.

The buffer battery (CR 1632) can be replaced via the insert tray if required.

5.4 Connection assignment



	Name	Description
Pos. 1		4 × stepped nipple M20
Pos. 2	Ethernet RJ45	Ethernet connection (RJ45) for communication and parameterisation via TCP/IP
Pos. 3		2× shield terminal for C-Bus and RS485-1 Attach only once wires are connected in terminal strips
Pos. 4	Terminal strips	Permissible cable cross sections 0.5mm ² ... 2.5mm ²

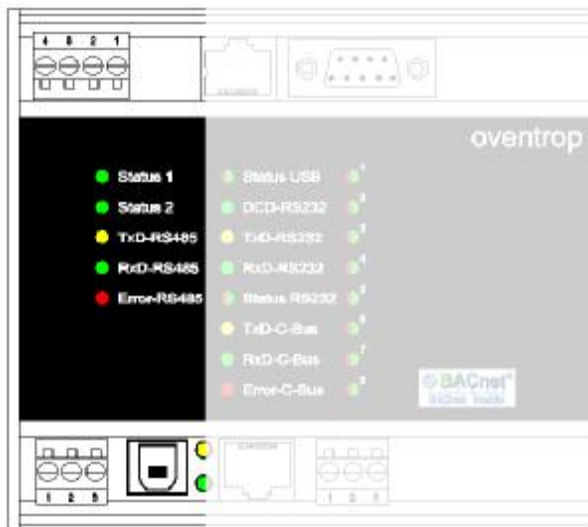
terminal	Name	Description
1	A	RS485-1, bus interface, not used
2	B	
3	⏏	PE, protective earth conductor
4	A	C-Bus, bus interface
5	B	
6	L1.1	AC 24V, power supply room and field modules, only connect if no separate transformer supplies the modules with power
7	L2.1 GND	GND
8	⏏	PE, protective earth conductor
9	L1	AC 24V, power input DDC housing
10	L2 GND	GND

Note:

For initial accessing of the control and regulation unit and **downloading the operating manual**, only the AC 24V power supply and the Ethernet connection (patch cable) must be established (see table fields highlighted in grey).

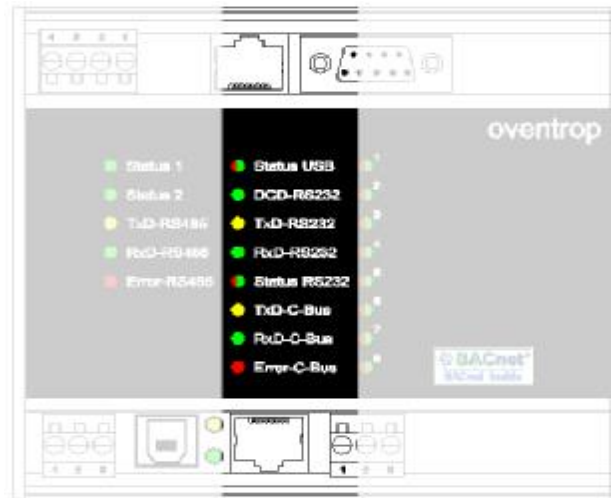
5.5 Indicator LEDs

Left column ...



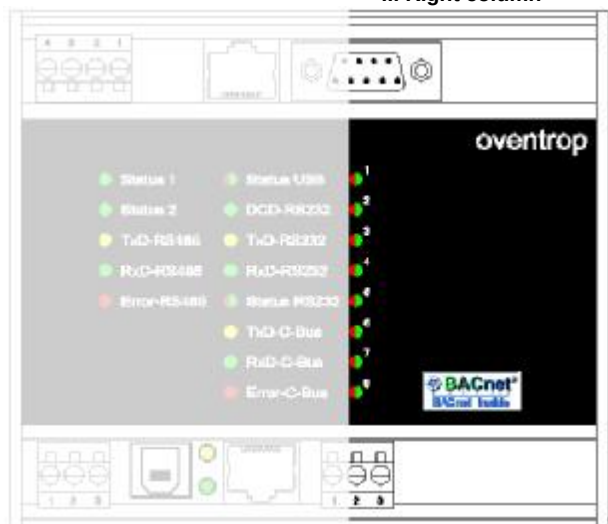
Labelling	Colour LED	Function
Status 1	green red OFF	Display when starting Flashes green: 40ms cycle Display during operation Lights green: no program release Flashes green: Program execution in flash cycle Flashing slows down with increasing program execution time (size). Lights red: invalid program
Status 2	green OFF	Displays during operation Flashing: Processing of clock timers OFF: Normal operation
TxD-485-1	yellow OFF	Flashing: The unit sends data via RS485, channel 1.
RxD-485-1	green OFF	Flashing: The unit receives data via RS485, channel 1.
Error-485-1	red OFF	ON The unit detects errors on the RS485-Bus, channel 1 (checksum, collision, protocol error).

... Centre column



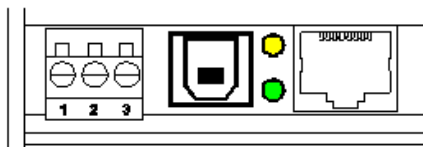
Labelling	Colour LED	Function
Status USB	red green OFF	Lights red: USB cable plugged in, no communication. Lights green: USB cable plugged in and communication established. Off: -
DCD-RS232	green OFF	ON The unit is connected to a modem.
TxD-RS232	yellow OFF	Flashing: The unit sends data via RS232.
RxD-RS232	green OFF	Flashing: The unit receives data via RS232.
Status RS232	red green OFF	Lights red: Modem configuration present, but no communication with a modem. Lights green: Modem configuration present and communication with modem established. OFF: No modem configuration present.
TxD C-Bus	yellow OFF	Flashing: The unit sends data via C-Bus line.
RxD C-Bus	green OFF	Flashing: The unit receives data via C-Bus line.
Error C-Bus	red OFF	ON The unit detects errors on the C-Bus line (checksum, collision, protocol error or usage of same address twice).

... Right column



Labelling	Colour LED	Function
1 ...8	red green OFF	not used

Ethernet connection



Labelling	Colour LED	Function
10/100	yellow OFF	ON Ethernet 100MBit/s OFF: Ethernet 10MBit/s
LNK	green OFF	ON Ethernet link available, no data exchange. Flashing: Ethernet link available and data exchange.

6 System description

See operating manual

7 Operating program

See operating manual

8 Maintenance and servicing

The product is maintenance-free. A repair must only be performed by a qualified electrician. Clean the product with a soft, clean, dry and lint-free cloth. To remove severe contamination, the cloth can be lightly dampened with lukewarm water. Do not use any cleaning agents containing solvents or abrasive substances. The plastic housing and the labelling could be damaged by it.

9 Declaration of conformity

Oventrop GmbH & Co. KG hereby declares that the appliance complies with the following directives.

- Directive relating to electromagnetic compatibility (EMC) 2014/30/EU
- Low-voltage directive (LVD) 2014/35/EU

The complete text of the EU declaration of conformity is available on the Oventrop Internet page.

10 Warranty

Oventrops general conditions of sales and delivery valid at the time of supply are applicable.