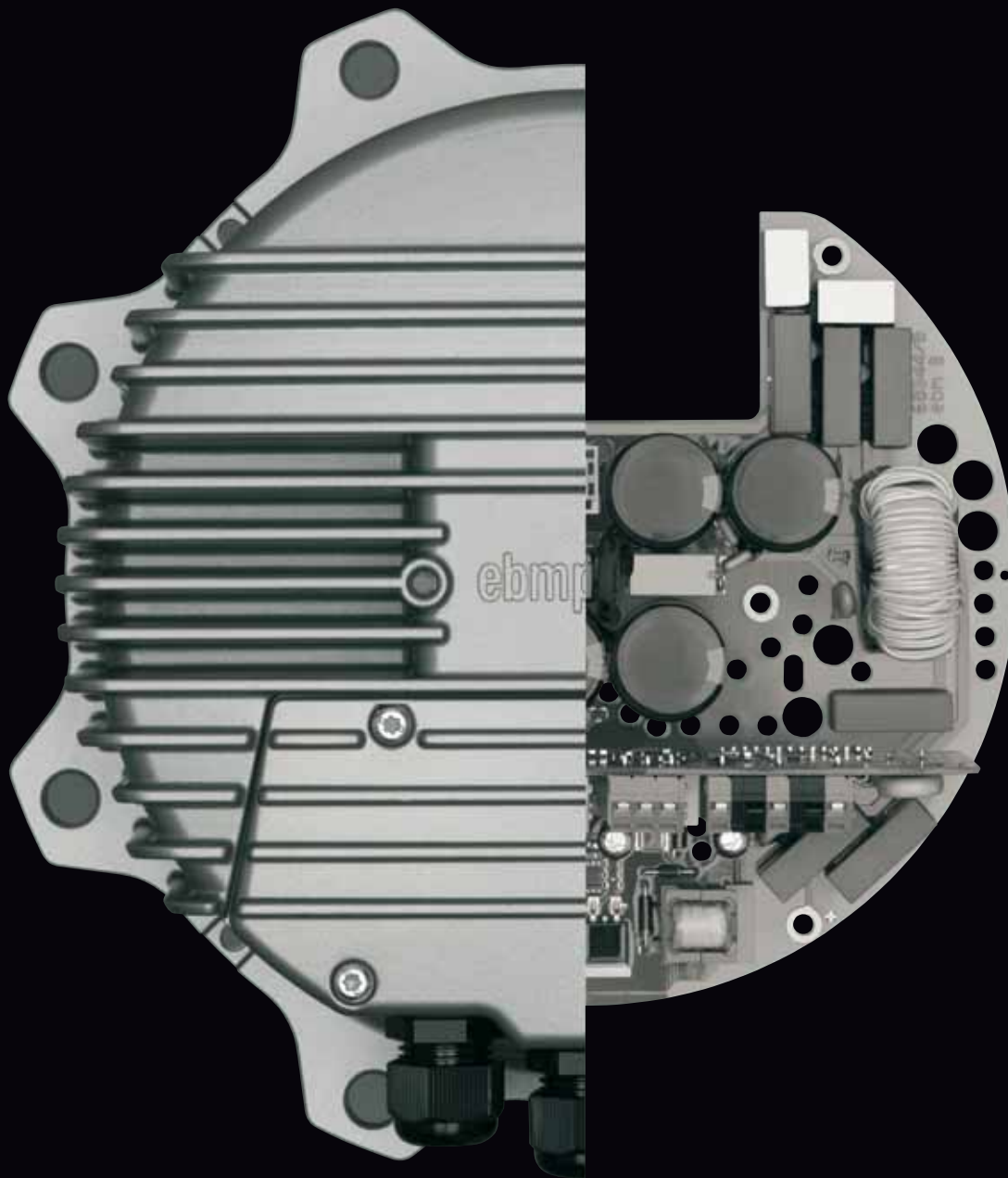


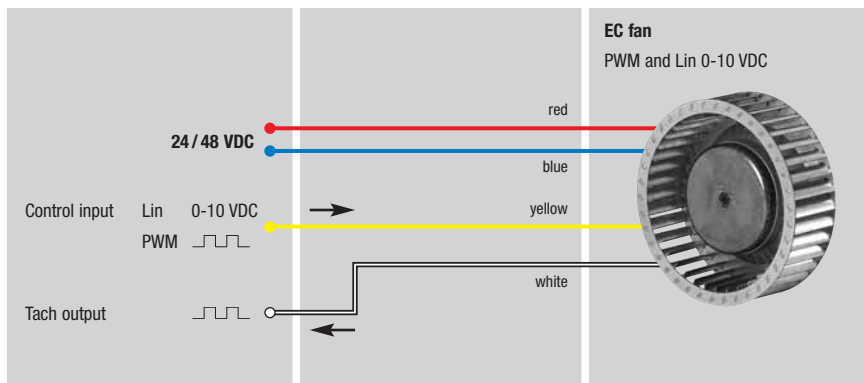
EC-SYSTEMS

| | |
|--|-----|
| Options | 330 |
| Switch power supplies | 334 |
| External commutation electronics for rail technology | 338 |
| Accessories: Temperature sensor / control module, pressure control, selection module, interface converter, ... | 340 |
| HMS controller | 358 |



EC-SYSTEMS

Options



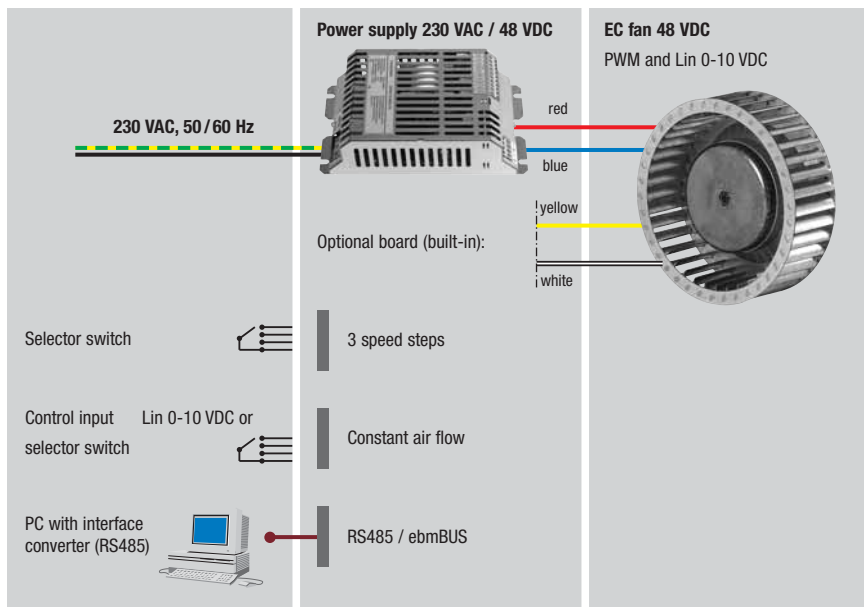
EC fans 24 / 48 VDC with integrated commutation electronics

Linear input:

< 1 VDC -> n=0
1 VDC -> n_{min}
10 VDC -> n_{max}

PWM input:

< 10% PWM -> n=0
10% PWM -> n_{min}
100% PWM -> n_{max}



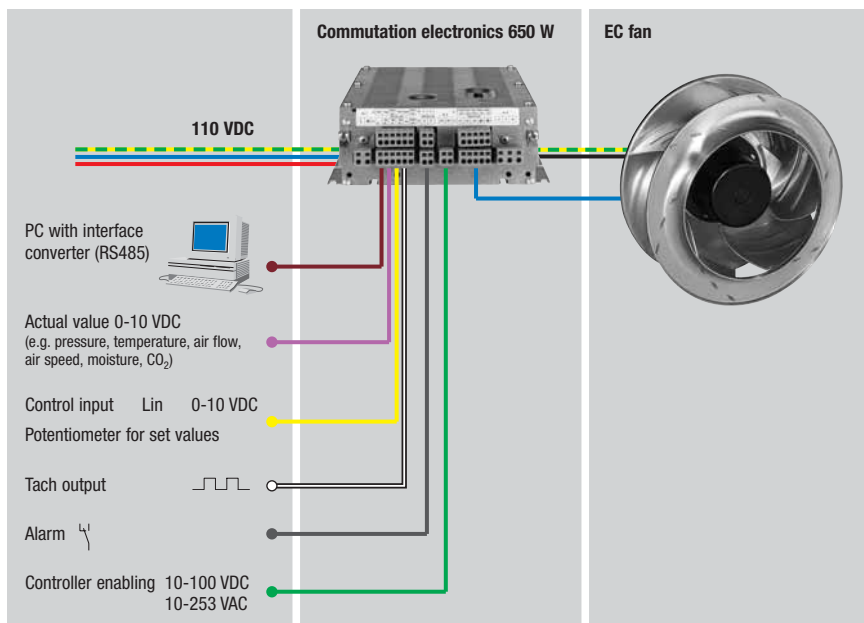
EC fans 48 VDC with integrated commutation electronics

Linear input:

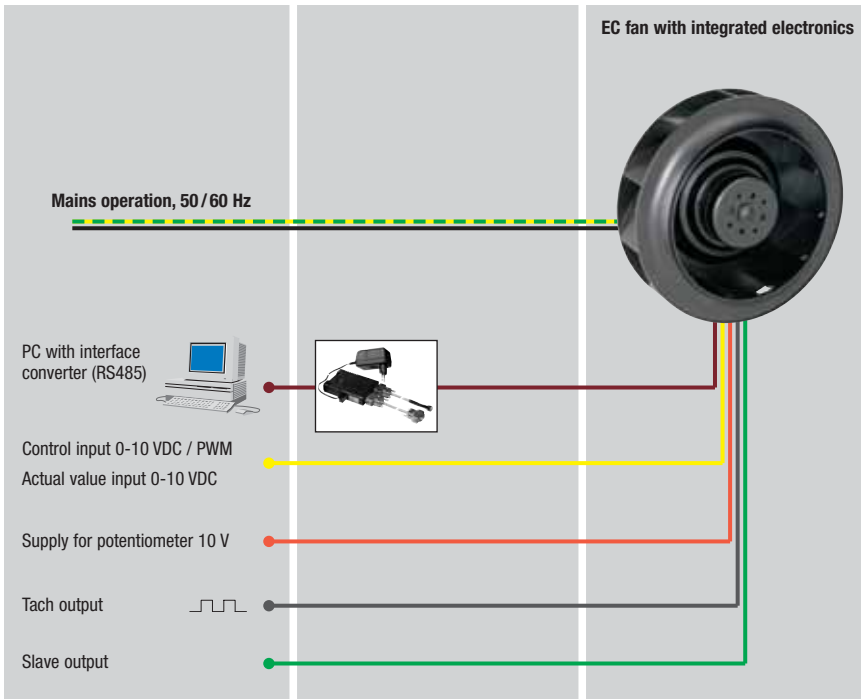
< 1 VDC -> n=0
1 VDC -> n_{min}
10 VDC -> n_{max}

PWM input:

< 10% PWM -> n=0
10% PWM -> n_{min}
100% PWM -> n_{max}

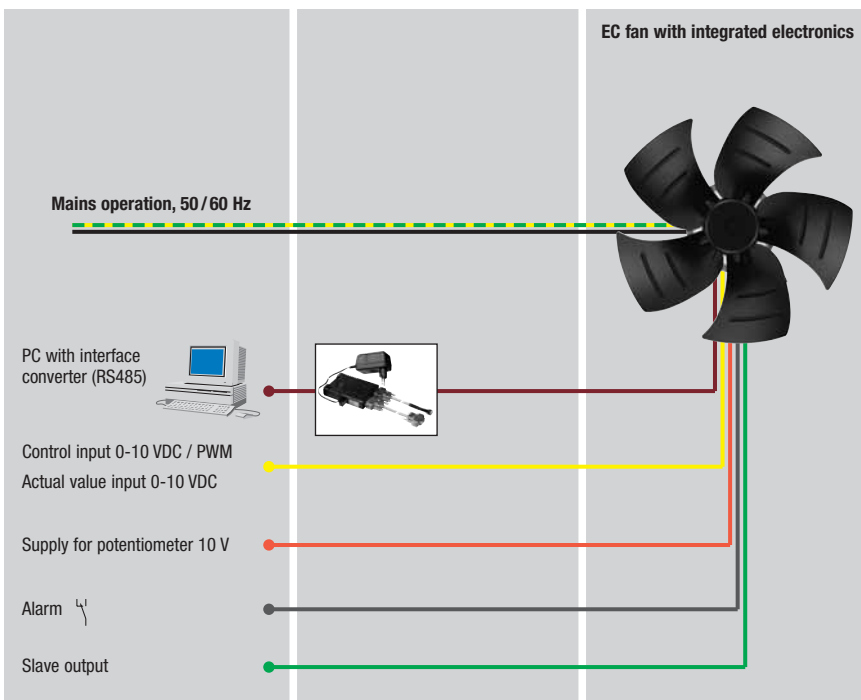


EC fans with external commutation electronics 650 W, 110 VDC (rail technology)



**EC fans (motor size 055)
with integrated commutation electronics**
1~ 115 VAC or 230 VAC
50/60 Hz mains operation

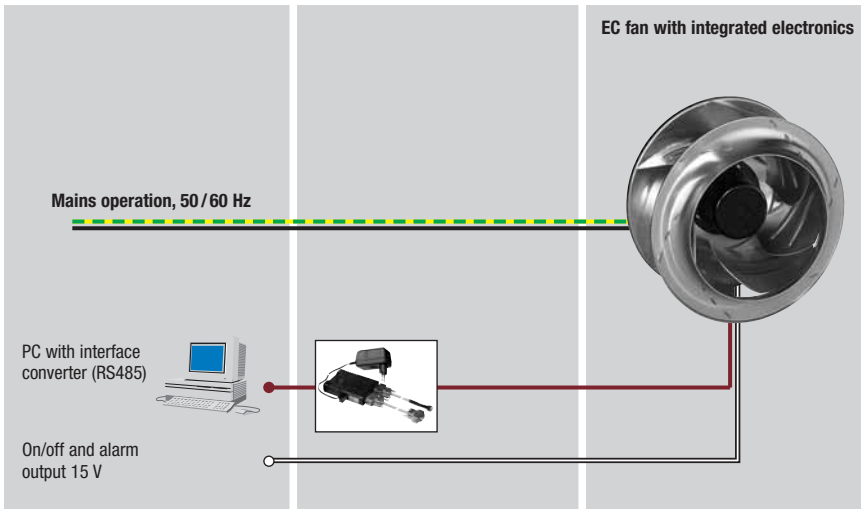
**EC fans (motor size 074)
with integrated commutation electronics**
1~ 100 -130 VAC or 200 -277 VAC
50/60 Hz mains operation



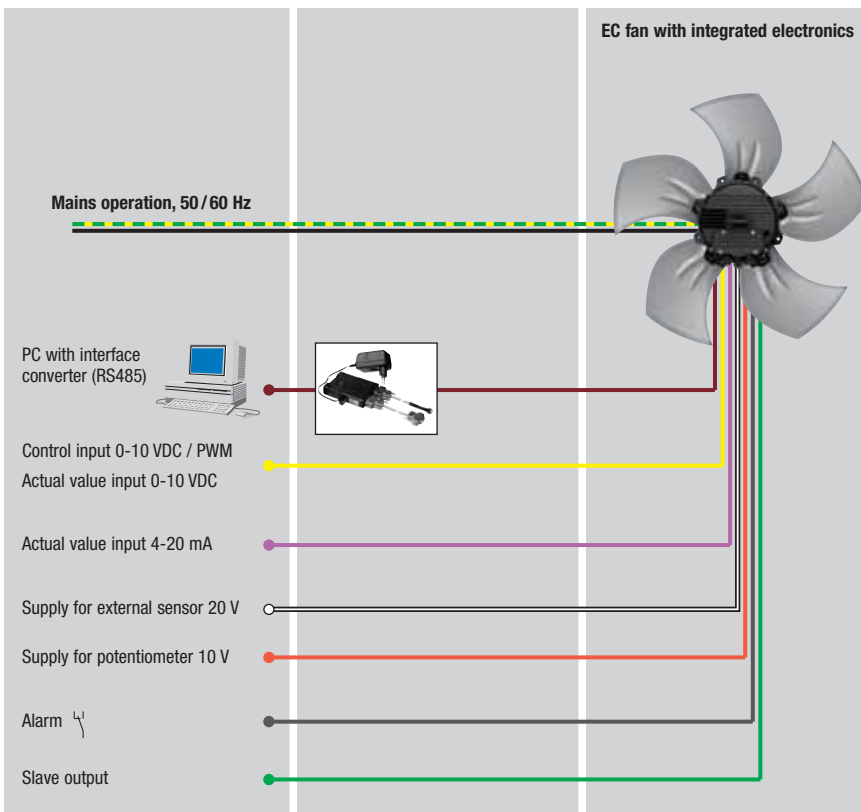
**EC fans (motor size 084)
with integrated commutation electronics**
1~ 100 -130 VAC or 200 -277 VAC
50/60 Hz mains operation

EC-SYSTEMS

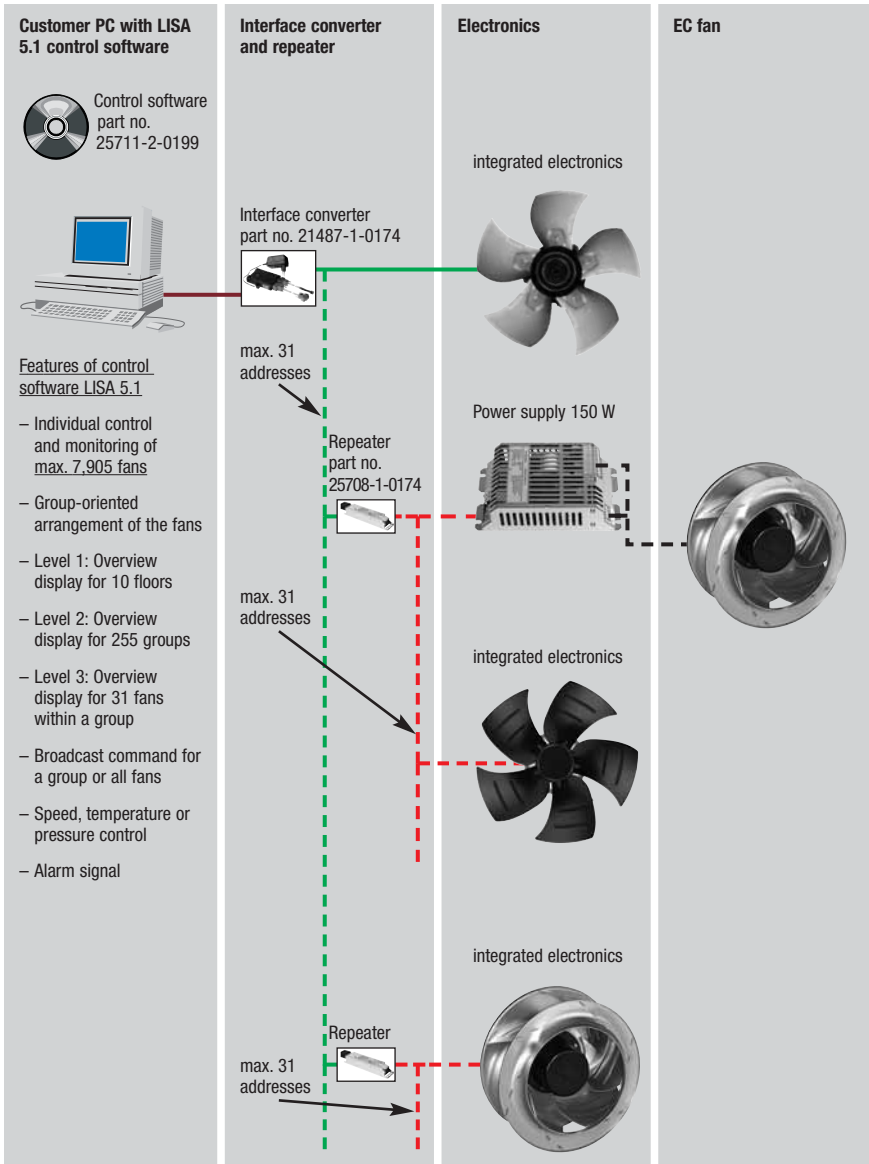
Options



**EC fans (motor size 084, ebmBUS)
with integrated commutation electronics**
1~ 200-277 VAC,
50/60 Hz mains operation



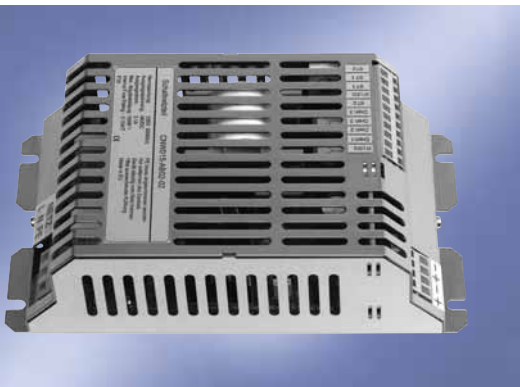
**EC fans (motor size 112/150)
with integrated commutation electronics**
1~ 200-277 VAC or
3~ 200-240 / 380-480 VAC
50/60 Hz mains operation



**EC-SYSTEMS:
Networked EC fans with interface
converter and repeater**

Switch power supply with PFC, basic version

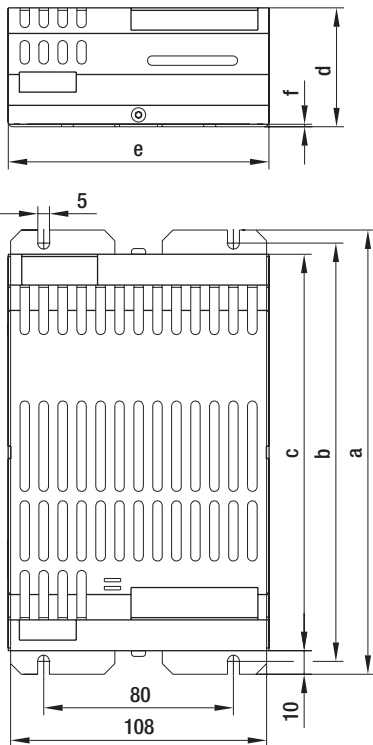
48 VDC, 150 W / 300 W



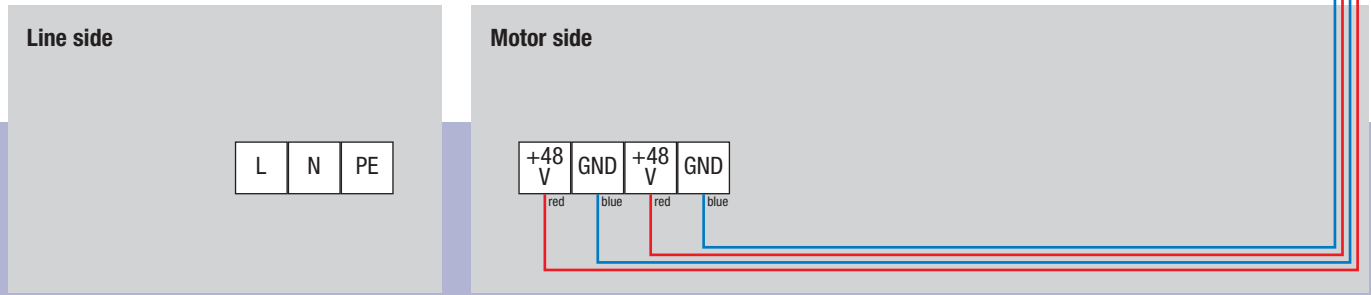
- **General remarks:** Switch power supply with an output power of 150 W / 300 W to supply 48 VDC EC motors from the 115 / 230 VAC mains. It is also possible to run several motors up to an overall power of 150 W / 300 W. Data on the 60 W switching power supply is available on request.
- **Function:** Supply of an electrically insulated direct voltage of 48 VDC at the output when connected to the 115 / 230 V mains. The power supply is sustainably short-circuit proof, open-circuit proof and protected against overheating. An integrated EMC filter guarantees RFI suppression of the unit according to EN 61000-3-2.
- **Material:** Housing made of stainless steel
- **Protection class:** I
- **Type of protection:** IP 20 (acc. to EN 60529)

| Nominal data | Nominal voltage | Frequency | Output voltage | Output P ₁ max. | Rated output current | Mass | Dimensions | | | | | |
|-----------------|-----------------|-----------|----------------|----------------------------|----------------------|------|------------|-----|-----|-----|-----|---|
| | | | | | | | Type | VAC | Hz | VDC | W | A |
| CNW015-AB06 -01 | 1~ 115 | 50/60 | 48 | 150 | 3.10 | 0.7 | 187 | 176 | 167 | 50 | 110 | 1 |
| CNW015-AB02 -01 | 1~ 230 | 50/60 | 48 | 150 | 3.10 | 0.7 | 187 | 176 | 167 | 50 | 110 | 1 |
| CNW030-AC06 -01 | 1~ 100-120 | 50/60 | 48 | 300 | 6.25 | 1.3 | 272 | 260 | 251 | 66 | 112 | 2 |
| CNW030-AC02 -01 | 1~ 200-277 | 50/60 | 48 | 300 | 6.25 | 1.3 | 272 | 260 | 251 | 66 | 112 | 2 |

subject to alterations



- **EMC:** Interference emission acc. to EN 61000-6-3
Interference immunity acc. to EN 61000-6-1
- **Product conforming to standards:** EN 50178, CE
- **Approvals:** UL/CSA (File No. E 181381)



Switch power supply with PFC, RS485 and ebmBUS

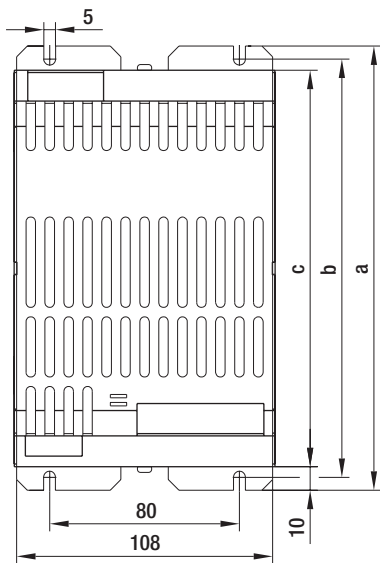
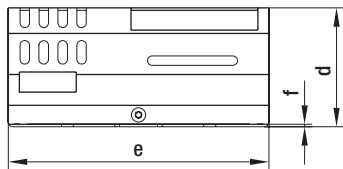
48 VDC, 150 W / 300 W



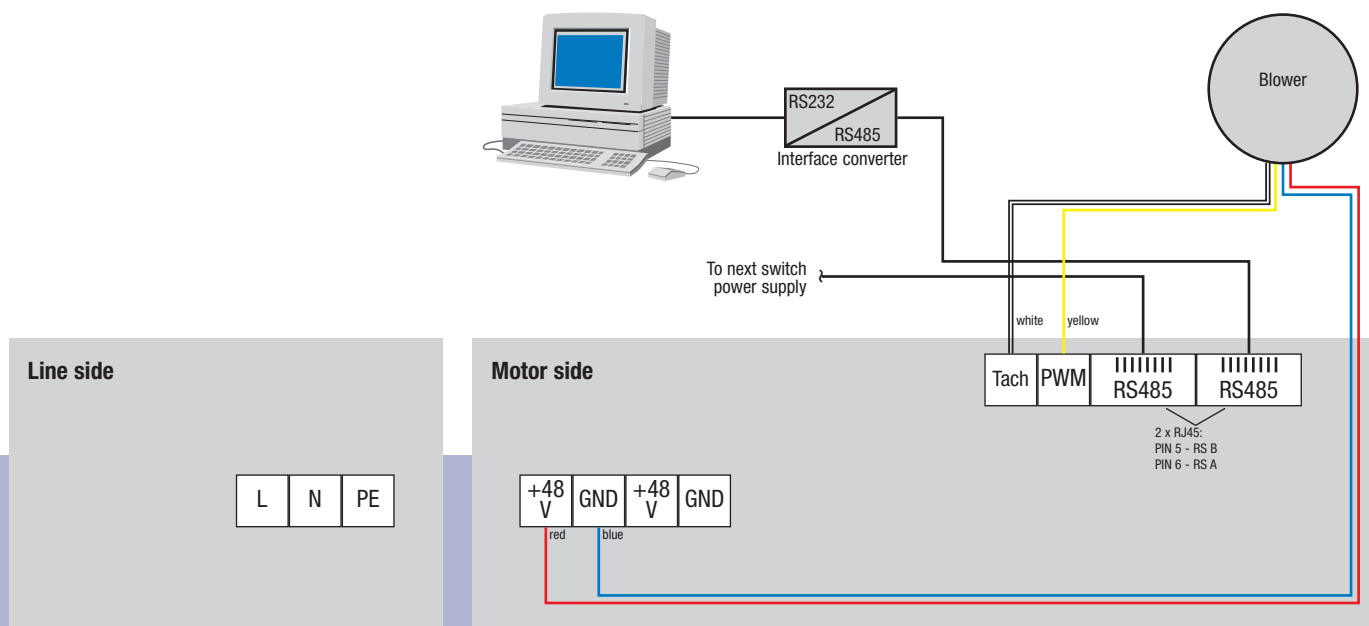
- **General remarks:** Switch power supply with an output power of 150 W / 300 W to supply 48 VDC EC motors from the 115 / 230 VAC mains. It is also possible to run several motors up to an overall power of 150 W / 300 W. Data on the 60 W switching power supply is available on request.
- **Function:** Supply of an electrically insulated direct voltage of 48 VDC at the output when connected to the 115 / 230 V mains. The power supply is sustainably short-circuit proof, open-circuit proof and protected against overheating. An integrated EMC filter guarantees RFI suppression of the unit according to EN 61000-3-2.
- **Material:** Housing made of stainless steel
- **Protection class:** I
- **Type of protection:** IP 20 (acc. to EN 60529)

| Nominal data | Nominal voltage | Frequency | Output voltage | Output P ₁ max. | Rated output current | Mass | Dimensions | | | | | |
|-----------------|-----------------|-----------|----------------|----------------------------|----------------------|------|------------|-----|-----|-----|-----|---|
| | | | | | | | Type | VAC | Hz | VDC | W | A |
| CNW015-AB06 -05 | 1~ 115 | 50/60 | 48 | 150 | 3.10 | 0.7 | 187 | 176 | 167 | 50 | 110 | 1 |
| CNW015-AB02 -05 | 1~ 230 | 50/60 | 48 | 150 | 3.10 | 0.7 | 187 | 176 | 167 | 50 | 110 | 1 |
| CNW030-AC06 -05 | 1~ 100-120 | 50/60 | 48 | 300 | 6.25 | 1.3 | 272 | 260 | 251 | 66 | 112 | 2 |
| CNW030-AC02 -05 | 1~ 200-277 | 50/60 | 48 | 300 | 6.25 | 1.3 | 272 | 260 | 251 | 66 | 112 | 2 |

subject to alterations



- **EMC:** Interference emission acc. to EN 61000-6-3
Interference immunity acc. to EN 61000-6-1
- **Product conforming to standards:** EN 50178, CE
- **Approvals:** UL/CSA (File No. E 181381)
- **Technical features:** Control board for RS485, ebmBUS and LISA functions



External commutation electronics

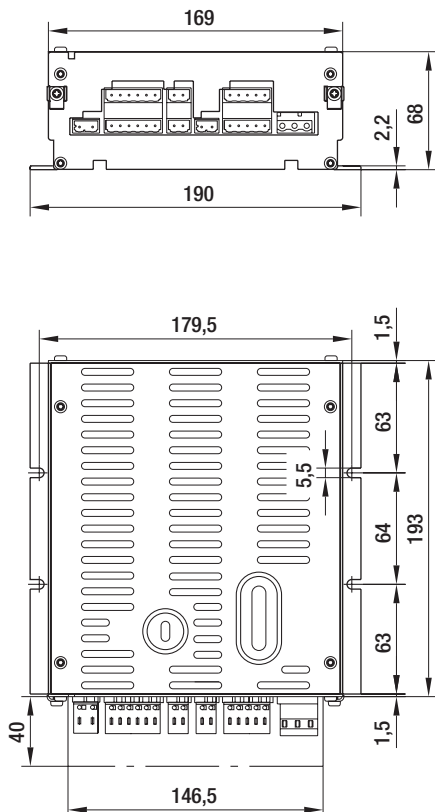
for rail technology, 110 VDC, 650 W



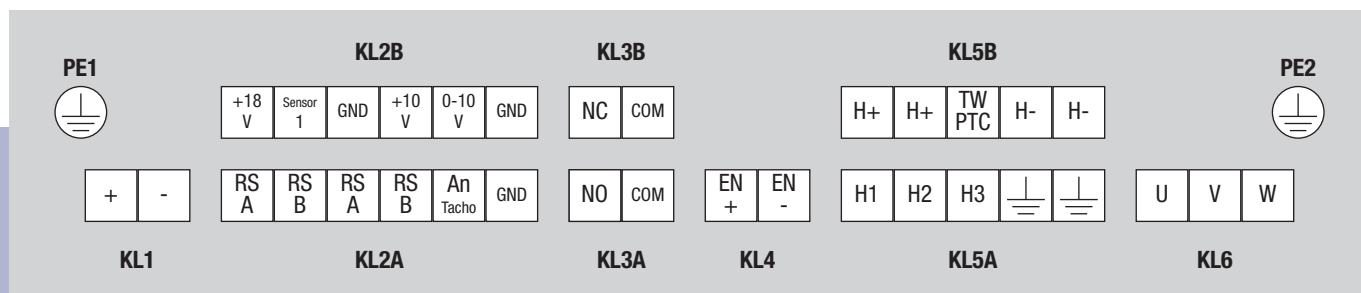
- **General remarks:** For EC motors and fans with 3 cores and without integrated commutation electronics
- **Function:** Commutation unit for three-core EC motors up to a power input of 650 W. Various basic functions are integrated: open loop speed control, closed loop speed control, RS485 interface. In combination with sensors, all control tasks as required in air technology can be executed.
- **Protection class:** I
- **Type of protection:** IP 20 (acc. to DIN EN 60529)
- **NB:** Connected fans have to be designed for a rated voltage of 127 VDC!

| Nominal data | Nominal voltage | Power input P_1 max. | Current draw | Perm. amb. temp. | Mass |
|------------------|-----------------|---------------------------|--------------|------------------|------|
| Type | VDC | W | A | °C | kg |
| CEG 485-HB50 -01 | 110 | 650 | 5.9 | -25 to +40 | 2.0 |

subject to alterations



- **EMC / EMI:** Acc. to EN 50155 and EN 50121
- **Legislation:** Low voltage directive 73/23/EEC, VDE 0160/EN 50178
- **Design:**
 - Motor output protected against short circuit phase to phase and conditionally phase to earth
 - 0-10 V input (R_i : 100 k Ω)
 - 0-10 V input (R_i : 100 k Ω) for connection of external actual value input
 - RS485 interface (ebmBUS)
 - Floating alarm contact 250 VAC / 5A, during alarm, relay is released (low-active)
 - Wide voltage input for external controller enabling via RESET function
 - Tach output
 - LED for operation and alarm mode
green: unit on
red: alarm
 - Setting of minimum and maximum values via potentiometer
 - Operational modes (to be set via DIP switch):
Open loop speed control
Closed loop speed control
Controlling external parameters
 - Direction of motor rotation reversible
- **Connectors for external electronics:**
 - KL1 2-pole connector; centreline 7.5; Co. Wago part no.: 231-202/026-000
 - KL2A 6-pole connector; centreline 5; Co. Wago part no.: 231-106/026-000
 - KL2B 6-pole connector; centreline 5; Co. Wago part no.: 231-106/026-000
 - KL3A 2-pole connector; centreline 5; Co. Wago part no.: 231-102/026-000
 - KL3B 2-pole connector; centreline 5; Co. Wago part no.: 231-102/026-000
 - KL4 2-pole connector; centreline 5; Co. Wago part no.: 231-102/026-000
 - KL5A 5-pole connector; centreline 5; Co. Wago part no.: 231-105/026-000
 - KL5B 5-pole connector; centreline 5; Co. Wago part no.: 231-105/026-000
 - KL6 3-pole connector; centreline 7.5; Co. Wago part no.: 731-603



| Connector | Connection | Assignment / function |
|-----------|------------|--|
| PE1 | | Ground connection |
| PE2 | | Ground connection |
| KL1 | + | 110 VDC |
| | - | 110 VDC |
| KL2A | RS A | Interface connection RS A |
| | RS B | Interface connection RS B |
| | RS A | Interface connection RS A |
| | RS B | Interface connection RS B |
| | An, Tacho | Tach output, open collector |
| | GND | Reference KL2 (for KL2 only) |
| KL2B | +18 V | +18 V (non-stabilised, +20%, 20 mA) for supplying external sensors |
| | Sensor 1 | Input for external sensor, Ri = 100 kΩ |
| | GND | Reference KL2 (for KL2 only) |
| | +10 V | +10 V (stabilised +/- 3 %, 25 mA) |
| | 0-10 V | Input for set value 0 - 10 V, Ri = 100 kΩ |
| | GND | Reference KL2 (for KL2 only) |

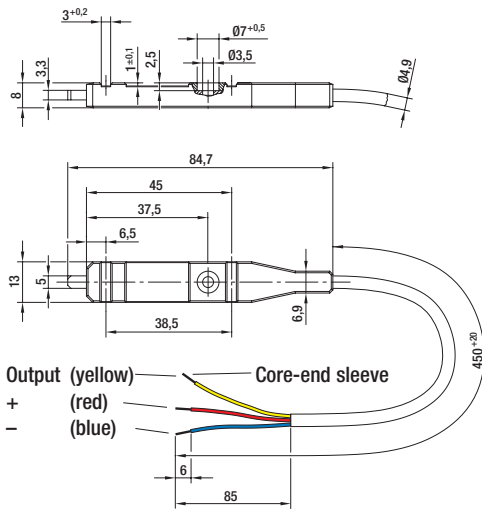
| Connector | Connection | Assignment / function |
|-----------|------------|--|
| KL3A | NO | Relay contact for alarm, make for failure |
| | COM | Relay contact for alarm |
| KL3B | NC | Relay contact for alarm, break for failure |
| | COM | Relay contact for alarm |
| KL4 | EN + | Enable input via RESET function |
| | EN - | Enable input via RESET function |
| KL5A | H1 | Hall-sensor 1 |
| | H2 | Hall-sensor 2 |
| | H3 | Hall-sensor 3 |
| | ⏏ | Shielding connection |
| | ⏏ | Shielding connection |
| KL5B | H+ | Power supply for hall-sensors (+) |
| | H+ | Power supply for hall-sensors (+) |
| | TW / PTC | Thermal switch or PTC connection |
| | H- | Power supply for hall-sensors (-) |
| KL6 | H- | Power supply for hall-sensors (-) |
| | U | Motor winding U |
| | V | Motor winding V |
| | W | Motor winding W |

Temperature sensor

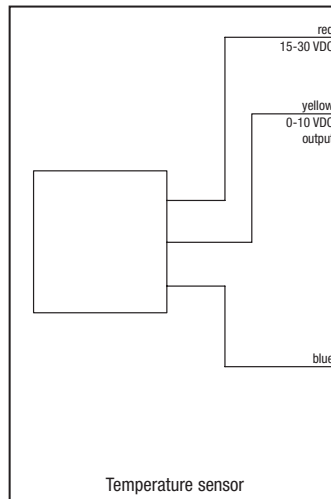


| Nominal data | Nominal voltage | Current draw | Output voltage | Output current | Output impedance | Temperature measuring range | Mass |
|--------------|-----------------|--------------|----------------|----------------|------------------|-----------------------------|------|
| Part no. | VDC | mA | VDC | mA | k Ω | $^{\circ}\text{C}$ | kg |
| 50005-1-0174 | 15-30 | 10 | 0-10 | 1.0 | 1.1 | -20 to +80 | 0.02 |

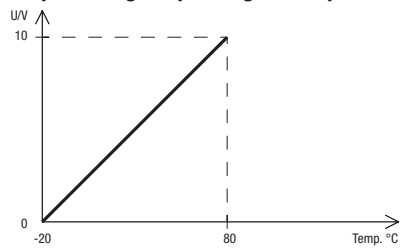
subject to alterations



- Electr. connection:



- Output voltage depending on temperature:



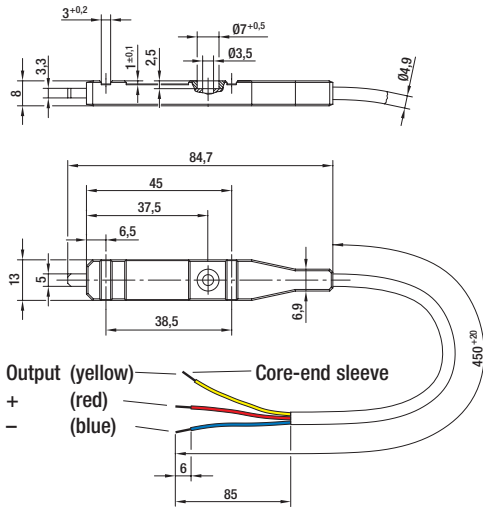
Tolerance ± 3 K

Temperature control module

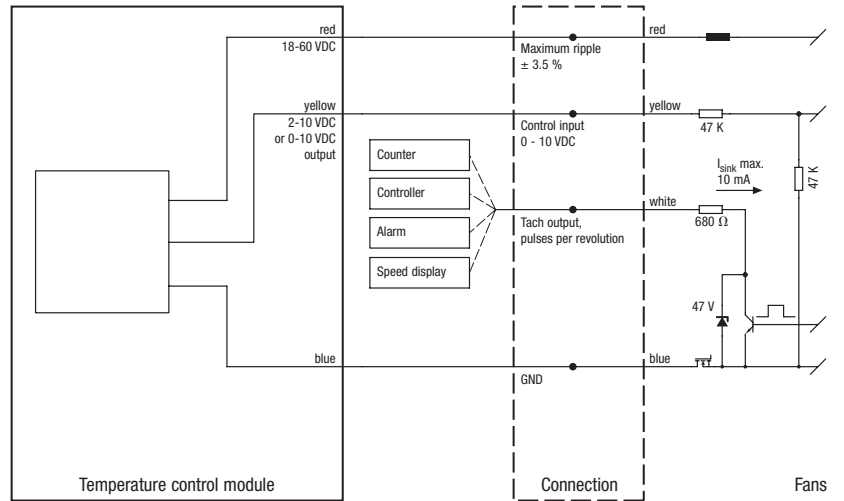


| Nominal data | Nominal voltage | Current draw | Output voltage | Output current | Output impedance | Temperature control range | Mass |
|--------------|-----------------|--------------|----------------|----------------|------------------|---------------------------|------|
| Part no. | VDC | mA | VDC | mA | kΩ | °C | kg |
| 50002-1-0174 | 18-60 | 10 | 2-10 | 0.1 | 6.8 | +30 to +55 | 0.02 |
| 50003-1-0174 | 18-60 | 10 | 0-10 | 0.1 | 6.8 | +10 to +45 | 0.02 |

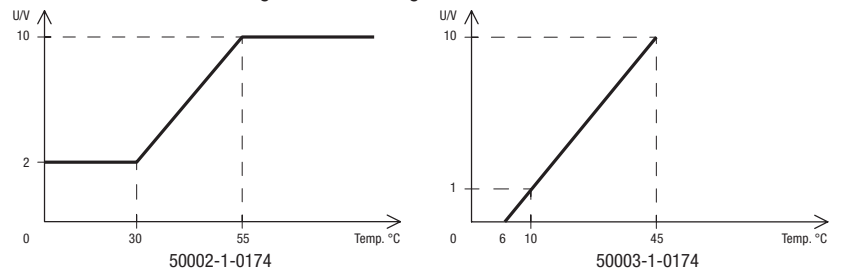
subject to alterations



- Electr. connection:



- Control function: Both designs have "cooling" as control function



Tolerance ±3 K

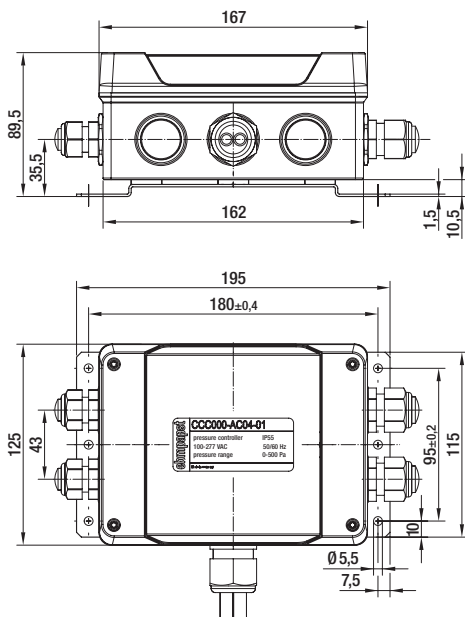
Pressure control with integrated pressure sensor

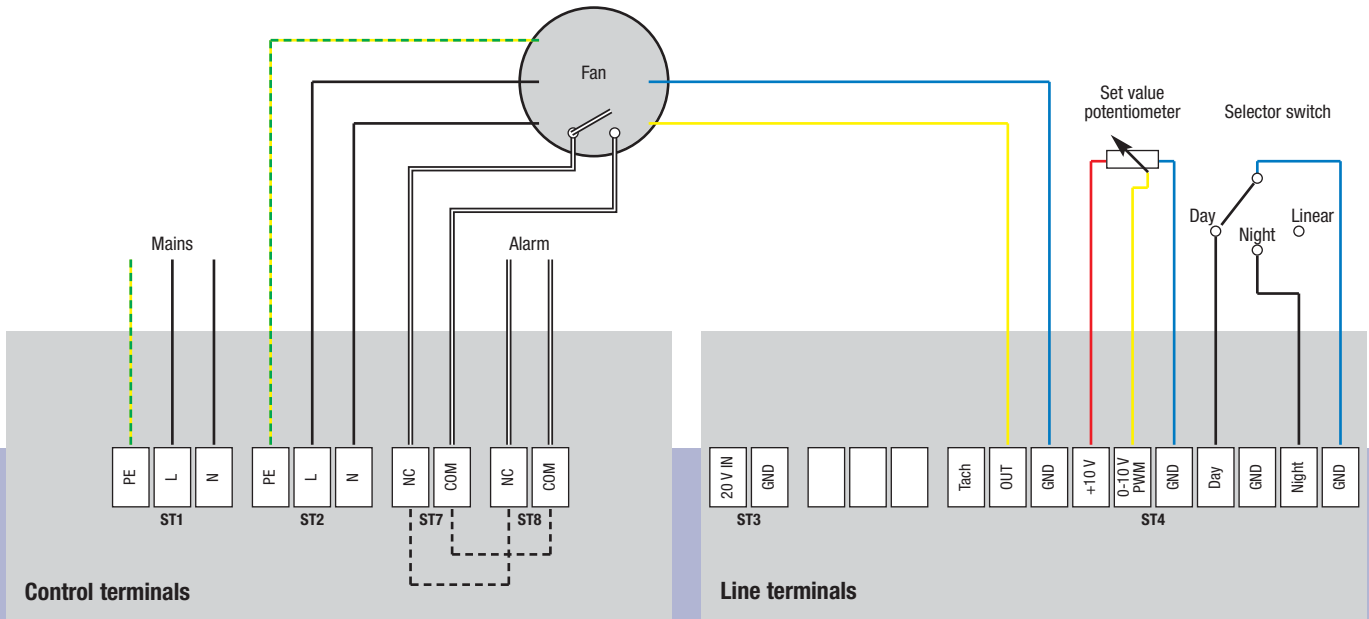


- **Functions:** Integrated PID controller, day/night/linear set point preset, integrated set point potentiometer for day and night, external set point preset via potentiometer
- **Pressure sensor:** 0-500 Pa, bursting strength 200 mbar, for non-aggressive gaseous media
- **Type of protection:** IP 55

| Nominal data | Nominal voltage range | Frequency | Nominal voltage, alternative | Pressure control range | Perm. amb. temp. |
|------------------|-----------------------|-----------|------------------------------|------------------------|------------------|
| Type | VAC | Hz | VDC | Pa | °C |
| CCC 000-AC04 -01 | 1~ 100-277 | 50/60 | 20 @ 50 mA | 50-500 | -25 to +60 |

subject to alterations





| Connector | Connection | Assignment / function |
|-----------|------------|--|
| ST1 | PE | Protective earth |
| | L | Mains 50/60 Hz, phase |
| | N | Mains 50/60 Hz, neutral |
| ST2 | PE | Protective earth |
| | L | Mains 50/60 Hz, phase |
| | N | Mains 50/60 Hz, neutral |
| ST7 | NC | Relay contact for alarm, break for failure |
| | COM | Relay contact for alarm |
| ST8 | NC | Relay contact for alarm, break for failure |
| | COM | Relay contact for alarm |

| Connector | Connection | Assignment / function |
|-----------|--------------------------|--|
| ST3 | 20 V IN | DC voltage supply (optional), with reverse polarity protection |
| | GND | GND |
| ST4 | Tach | Tach output from fan |
| | OUT | Control voltage for fan, 0-10 V |
| | GND | GND |
| | +10 V | Set value potentiometer, supply 10 V (-10 %), 10 mA |
| | 0-10 V PWM | Set value potentiometer |
| | GND | Set value potentiometer |
| | Day | Selector switch terminal |
| | GND | Selector switch terminal |
| | Night | Selector switch terminal |
| GND | Selector switch terminal | |

Selection module for 3 speeds

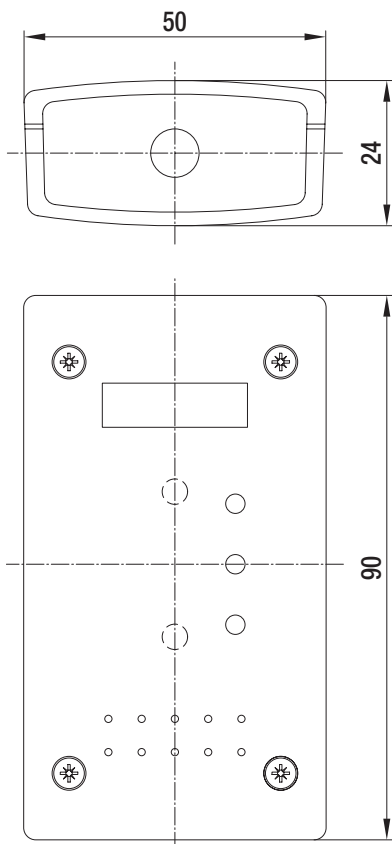


- **General remarks:** Using an external selector switch, one of three preset speeds can be chosen. Presetting is done via one integrated potentiometer each.
- **Material:** Plastics
- **Type of protection:** IP 20

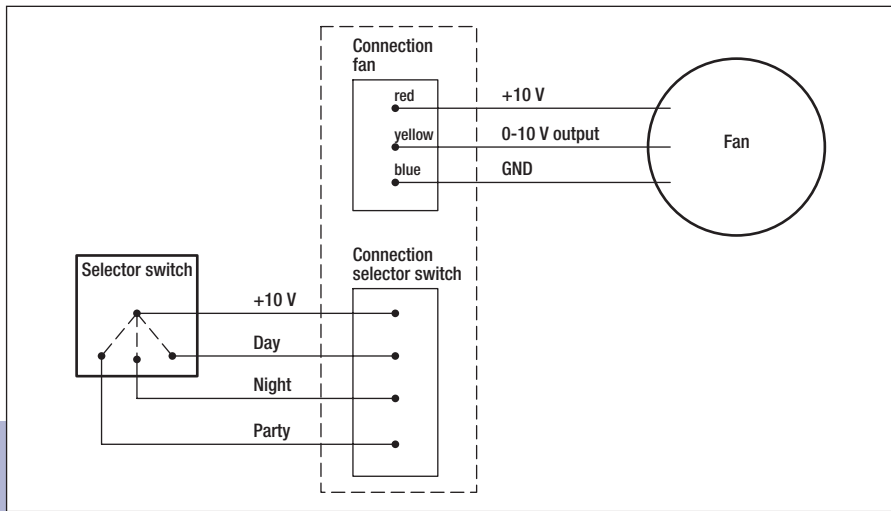
Type

CBC 000-AE04 -01

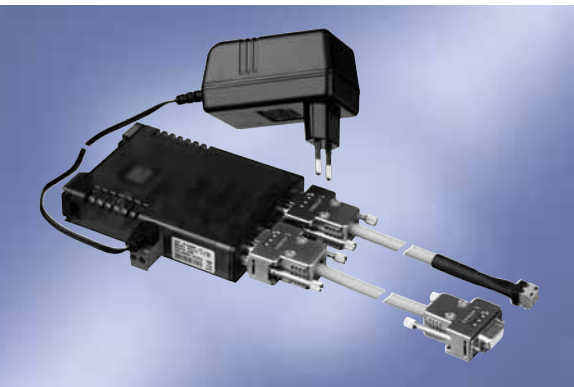
subject to alterations



- Electr. connection:



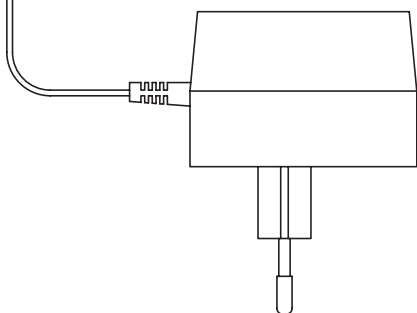
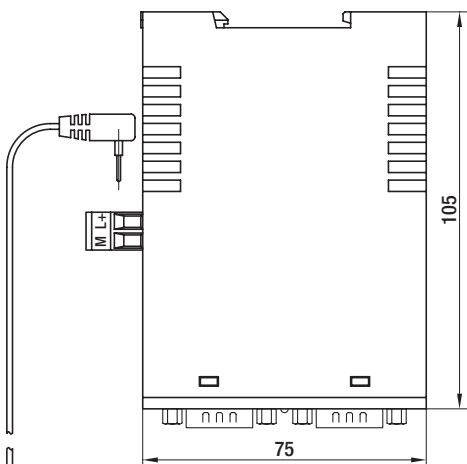
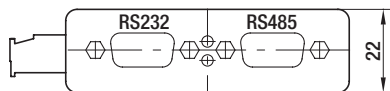
Interface converter RS232 - RS485



- **General remarks:** This interface converter permits bi-directional connection of RS232 devices (laptop or PC) with ebmBUS devices (electronic commutation units with RS485 interface)
- **Safety:** Electrical insulation between the RS232 and RS485 side is provided
- **Material:** Plastic housing for standard rail mounting according to DIN EN 50022-35
- **Status display:** Via LEDs
green: supply voltage OK
red: data exchange

| Nominal data | | Nominal voltage power supply | Supply voltage | Current draw at no-load operation | Mass (incl. PS) |
|--------------|--------|------------------------------|----------------|-----------------------------------|-----------------|
| Part no. | VAC | VAC / VDC | mA | kg | |
| 21487-1-0174 | 1~ 230 | 12-24 | 150 | 0.4 | |

subject to alterations



- **Mode of operation:** RS485 2-wire mode with echo and automatic control
- **Galvanic insulation:** Min. 1kV insulation voltage between RS232 and RS485 interfaces and between power supply and interfaces
- **ESD immunity:** Up to 15 kV (acc. to IEC 801-2, Stage 4)
- **Delivery scope:**
 - Interface converter
 - Supply plug unit (230 VAC / 12 VDC, 500 mA)
 - Adaptor leads with 2 x 9-pole SUB-D sockets
 - Adaptor leads with 9-pole SUB-D socket
 - Screw terminal RS485

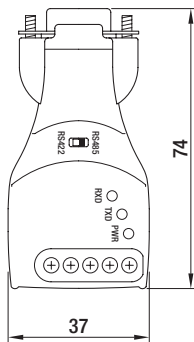
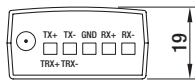
Interface converter RS232 - RS485



- **General remarks:** This interface converter permits bi-directional connection of RS232 devices (laptop / PDA) with ebmBUS devices (electronic commutation units with RS485 interface). Power supplied by RS232 of the laptop / PDA.
- **Material:** Plastic housing
- **Status display:** Via LEDs
 - PWR: Power supply
 - TXD: Data transfer (send)
 - RXD: Data transfer (receive)

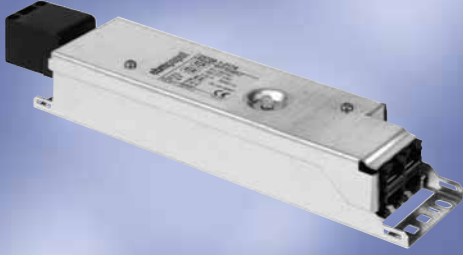
| Nominal data | | Mass |
|--------------|-----|------|
| Part no. | kg | |
| 21495-2-0174 | 0.1 | |

subject to alterations



- **Mode of operation:** RS485 2-wire mode with echo and automatic control
- **Delivery scope:** Interface converter, English-language operating manual
- **Electrical terminals:** Screw terminal, TRX+ = RSA, TRX- = RSB

RS485 repeater

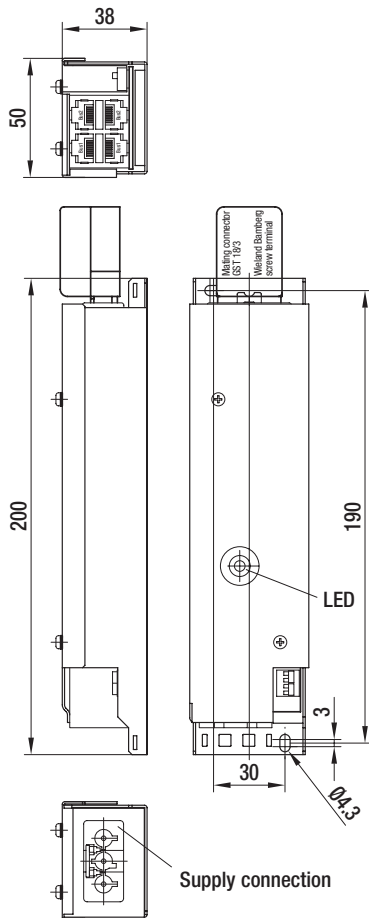


- **General remarks:** The physical RS485 repeater is used for the connection of two segments on an RS485 basis. It can split a segment with network bus wires that are too long, or with too many nodes into two smaller, standardised units. A maximum of 31 nodes can be connected to the repeater.
- **Installation:** The repeater housing is mounted on the wall or in the cable duct with two screws (Ø 4 mm) or with cable ties.
- **Material:** Housing made of galvanised sheet steel
- **Type of protection:** IP 20 according to DIN EN 60529

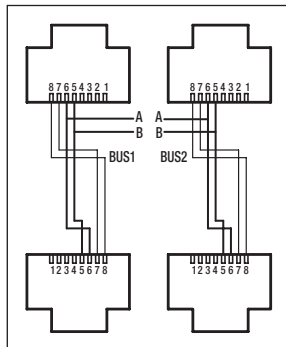
Nominal data

| Part no. | Supply voltage VAC | Frequency Hz | Power input VA | Perm. operating temp. °C | Perm. storage temp. °C | Mass kg |
|--------------|-----------------------|-----------------|-------------------|-----------------------------|---------------------------|------------|
| 25708-1-0174 | 1~ 200-277 | 50/60 | < 3 | 0 to +50 | -20 to +70 | 0.3 |

subject to alterations



- **Type of transceiver:** 2 x ANSI standard RS485 transceiver
- **Galvanic insulation:** Operating insulation 500 V between both channels
- **Network connection:** Screw terminals
- **Mains connection:** Wieland connector GST 18/3 (part of delivery)
- **Pin configuration of network:**



| Pin No. | Assignment / function |
|---------|--|
| 1 - 4 | not assigned |
| 5 | Connection RS485, line B |
| 6 | Connection RS485, line A |
| 7, 8 | not assigned (each looped through within BUS1 and BUS2) |

RS485 terminal box with lead connections

for centrifugal fans with EC motor size 084 (ebmBUS, RS485)

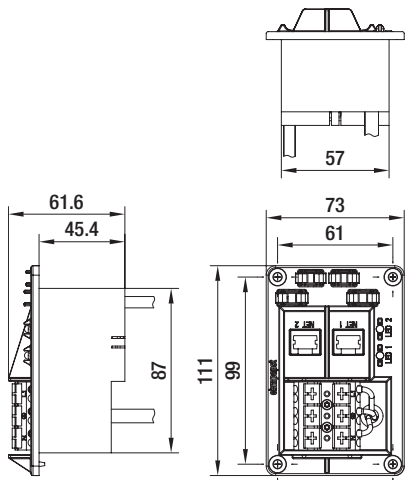


- **General remarks:** RS485 terminal box with
 - 2x RJ45 sockets for ebmBUS
 - ebmBUS line with Molex Mini-Fit female connector for connection to the motor
 - 3-pole 4-pin unit connector with AMP Mate-N-Lock female connector to connect to motor
 - Mode of operation display (LED2 green) and alarm display (LED 1 red)
- **Delivery scope:**
 - Terminal Box
 - Supply line (800 mm)
 - ebmBUS line (800 mm)
- **Material:** ABS (fire rating V0 according to UL)

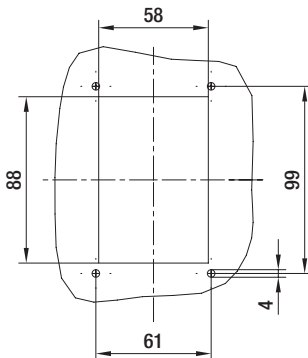
Part no.

54002-4-1040

subject to alterations



Mounting dimensions



- Pin configuration of supply lead:

| Colour | Assignment / function |
|--------------|-----------------------|
| green/yellow | PE |
| black 2 | N |
| black 1 | L |

- Pin configuration of ebmBUS lead:

| Colour | Assignment / function |
|--------|-----------------------------|
| yellow | RS A |
| white | RS B |
| red | Operation: +15 V Alarm: 0 V |
| blue | Operation: 0 V Alarm: +15 V |

- Pin configuration of RJ45 sockets:

| Pin No. | Assignment / function |
|---------|-----------------------|
| 5 | RS B |
| 6 | RS A |

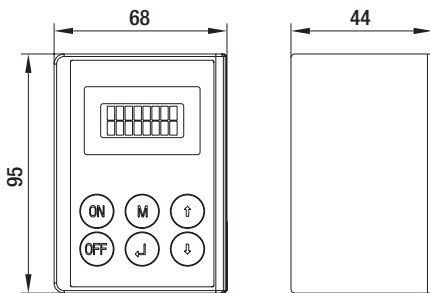
Hand-held control terminal



- **General remarks:** Terminal to control networked fans and to set their parameters; RS485 (ebmBUS)
- **Type of protection:** IP 20 (acc. to DIN EN 60529)
- **Protection class:** III
- **Display:** Plain text LCD, 2x8 characters
- **Accumulator and charging electronics:** 2 x round cell R6 DIN 40863 NiMH 1,500 mAh, operating time approx. 40 hrs, standby time approx. 100 days, charging time max. 4 hrs.
- **Parts included in delivery:** Hand-held control terminal, power supply and accumulator unit, BUS cable, 2 x round cell R6 NiMH 1,500 mAh

| Nominal data | Nominal voltage range power supply | Frequency | Supply voltage | Perm. amb. temp. | Perm. storage temp. | Mass |
|-------------------------|------------------------------------|-----------|----------------|------------------|---------------------|------|
| Type | VAC | Hz | VDC | °C | °C | kg |
| CBC 000-AB06 -01 | 1~ 100-240 | 50/60 | 12 | 0 to +45 | -20 to +65 | 0.4 |

subject to alterations



Speed setting device

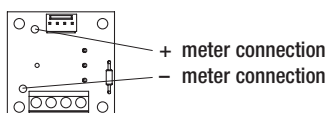
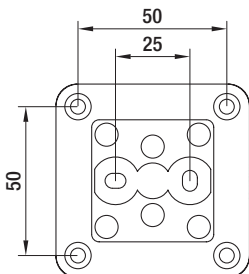
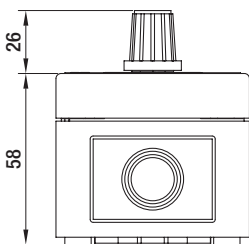
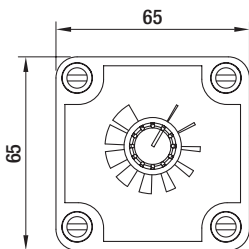
with housing



- **Material:** Housing made of plastic
- **Type of protection:** IP 54
- **Design:** The speed setting device can be operated with the entire range of ebm-papst EC fans. It is supplied with current via the fan's DC output and supplies a 0-10 V signal that allows infinitely variable open loop speed control. The control also permits fan speed measurement using a multimeter equipped with a frequency meter (for which a tach output is given from the fan).
- **Cable inputs:** 4 x M16 or M20
- **Mounting holes:** Suitable for 4 mm mounts

| Nominal data | Supply voltage | Max. current draw | Resistance | Perm. amb. temp. | Mass |
|------------------|----------------|-------------------|------------|------------------|------|
| Type | VDC | mA | kΩ | °C | kg |
| CLC 000-AE04 -01 | 10 | 1.1 | 0-10 Lin | 50 | 0.10 |

subject to alterations

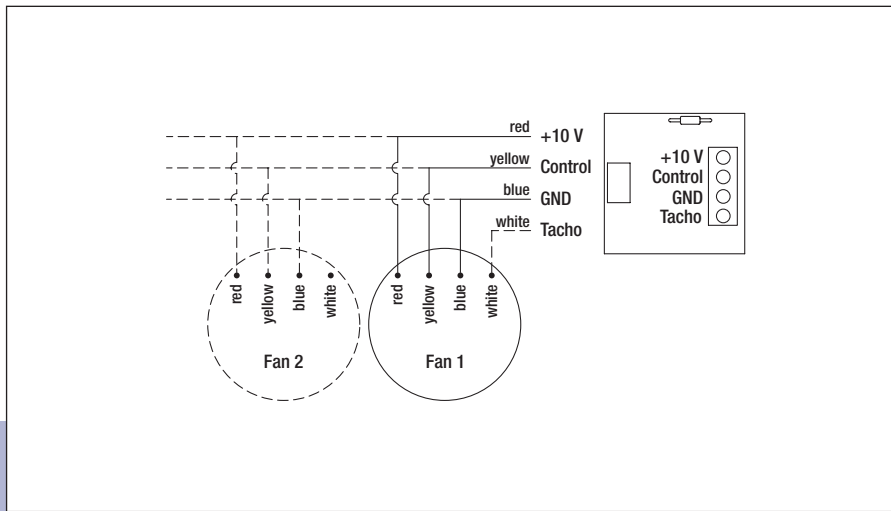


- **Speed measurement:** Connect a frequency meter to the connection points (labelled + and -) on the PCB board. The fan has an output of 1 pulse per revolution, so that the measured frequency can be converted into rpm using the following equation:

$$\text{rpm} = \text{frequency (Hz)} \times 60$$

- **Comment:**
 - A single controller can be used to control multiple fans with the same speed setting.
 - The connection to the controller is made using four screw connections or one Molex connection (adaptor lead available).
 - If the tach cable is required, this device can only be connected to one fan. Note that in rare operating cases, it is possible that permanent connection of the tach cable can cause a slight decrease in the maximum speed.

- Electr. connection:



Speed setting device

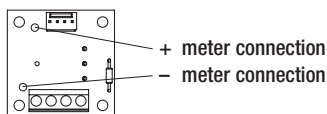
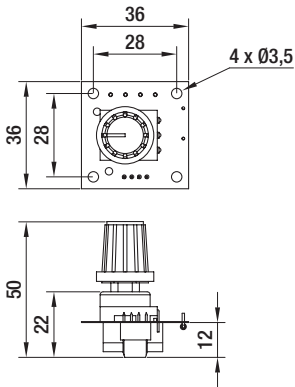
without housing



- **Design:** The speed setting device can be operated with the entire range of ebm-papst EC fans. It is supplied with current via the fan's DC output and supplies a 0-10 V signal that allows infinitely variable open loop speed control. The control also permits fan speed measurement using a multimeter equipped with a frequency meter (for which a tach output is given from the fan).
- **Mounting hole:** 10 mm

| Nominal data | Supply voltage | Max. current draw | Resistance | Perm. amb. temp. | Mass |
|------------------|----------------|-------------------|------------|------------------|------|
| Type | VDC | mA | kΩ | °C | kg |
| CLC 000-AD04 -01 | 10 | 1.1 | 0-10 Lin | 50 | 0.05 |

subject to alterations



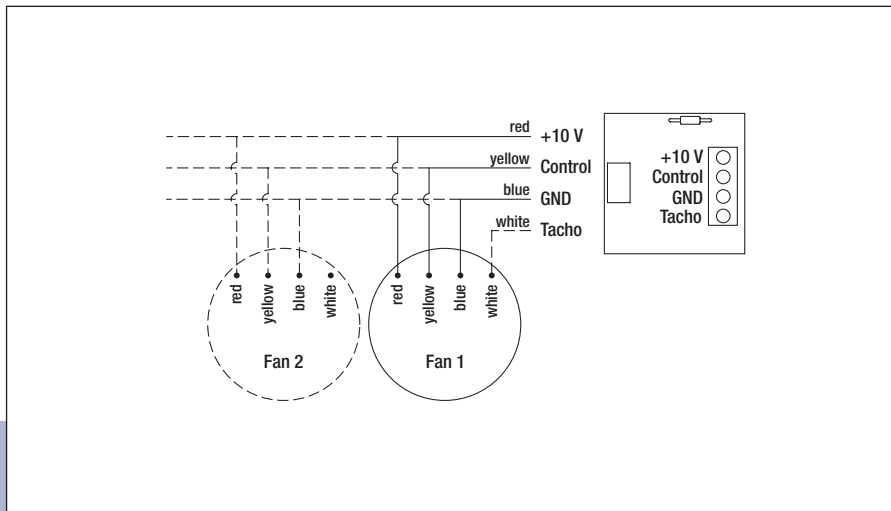
- **Speed measurement:** Connect a frequency meter to the connection points (labelled + and -) on the PCB board. The fan has an output of 1 pulse per revolution, so that the measured frequency can be converted into rpm using the following equation:

$$\text{rpm} = \text{frequency (Hz)} \times 60$$

- **Comment:**

- A single controller can be used to control multiple fans with the same speed setting.
- The connection to the controller is made using four screw connections or one Molex connection (adaptor lead available).
- If the tach cable is required, this device can only be connected to one fan. Note that in rare operating cases, it is possible that permanent connection of the tach cable can cause a slight decrease in the maximum speed.

- Electr. connection:



LISA

Control software for EC-SYSTEMS

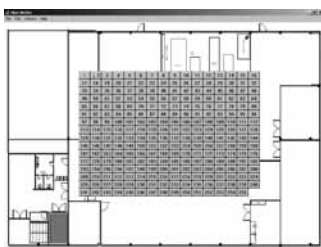


- **Version:** LISA 5.1
- **Features:**
 - Individual control and monitoring of 7,905 fans
 - Group-oriented arrangement of the fans
 - Level 1: Overview display for 10 floors
 - Level 2: Overview display for 255 groups within a floor
 - Level 3: Overview display for 31 fans within a group
 - Broadcast command for one group or all fans
 - Speed, temperature or pressure control
 - Error message

Part no.

25711-2-0199

subject to alterations



- **Suitable for:** EC motors and electronics with ebmBUS
- **System requirements:** Windows 2000 / XP

Fan Control

Control software & accessories for Pocket PCs / PDAs

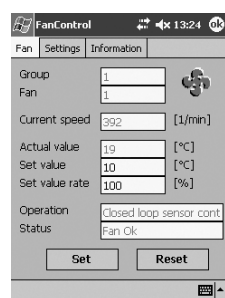


- **Version:** Fan Control 1.00
- **Features:**
 - Managing up to 31 fans
 - Setting pre-set values and indicating actual values
 - Setting parameters for PID control
 - Setting fan address
 - Setting mode of operation (heating/cooling)
 - Alarm diagnosis
 - Language selection for user interface

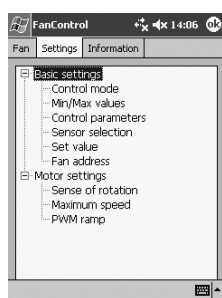
Part no.

21500-1-0174

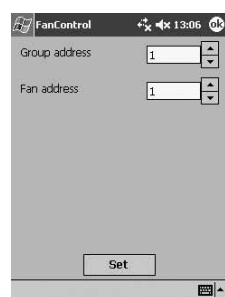
subject to alterations



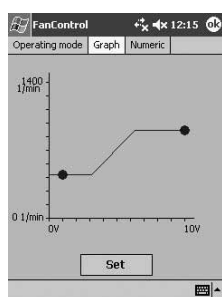
Set and actual values



Mode of operation



Fan address



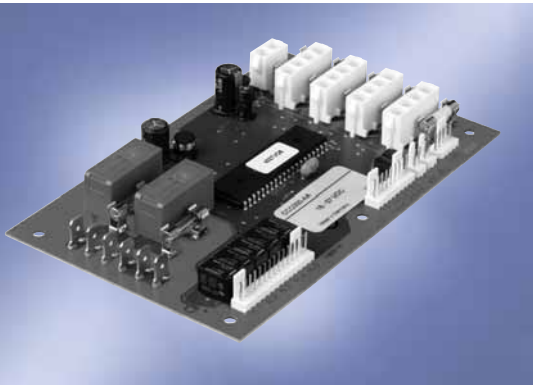
Graphic setting

- **Delivery scope:** Installation-CD, interface converter (RS232-RS485), BUS cable, installation instruction and detailed manual (PDF). The Pocket PC / PDA and compatible serial communication cables are not included in the scope of delivery.
- **Suitable for:** EC motors and electronics with ebmBUS
- **System requirements:** Pocket PC / PDA with Windows Mobile 5.0, RS232 interface, and serial communication cable.
- **Compatible Pocket PCs / PDAs:** (as of 2006-09-14)

- Hewlett-Packard rx1950
- Hewlett-Packard hx2190
- Fujitsu-Siemens Pocket Loox C550
- Dell Axim x51v (624 MHz)

Refer to our website at www.ebmpapst.com/downloads for a continuously updated list of approved Pocket PCs / PDAs along with the suitable serial communication cables.

HMS controller



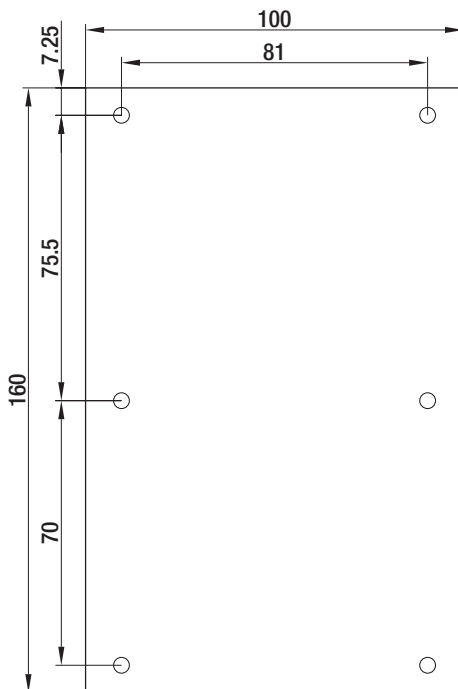
- **General remarks:** The HMS controller is governed by a microprocessor and is specifically designed for Heat Management Systems (= HMS). This controller allows for an almost limitless programming variety as regards customer-specific fan speed / temperature profiles. Moreover, this controller offers a multitude of the most diverse alarm configurations.

Our HMS controller has been specially designed and adjusted to the product range of ebm-papst in Mulfingen. Thus, any size of our fans or blowers can be used. The most diverse of applications needing temperature-dependent control are possible. Among these are applications in telecommunication and the IT industry, in refrigeration and air-conditioning as well as in specific industrial plants and systems.

| Nominal data | Supply voltage | Power input ⁽¹⁾ , max. | Power input ⁽²⁾ , max. | Current draw ⁽¹⁾ max. | Perm. amb. temp. | Mass |
|------------------|----------------|-----------------------------------|-----------------------------------|----------------------------------|------------------|------|
| Type | VDC | W | W | A | °C | kg |
| CCC 000-AA05 -03 | 16-57 | 10 | 130 | 0.175 | -40 to +70 | 0.15 |

subject to alterations

(1) without fans (2) per fan at nominal voltage



Features:

- 4 fan speed / temperature characteristics that can be programmed independently of each other
- 2 programmable no-frost relays for connecting 115 / 230 VAC heating devices
- 5 programmable alarm relays (with time lag):
 - Temperature alarm (over / under-temperature)
 - Fan good / bad alarm programming
 - Temperature sensor alarm
 - Programmable depending on signal inputs
- 4 programmable status outputs (with time lag):
 - With "open collector" design to connect optical or acoustic displays / alarms
 - Each fan speed can be set individually
- 4 signal inputs for external switches / limit switches
- Connection of two independent temperature sensors (NTCs) possible
- RS232 interface galvanic insulated
- Selective protection of each fan
- Programming via Windows software (terminal program version 15 ff.: part no. 25710-2-0199)

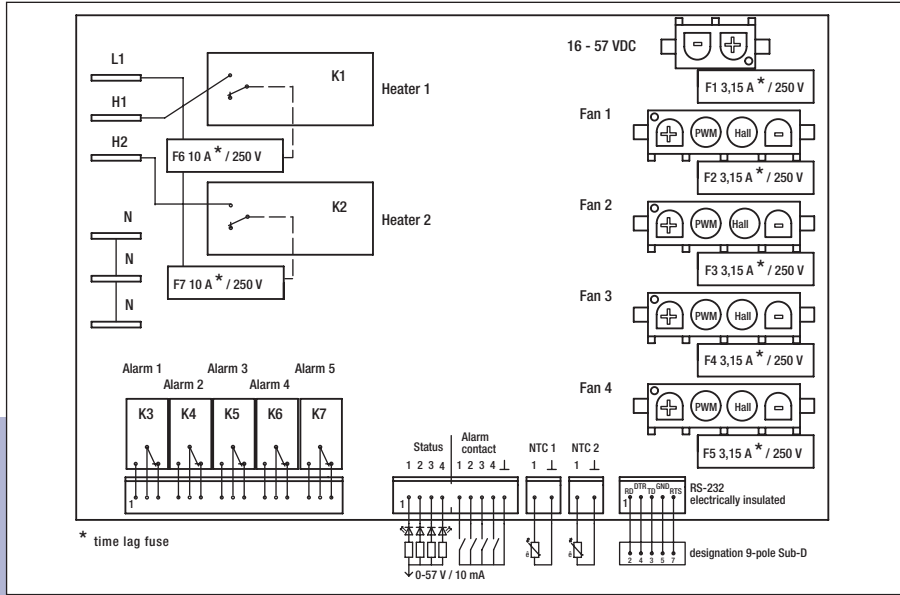
Requirements:

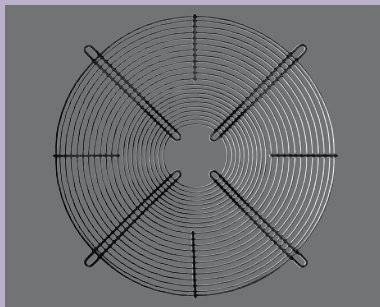
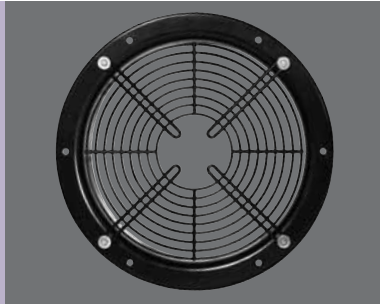
- Supply voltage of HMS controller: 16-57 VDC
- Fans with standard interface
 - 24 / 48 VDC fan voltage
 - PWM / linear control input (0-10 V)
 - Open collector tach output
- NTC with $R_{25} = 33 \text{ k}\Omega$ (EPCOS type M 891/33k/J)
- System requirements: Windows 2000 / XP

Safety:

According to EN 50178

- **EMC / EMI:** Interference immunity EN 61000, interference emission EN 50081-1





Mouser Electronics

Authorized Distributor

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[ebm-papst:](#)

[CBC000-AB06-01](#) [21487-1-0174](#)



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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