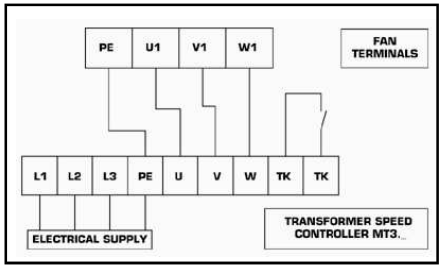
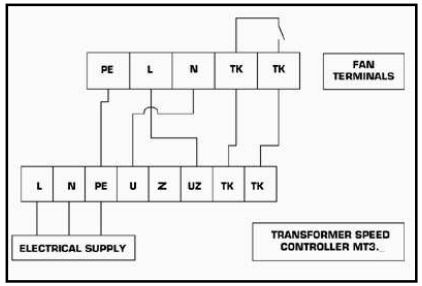
Wiring Diagrams

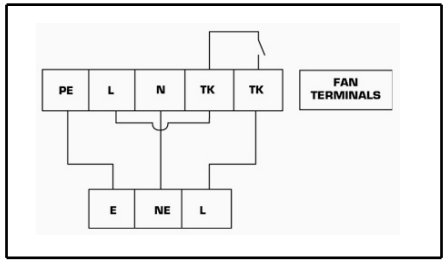
Three phase CMA/CMP fan wiring diagram for MT3._ controllers



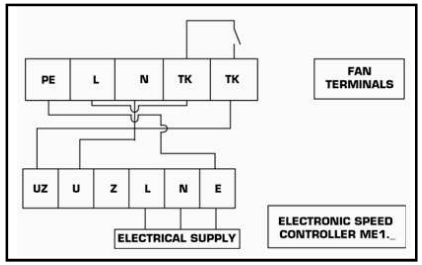
Single phase CMA/CMP fan wiring diagram for MT1._ controllers



Single phase CMA/CMP fan wiring diagram Integral overheat protection



Single phase CMA/CMP fan wiring diagram Integral overheat protection in series with Speed Controller



Guarantee

In the event of any goods supplied by the Company being found to be defective the Company shall, subject as hereinafter provided, be responsible only for the repair or (at its discretion) replacement of the goods 'free of charge' for labour and materials. All other claims (including claims for consequential loss but excluding other claims for death or personal injury) relating to any express or implied warranties as to merchantable quality and fitness for purpose of the goods shall be excluded. The liability of the Company hereunder shall cease after expiry of 12 months from the date of delivery and shall in any event only arise on condition that:

a) The goods shall not have been overloaded nor had any improper use made of them.
b) The goods shall have been installed in accordance with the wiring and installation instructions provided and the Company shall been given access to verify the same.
c) The correct electrical supply specified shall have been used.
d) No unauthorised repairs shall have been made to the goods.
e) The goods shall have been returned, carriage paid, to its appointed distributor.

Manufacturer service address
Our products are manufactured in compliance with applicable international standards and regulations.

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FläktWoods
In Partnership With
ebmpapst

Compac Plate-mounted & cased axial fans
Installation and Maintenance Instructions

Safety information

- Installation, commissioning and electrical installation are only to be performed by trained service personnel and in accordance with the latest IEE regulations.
- Check that the details given on the fan data plate agree with the supply voltage and frequency. Only operate within these ranges.
- Designer, manufacturers or operators are responsible for proper and safe installation as well as for safe operation.
- Safety features, e.g. guard grilles, are not to be dismantled, circumvented or made inoperative.
- Allowable testing voltage for thermistors max. 2.5v.
- It is imperative that a motor cut-out switch should be employed.

Operating conditions

- Do not operate the fan in an explosive atmosphere.
- Switching frequency:
  - The fan is rated for S1 continuous operation.
  - Controls must not allow extreme switching operation.
- All products are high voltage tested more than once during manufacture.
- Additional high voltage testing is not recommended as it will cause permanent damage to the insulation and may lead to reduced

Transport, storage

- Fans and motors are packaged at the factory to comply with requirements for the agreed mode of transport.
- Transport the fan(s) either in the original packaging or using the transport fixtures provided (housing flange, mounting brackets, bored holes in the motor housing to screw in lifting eye bolts). Use suitable lifting equipment.
- Do not lift the fan by the connecting cable or fan impeller.
- When transporting manually, please refer to EC guidelines for recommended maximum weight.
- Avoid excessive vibration and shockloads.
- Watch out for any damage to the packaging or the fan.
- Store the fan in the original packaging in a dry area protected from the weather or protect it from dirt and weather until final installation.
- Avoid exposure to extreme heat and cold.
- Avoid excessive storage periods (we recommend a one year max.) and inspect the motor bearings for proper operation prior to installation

Installation

Installation, electrical connection and commissioning are only to be performed by trained service personnel. Adhere to all machinery-related requirements and specifications supplied by the system manufacturer or machine builder. Failure to comply will invalidate the guarantee on our fans and accessories.

- The following applies for all fans:
  - Do not install without adequate support.
  - Flange and mounting bracket must be fixed flat on a level surface.
  - Do not apply force (levering, bending).
  - Ensure that the clearance (gap) between the fan impeller and the stationery housing section is constant.
  - Secure all connection points with a suitable fastener.
  - Secure bolted connections with a locking compound.
  - If the motors are mounted with the shaft in the vertical position, the condensation drain holes, where fitted, underneath the shaft must be open.
- The following applies for all motors/fans with terminal boxes:
  - Do not use metal compression-gland fittings with plastic terminal boxes.
  - Use a dummy plug seal for the compression-gland fitting as well.
  - For operation under extreme conditions (damp operating environment, open-air installation) use pre-installed sealing elements.
  - Depending on the type of cable gland, attach a water drain sleeve or use a sealing compound.
  - Secure fan connection cable to the contact protection grille, the motor struts or the rear wall of the housing with cable fasteners.

PN: 210-OMI0010-40

Installation cont'd

- Wiring detail
  - A means for disconnection in all poles must be incorporated into the fixed wiring in accordance with electrical regulations.
  - Motor thermal protection MUST be used to validate the guarantee.
  - A manual reset thermal motor protection device must be used for fans ducted in applications.
  - A suitable motor circuit breaker (MCB) must be incorporated, the rating of which should be appropriate to the individual fans used.
- All ebm-papst plate & cased axial fans have thermal contact connection leads brought out of the motor. These OPEN the circuit when the motor overloads. They are wired to a terminal strip and are marked TK. These must be connected to a suitable motor protection device.
- For control equipment refer to and follow the safety instructions supplied with the equipment.

Operation

- Before initial operation, check the following:
  - Installation and electrical connection have been properly completed.
  - Safety equipment is in place (Contact protection).
  - All left over installation materials and other foreign materials have been removed from the fan cavity.
  - Protective conductor has been connected.
  - Temperature monitor motor cut-out switch has been properly installed and is operational.
  - Cable glands, where fitted, are sealed (see 'Installation').
  - Installation position and ensure the condensation drain holes, if fitted, are positioned correctly to allow condensation to drain from the motor.
  - Connection data complies with the specifications on the type plate.
  - Motor operating capacitor data complies with the specifications on the type plate.

It is important to ensure the correct direction of rotation. Some products cannot be operated in reverse without damaging the motor. If you are unsure, please consult the relevant catalogue.

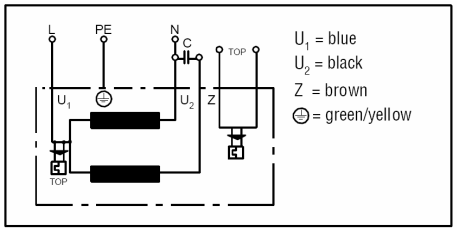
Maintenance, service

The following points must be observed when performing any maintenance or service operation:

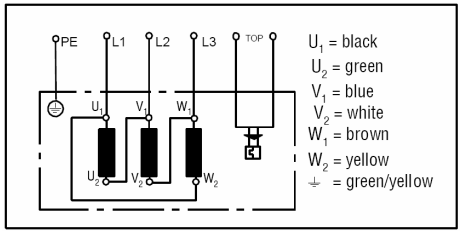
- Fan impeller has come to a standstill.
- Power supply interrupted and secured against restoration.
- Observe personnel safety regulations.

- Keep fan way open; use a cleaning brush as necessary:
  - Regular cleaning helps prevent motor imbalance.
  - Under no circumstances is a high-pressure cleaner ('steam jet') to be employed.
- **Do not bend fan blades.**
- Take note of abnormal operating noise.
- All motors are fitted with 'Sealed for Life' ball bearings or pre-lubricated sleeve bearings which require no attention.

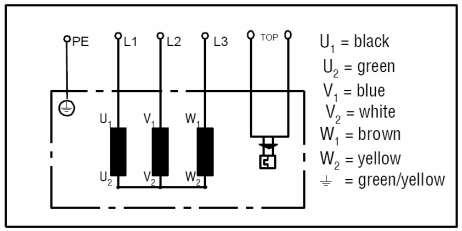
Wiring Diagrams
CMA/CMP Single Phase



CMA/CMP Three Phase
Delta Connection



CMA/CMP Three Phase
Star Connection

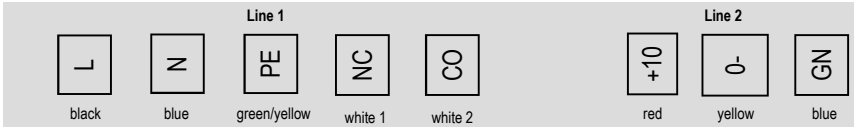


Compac EC Single phase
74 motor

Line	Signal	Colour	Assignment/Function
1	L	black	Mains 50/60 Hz, phase
	N	blue	Mains 50/60 Hz, neutral
	PE	green/yellow	Protective earth

Line	Signal	Colour	Assignment/ Function
2	+10V	red	Voltage output +10V max. 1,1 mA
	0-10V/PWM	yellow	Control input (impedence 100 kΩ)
	GND	blue	GND
	Tacho	white	Tacho output: 1 pulse per revolution

Single Phase
84 motor



Line	Signal	Colour	Assignment/Function
1	L	black	Mains 50/60 Hz, phase
	N	blue	Mains 50/60 Hz, neutral
	PE	green/yellow	Protective earth
	NC	white 1	Alarm relay, break for failure
	COM	white 2	Alarm relay, COMMON

Line	Signal	Colour	Assignment/ Function
2	+10V	red	Voltage output +10V max. 1,1 mA
	0-10V/PWM	yellow	Control input (impedence 100 kΩ)
	GND	blue	GND

Three Phase
112 motor

Connector	Signal	Assignment/Function
PE	PE	Protective earth
KL1	L3	Mains; L3
	L2	Mains; L2
	L1	Mains; L1
KL2	NC	Alarm relay, break for failure
	COM	Alarm relay, COMMON (2A, 250 VAC, AC1)
	NO	Alarm relay, make for failure

Connector	Signal	Assignment/ Function
KL3	OUT	Master output 0-10V max. 3mA
	GND	GND
	0-10V/PWM	Control/Actual value input (impedance 100kΩ)
	+10V	Supply for external potentiometer, 10VDC (+10%) @ 10mA
	+20V	Supply for external sensor , 20 VDC (+20%) @ 50mA
	4-20 mA	Control/actual value input
	0-10V/PWM	Control/actual value input
	GND	GND
	RSB	RS485 interface for ebmBUS; RS B
	RSA	RS485 interface for ebmBUS; RS A
	RSB	RS485 interface for ebmBUS; RS B
	RSA	RS485 interface for ebmBUS; RS A