



# QUICK START GUIDE

**SIGRIST  
DESIGN** PTY. LTD.

*Sigrist Design is an Australian owned and operated company, specialising in the design and manufacture of industrial and commercial fans, ventilation and dust collection solutions. With over 30 years of experience, our HVAC expertise has been earned by delivering over 25,000 engineered projects.*

Our products are designed and manufactured in our state-of-the-art facilities in Queensland for industrial, commercial, building and construction markets.



The information presented in this guide is accurate at the time of publishing.

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# QUICK START GUIDE

## DELIVERY

Fans should be inspected on delivery to ensure no damage was sustained during transit and that the quantity and type of parts are correct. If any discrepancies are apparent or goods are found to be damaged, contact your Sigrist Design sales representative immediately.

## STORAGE

If a fan or other products are not installed immediately after delivery, the goods must be stored in a clean and dry environment. Failing to meet these conditions may void the product's warranty.

## SAFETY

Rotating fans are dangerous and pose a serious risk to safety if precautions are not undertaken. It is the responsibility of those undertaking work to ensure the safety of those involved. The following safety tips are recommended as a starting guide to staying safe when maintaining or inspecting fans.

1. The fan should be electrically isolated before maintenance work is started.
2. Ensure the blades of the fan are not rotating.
3. Install each fan in an easy access location so that there is minimal obstruction to remove or open the fan.
4. Ensure workers are fully qualified to undertake inspection and/or maintenance work.
5. All fasteners should be regularly checked to ensure tightness.

## START UP

Before starting up the fan, ensure the blades are clean and free from debris and all fasteners are tight. Once the fan is started, the impeller should rotate in the direction of the arrows on the side of the fan casing (if applicable). If the blades are rotating in the opposite direction, the fan may have been wired incorrectly. If so, refer to the fan's wiring diagram on page 6.

Air should be moving in the direction of the arrow on the side of the fan casing (if applicable). If the air is moving in the opposite direction, the fan may have been wired incorrectly. If so, refer to the fan's wiring diagram on page 6.

If a fan which contains a backwards curved centrifugal impeller sounds excessively loud on start up with the air moving in the correct direction, the rotor would be running backwards. In such case, refer to the respective wiring diagram on page 6.

## MAINTENANCE

After installation, each fan should be inspected after three months to ensure all fasteners are tight and the blades are clean. Following this, fans are to be inspected at regular intervals no longer than six months apart. It may be required to undertake inspection at shorter intervals depending on the environment or air flow conditions.

Belt driven fans should have the pulley alignment and belt tension inspected before start-up. These should be inspected again, and the belt tightened within the first month of operation.

## SOUND LEVELS

Technical data provided for each fan lists the sound levels in hypothetical free field conditions. This is where the fan is not surrounded by any walls or obstructions and sound propagates spherically outwards.

It is important to note that the perceived sound level on site will be louder than that specified in the technical data. This is because the surrounding environment to the fan significantly affects the way the sound is propagated. Factors that affect sound levels may include the fan's proximity to a wall, corner, obstruction or another fan, the reflectivity of the material of the walls nearby, the distance between the observer and the fan as well as the angle between the fan's direction and the observer.

The operating point of the fan can also cause higher than expected sound levels or tonality. Ideally each fan should be performing as close to the point of maximum efficiency for most of its operation. Performing to the left side of the fan performance curve increases the low frequency spectrum of sound giving a perceived "rumble". Operating to the right side of the fan curve increases mid to high frequency noise.

## TERMS AND CONDITIONS OF TRADE

For a full list of terms and conditions of trade, [click here](#)

### TERMS AND CONDITIONS

## WARRANTY

For full warranty details, [click here:](#)

### WARRANTY DETAILS

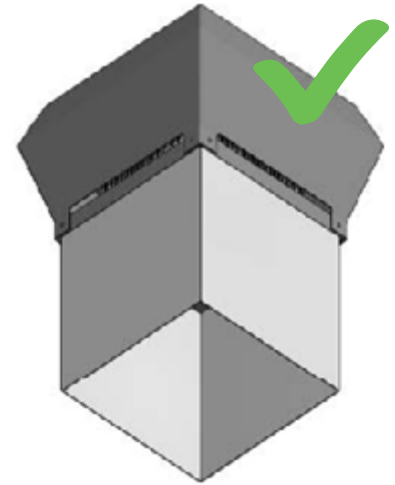
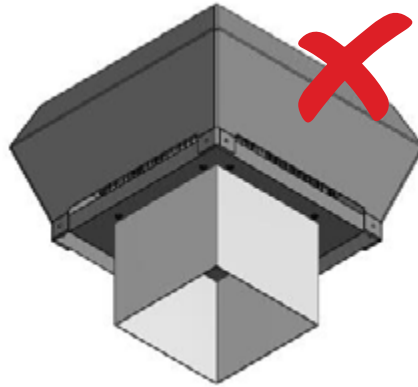
# INSTALLATION

## MOUNTING

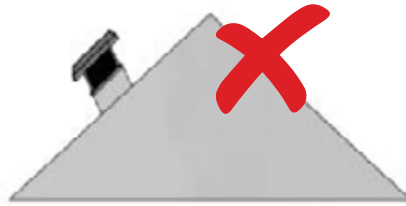
Always lift the fan using lifting lugs if available. Alternatively, lift the fan via the base or motor support plate.

### ROOF MOUNTED FANS

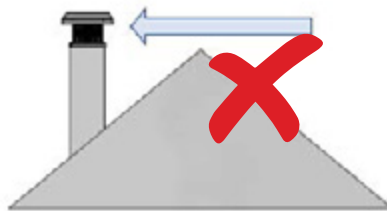
1. Maximise the upstand area to allow for the most air into the fan.



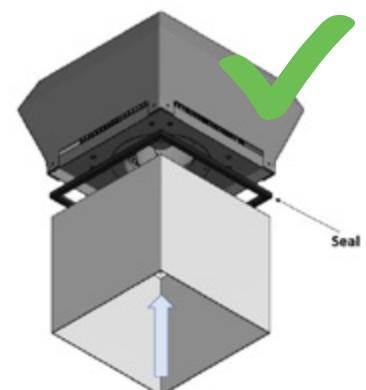
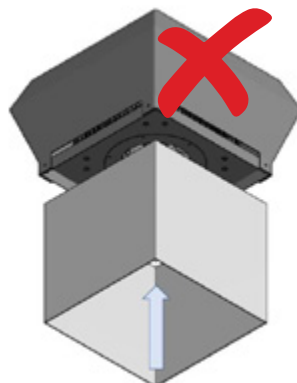
2. Ductwork should run perpendicular to the ground such that the base of the fan is level.



3. The fan's position should be such as to avoid exposure to cross winds. A fan below the roof peak will experience less cross wind and consequent back-pressure effects.

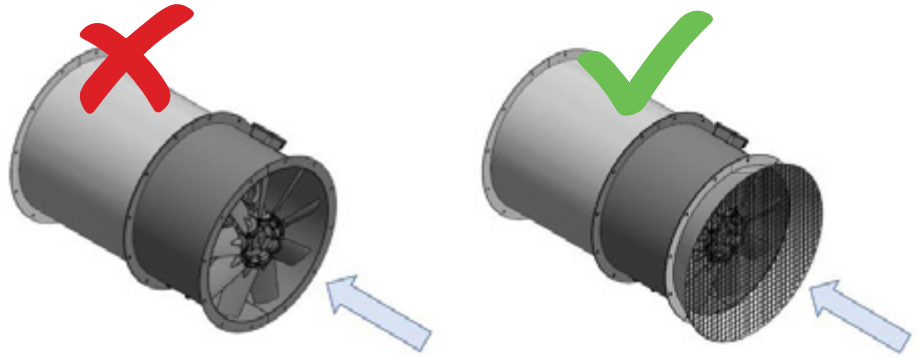


4. A foam sealant strip should be used between the curbs and fan base to seal the airflow. Failing to do so can cause air recirculation, air recirculation will cause the fan to be less efficient at exhausting air. Note: The fan mounting to the duct/upstand must be squarely fitted, without deformation or warping of either the fan housing or duct/upstand.

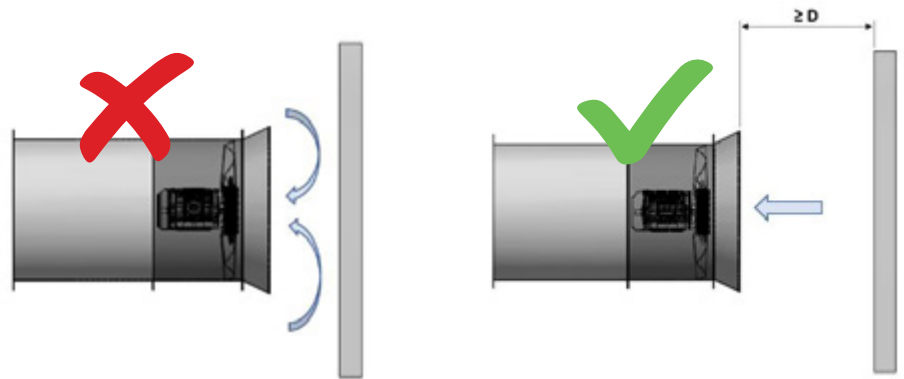


## INLINE FANS

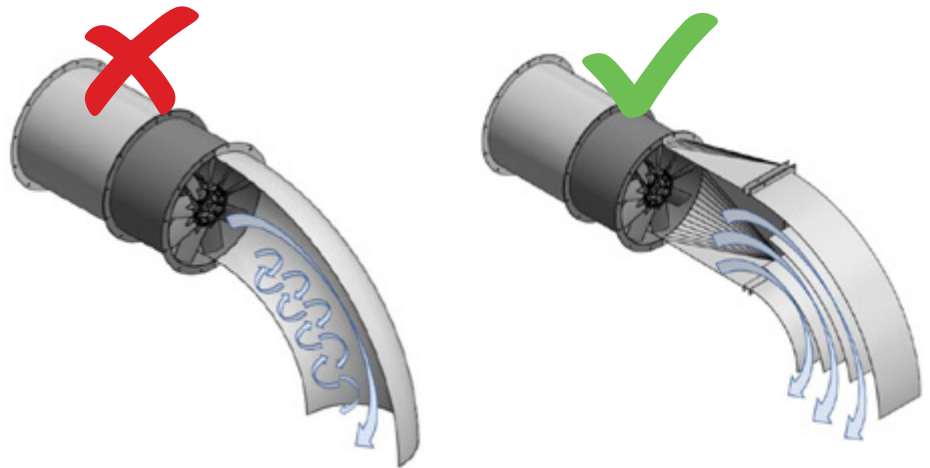
1. Cones should be fitted to inline fans that have a free inlet to improve the fan's efficiency.



2. A minimum of a one diameter spacing between the fan inlet/outlet and the wall or obstruction should be used to maintain good airflow in/out of the inline fan.



3. Square-to-round transitions and turning vanes in elbows assists uniform airflow; this is a compromise only and by no means ideal.







# WIRING

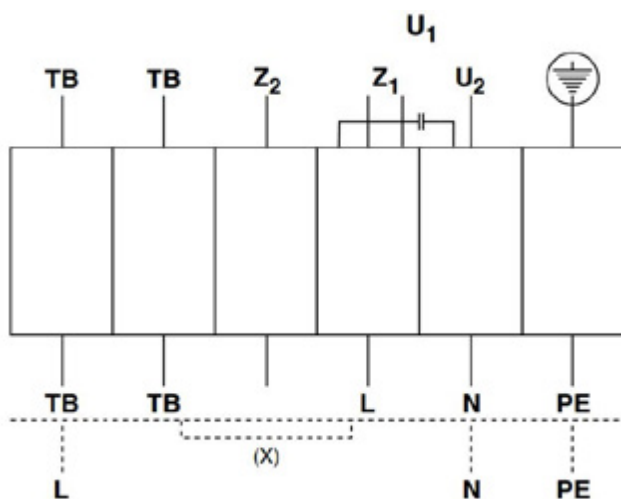
The following table shows a list of wiring diagrams for each product series. Check the wiring diagram supplied with the motor.

PRODUCT SERIES	WIRING DIAGRAM/S
DA-M Roof Axial Exhaust	SDD3/4
DC-FT-146 Roof Centrifugal Exhaust/Supply	SDD5
DC-R Roof Centrifugal Exhaust	SDD1/2/7/8
FASU Wall Centrifugal Supply	SDD5
IA-Q Inline Axial	SDD6
IC-R Inline Centrifugal	SDD1/2/7/8
PA-EQ Plate Axial	SDD1
RC-R Inline Centrifugal	SDD1/2/7/8
SA-M Roof Axial Supply	SDD3/4
SC-R Roof Centrifugal Supply	SDD1/2/7/8
TA-M Inline Axial	SDD3/4
VC-R Roof Centrifugal Exhaust	SDD1/2/7/8

\*Table above contains the most popular Product Series, refer to [sigristdesign.com.au](http://sigristdesign.com.au) for full fan ranges and product datasheets.

## SDD1

Single phase, single speed motor.

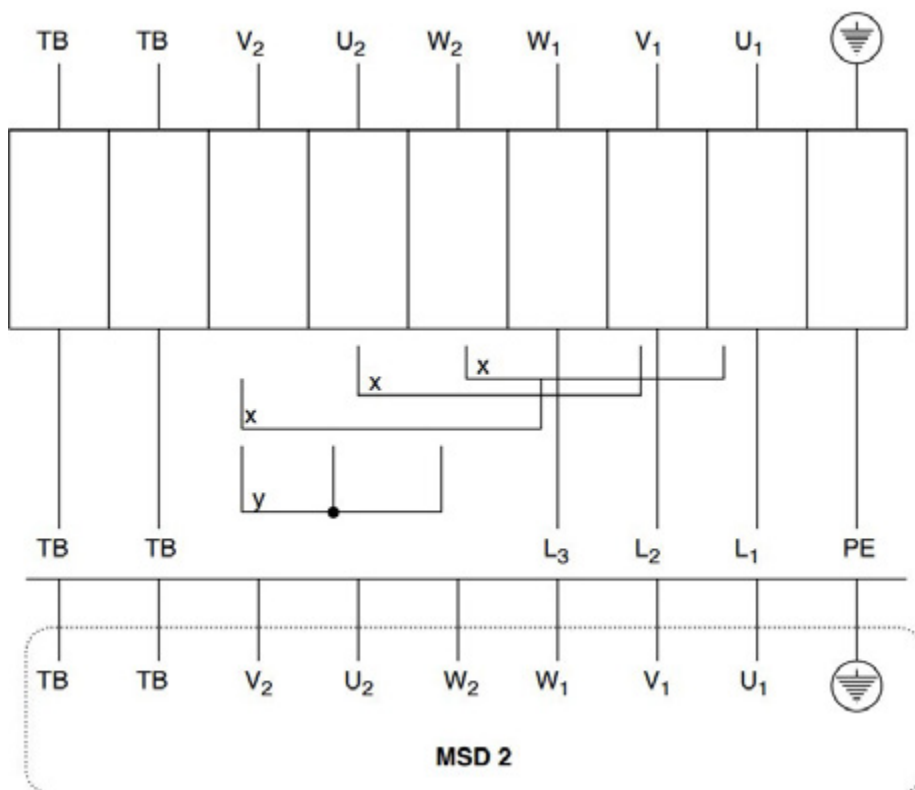


Single phase A.C. motor with operating capacitor and thermostatic switch. Thermostatic switch wired in series with windings if RE controllers are used. Insert bridge (x) and wiring connections shown as dash-line on the drawing

- U<sub>1</sub>**: Brown
- V<sub>1</sub>**: Blue
- Z<sub>1</sub>**: Black
- Z<sub>2</sub>**: Orange
- TB**: White
- PE**: Yellow - Green

## SDD2

Three phase, two speed motor.

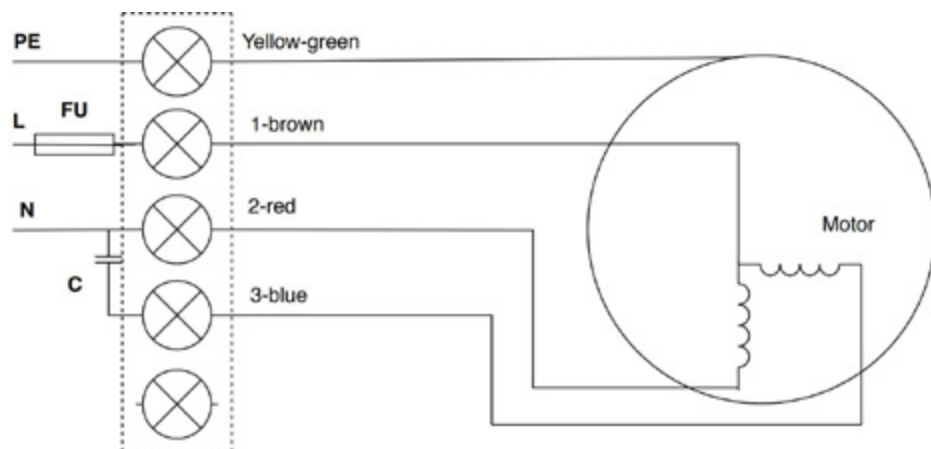


Three phase motor with 2 speeds and thermostatic switch (TB). Speed changing by Y switching. Changing of rotation direction by interchanging of 2 phases. If MSD 2 2-step switching units are used do not insert bridge and connect dotted lines in the wiring diagram to the switching unit.

- U<sub>1</sub>:** Brown
- V<sub>1</sub>:** Blue
- W<sub>1</sub>:** Black
- U<sub>2</sub>:** Red
- V<sub>2</sub>:** Grey
- W<sub>2</sub>:** Orange
- TB:** White
- PE:** Yellow - Green
- x:** Bridge for high speed
- y:** Bridge for low speed

## SDD3

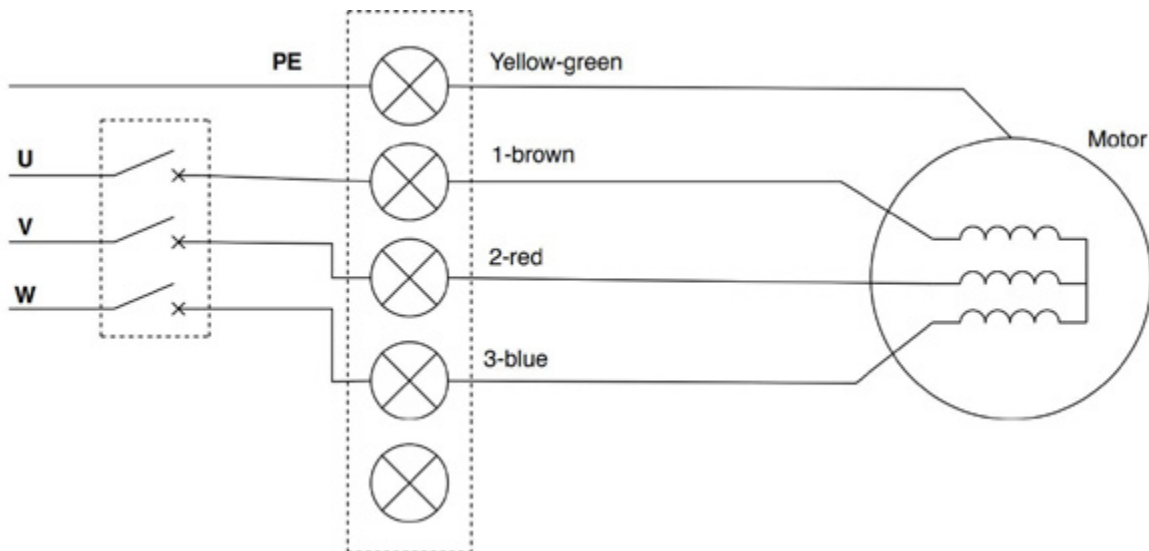
Single phase, single speed motor.





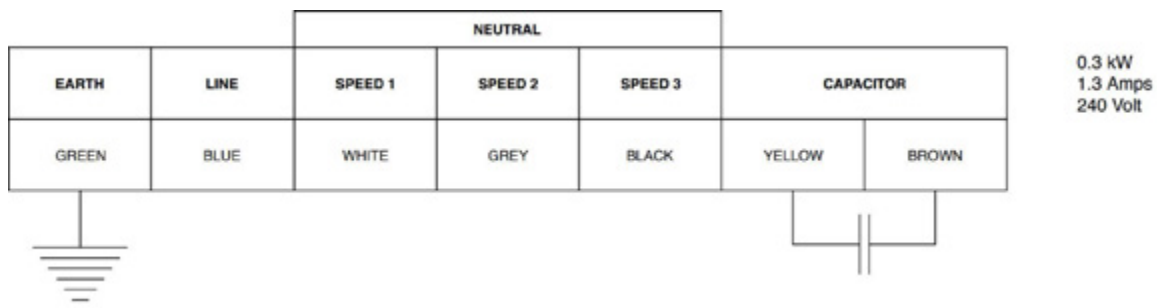
## SDD4

Three phase, single speed motor.



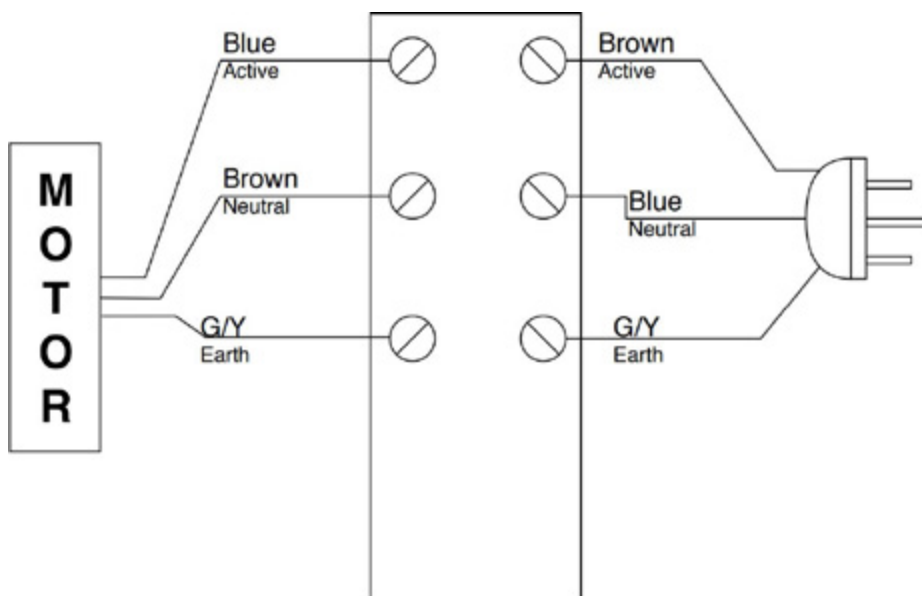
## SDD5

Single phase, three speed motor.



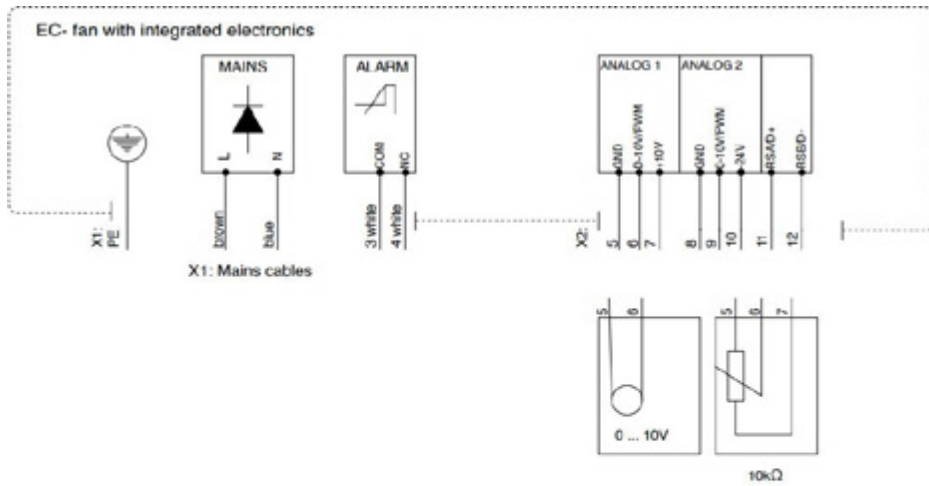
## SDD6

Single phase, single speed motor.



# SDD7

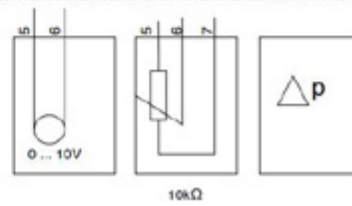
Single phase, EC motor.



- X2: Control cable
- 5: Brown
- 6: Black
- 7: Yellow
- 8: Blue
- 9: Green
- 10: Violet
- 11: Red
- 12: Orange

Operation mode  
a: Open loop control

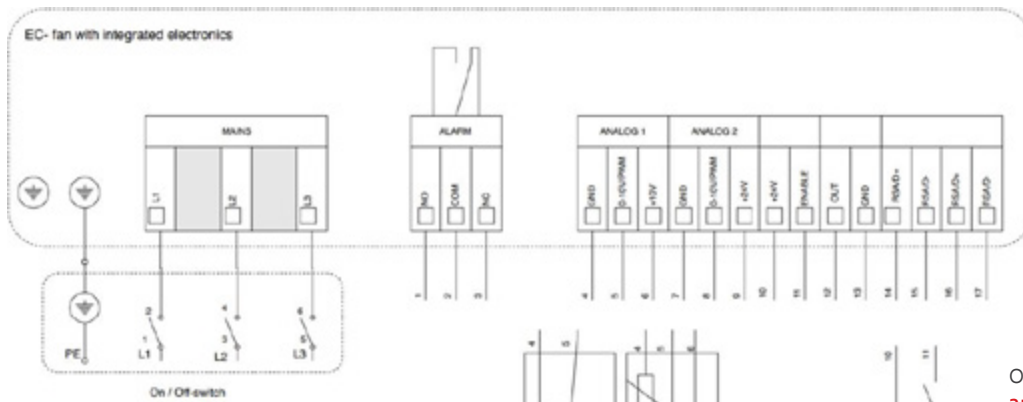
**i** Changing operation mode requires reconfiguration of motor parameters via RS-485 interface



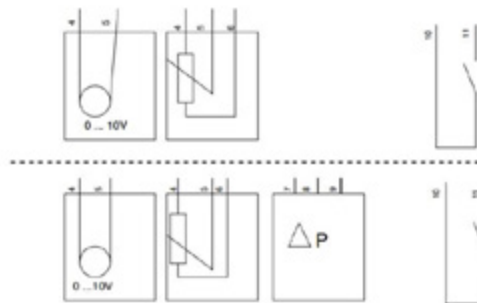
Operation mode  
b: Closed loop control

# SDD8

Three phase, EC motor.



**i** Changing operation mode requires re-configuration of motor parameters via RS-485 interface



Operation mode  
a: Open loop control

Operation mode  
a: Closed loop control



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