

BD-Blue 130 Wall Fans

Technical User Guide



Product and Documentation Changes

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The date of change appears from the front and back pages.

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1 Product description

BD-Blue 130 is a direct driven corrosion-free wall fan.

BD-Blue 130 is available with air controlled and motor controlled shutters.

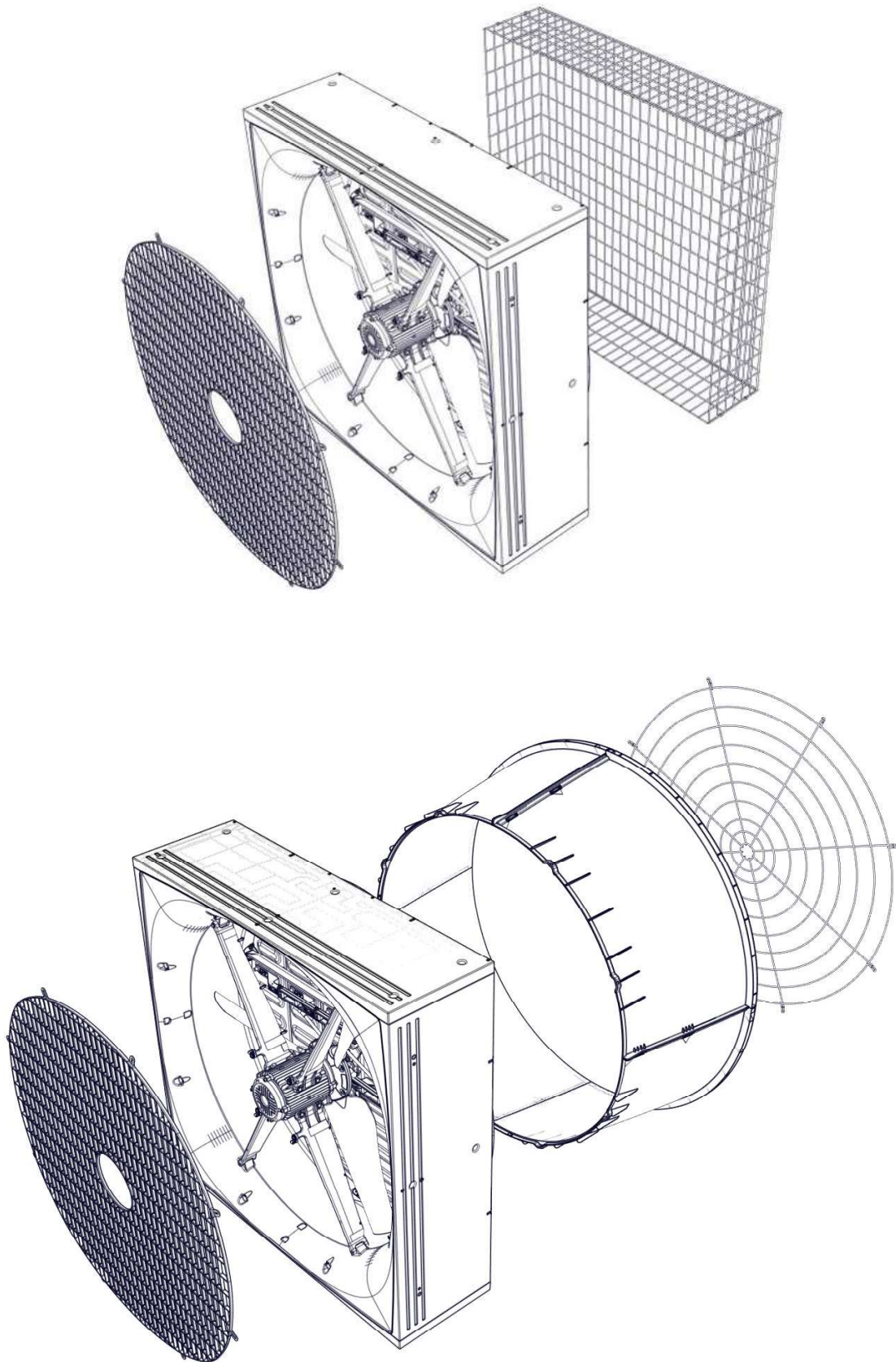
The fan is available in several different versions focusing on low power consumption, as well as standard versions.

BD-Blue 130 can be mounted using a cone for optimal air output and reduced power consumption.

BD-Blue 130 is specially designed for harsh livestock house environments. This applies to both climatic and electrical influences.



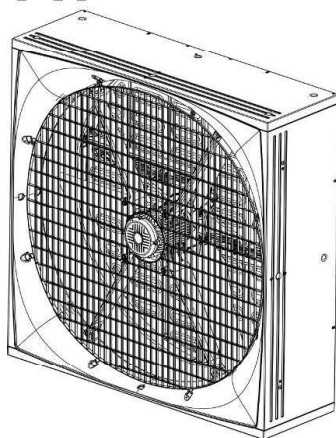
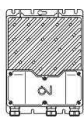
2 Product survey



2.1 BD-Blue 130 wall fans

2.1.1 Type key

Fan BD-Blue 130 C -7 DMS 400-3 50/60 3.1A 48900m3h T	
Wall Fan	Fan name BD-Blue
In cm	Fan size 130
With cone	Cone C
High flow Low energy	Fan characteristics -7 -6
Air controlled Motor controlled Variable 0-100% Variable 50-100%	Shutter type ON/OFF ON/OFF mot 0-100% DMS
3x400 V AC 3x230 V AC 1x230 V AC	Rated voltage 400-3 230-3 230-1
50 Hz and 60 Hz 50 Hz 60 Hz	Supply frequency 50/60 50 60
Power consumption	Power consumption x,xA
Air output	Air output xxxxxxm3h
Thermal cutout	Thermal cutout T



60-25-4566 Fan BD-Blue 130-6 DMS 230-1-50/60 6.5A 43800m3/h

Fan control method - variable ON/OFF.

60-25-4569 Fan BD-Blue 130-6 0-100% 230-1-50/60 6.5A 43800m3/h

Fan control method - stepless.

Safety net outside must be mounted to comply with CE marking, in countries where this is required.

LPC motor controller

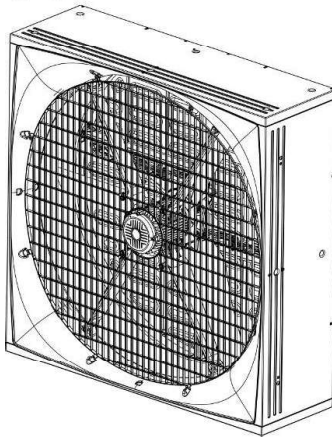
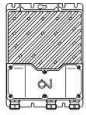
PM motor 1,5 kW.

0,7 m motor cable.

Is supplied assembled.

ErP 2015 approved.

60-25-4566 and 60-25-4569 should not be used for negative pressure higher than 80 Pa.



60-25-4562 Fan BD-Blue 130-7 DMS 400-3-50/60 3.1A 48900m³/h

60-25-4568 Fan BD-Blue 130-6 DMS 400-3-50/60 2.45A 44100m³/h

Fan control method - variable ON/OFF.

60-25-4560 Fan BD-Blue 130-7 0-100% 400-3-50/60 3.1A 48900m³/h

60-25-4571 Fan BD-Blue 130-6 0-100% 400-3-50/60 2.4A 44100m³/h

Fan control method - stepless.

Safety net outside must be mounted to comply with CE marking, in countries where this is required.

LPC motor controller

PM motor 1,5 kW.

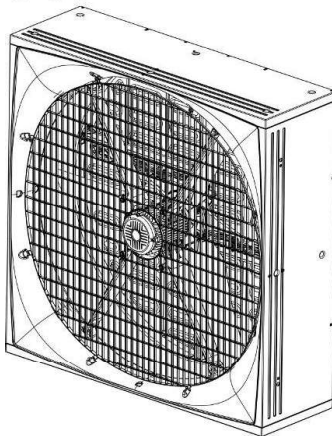
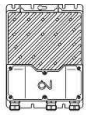
0,7 m motor cable.

Is supplied assembled.

ErP 2015 approved.

60-25-4562 and 60-25-4560 should not be used for negative pressure higher than 100 Pa.

60-25-4568 and 60-25-4571 should not be used for negative pressure higher than 80 Pa.



60-25-4567 Fan BD-Blue 130-6 DMS 230-3-50/60 3.8A 44000m³/h

Fan control method - variable ON/OFF.

60-25-4570 Fan BD-Blue 130-6 0-100% 230-3-50/60 3.8A 44000m³/h

Fan control method - stepless.

Safety net outside must be mounted to comply with CE marking, in countries where this is required.

LPC motor controller

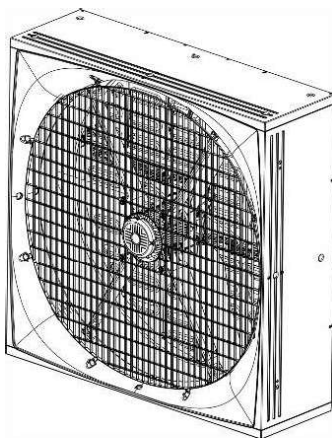
PM motor 1,5 kW.

0,7 m motor cable.

Is supplied assembled.

ErP 2015 approved.

60-25-4567 and 60-25-4570 should not be used for negative pressure higher than 80 Pa.



60-25-4577 Fan BD-Blue 130 ON/OFF mot 230-1-50 7.5A 41400m³/h

60-25-4578 Fan BD-Blue 130 ON/OFF mot 230-1-60 7.1A 40400m³/h

Fan control method - ON/OFF

Safety net outside must be mounted to comply with CE marking, in countries where this is required.

AC motor 1x230 V 1,2 kW.

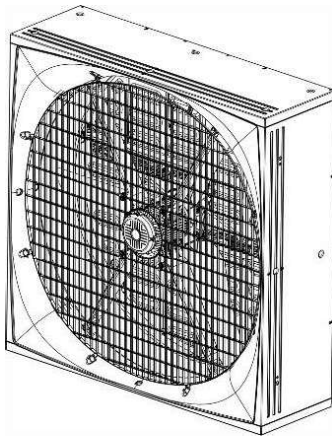
0,7 m motor cable.

Is supplied assembled.

ErP 2015 approved.

60-25-4577 should not be used for negative pressure higher than 80 Pa.

60-25-4578 should not be used for negative pressure higher than 100 Pa.



60-25-4580 Fan BD-Blue 130 ON/OFF mot 400-3-50 3.3A 43500m³/h

60-25-4581 Fan BD-Blue 130 ON/OFF mot 400-3-50 3.3A 43500m³/h T

Fan control method - ON/OFF

Safety net outside must be mounted to comply with CE marking, in countries where this is required.

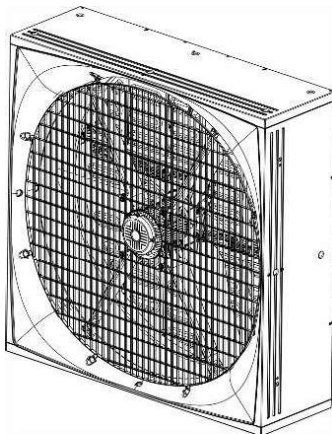
AC motor 3x400 V 1,2 kW.

0,7 m motor cable.

Is supplied assembled.

ErP 2015 approved.

60-25-4580 and 60-25-4581 should not be used for negative pressure higher than 80 Pa.



60-25-4579 Fan BD-Blue 130 ON/OFF mot 230-3-60 5.6A 42400m³/h

Fan control method - ON/OFF

Safety net outside must be mounted to comply with CE marking, in countries where this is required.

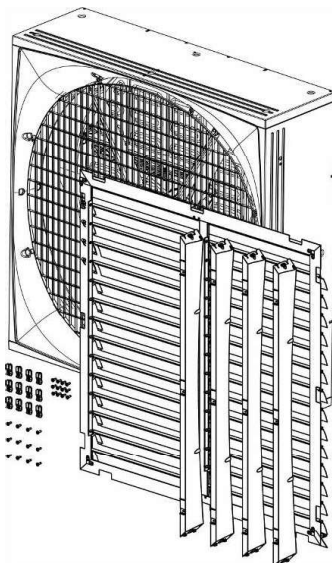
AC motor 3x230 V 1,2 kW.

0,7 m motor cable.

Is supplied assembled.

ErP 2015 approved.

60-25-4579 should not be used for negative pressure higher than 90 Pa.



60-25-4583 Fan BD-Blue 130 ON/OFF 230-1-50 7.5A 42300m³/h

60-25-4584 Fan BD-Blue 130 ON/OFF 230-1-60 7.1A 40600m³/h

Fan control method - ON/OFF

Safety net outside or motor controlled shutter must be mounted to comply with CE marking, in countries where this is required.

AC motor 1x230 V 1,2 kW.

0,7 m motor cable.

Is supplied assembled.

ErP 2015 approved.

The shutter system is supplied as knock down.

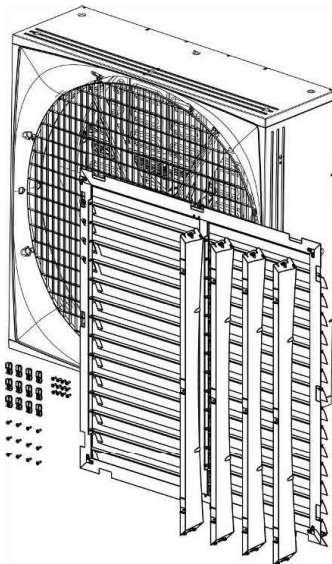
It is usually not recommended to use air controlled shutters due to lack of emergency ventilation ability, risk of heat drainage, lack of control of air volume, deleterious wind action etc.

In areas with outside temperatures above 45 °C, air controlled shutters must be mounted on the inside - alternatively, a cover must be established for direct sun exposure of the shutter.

Insulation plate or light trap cannot be immediately used if the air controlled shutter is mounted inside. If this solution is required, a frame for mounting insulation plate or light trap must be established. Such a frame is not supplied by Brand but must be produced locally.

60-25-4583 should not be used for negative pressure higher than 80 Pa.

60-25-4584 should not be used for negative pressure higher than 100 Pa.

**60-25-4586 Fan BD-Blue 130 ON/OFF 400-3-50 3.3A 45100m³/h****435441-02 Fan BD-Blue 130 ON/OFF 400-3-50 3.3A 45100m³/h T****60-25-4587 Fan BD-Blue 130 ON/OFF 400-3-60 3.3A 43200m³/h**

Fan control method - ON/OFF

Safety net outside or motor controlled shutter must be mounted to comply with CE marking, in countries where this is required.

AC motor 3x400 V 1,2 kW.

0,7 m motor cable.

Is supplied assembled.

ErP 2015 approved.

The shutter system is supplied as knock down.

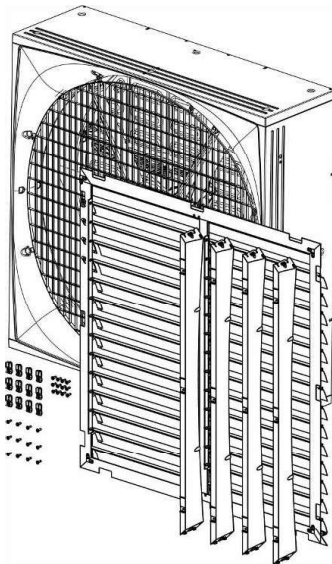
It is usually not recommended to use air controlled shutters due to lack of emergency ventilation ability, risk of heat drainage, lack of control of air volume, deleterious wind action etc.

In areas with outside temperatures above 45 °C, air controlled shutters must be mounted on the inside - alternatively, a cover must be established for direct sun exposure of the shutter.

Insulation plate or light trap cannot be immediately used if the air controlled shutter is mounted inside. If this solution is required, a frame for mounting insulation plate or light trap must be established. Such a frame is not supplied by Big Dutchman but must be produced locally.

60-25-4586 and 435441-02 should not be used for negative pressure higher than 80 Pa.

60-25-4587 should not be used for negative pressure higher than 100 Pa.

**60-25-4585 Fan BD-Blue 130 ON/OFF 230-3-60 5.6A 43300m³/h**

Fan control method - ON/OFF

Safety net outside or motor controlled shutter must be mounted to comply with CE marking, in countries where this is required.

AC motor 3x230 V 1,2 kW.

0,7 m motor cable.

Is supplied assembled.

ErP 2015 approved.

The shutter system is supplied as knock down.

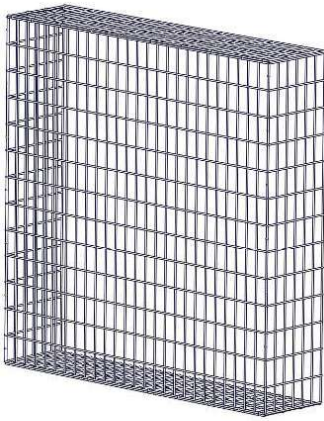
It is usually not recommended to use air controlled shutters due to lack of emergency ventilation ability, risk of heat drainage, lack of control of air volume, deleterious wind action etc.

In areas with outside temperatures above 45 °C, air controlled shutters must be mounted on the inside - alternatively, a cover must be established for direct sun exposure of the shutter.

Insulation plate or light trap cannot be immediately used if the air controlled shutter is mounted inside. If this solution is required, a frame for mounting insulation plate or light trap must be established. Such a frame is not supplied by Big Dutchman but must be produced locally.

60-25-4585 should not be used for negative pressure higher than 90 Pa.

2.2 Accessories



60-25-4459 BD-Blue 130 safety net outside wo/cone, A2

60-25-4458 BD-Blue 130 safety net outside wo/cone, galv

The outside safety net is used on BD-Blue 130 without cone where extra safety is required.

Supplied with mounting parts.

One for each fan.

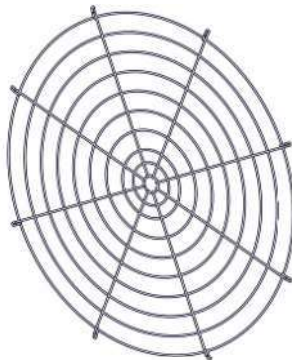


60-25-4457 BD-Blue 130 cone

The cone is used for ensuring better performance and energy efficiency.

Supplied with mounting parts.

1 per wall fan.

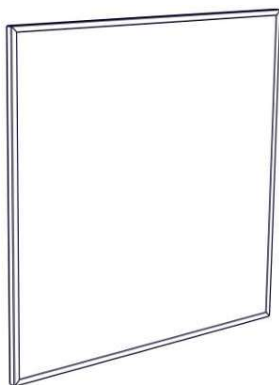


60-25-4460 BD-Blue 130 safety net outside for cone, A2

The outside safety net for cone is used where extra safety is required.

Supplied with mounting parts.

1 per wall fan.



60-21-1413 BD-Blue 130 insulation plate

The insulation plate is used for mounting on a BD-Blue 130 wall fan where extra insulation is necessary.

Used to avoid problems with condensation and cold air down draft, especially during the winter.

Insulation plates should always be used on all wall fans if dimensioned outside temperatures are below 0 °C.

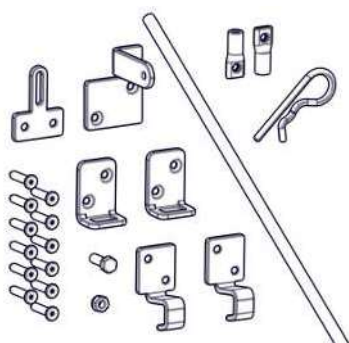
Insulation plate cannot be immediately used, if the air controlled shutter is mounted inside. If this solution is required, a frame for mounting insulation plate must be established. Such a frame is not supplied by Big Dutchman but must be produced locally.

The insulation plate is mounted and removed with only one handle.

H x W x D: 1380 x 1380 x 29 mm.

Includes various mounting parts.

1 per wall fan.



435442 50" shading kit for wall fan

The shading kit is used for light reduction when using insulation plate or another type of plate.

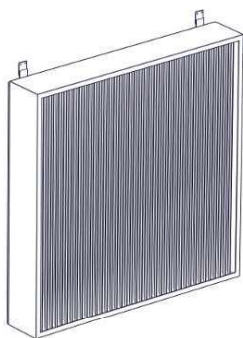
It reduces the light from outside.

The shading kit contains mounting parts for mounting on plate and wall fan.

At an angle of 60 degrees measured between the fan and plate, the air output will be reduced by approx. 5%

The shading kit can be used on all sizes of wall fans, provided the plate is square.

1 per wall fan.



60-21-1409 50" light trap brown out

Used if dimming is required in the livestock house.

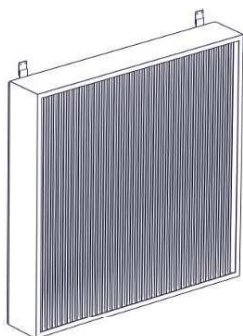
Light reduction factor 175.000:1.

The light trap reduces the air output of the fan without cone by approx. 15 % at 0-70 Pa pressure difference.

The light trap reduces the air output of the fan with cone by approx. 18 % at 0-70 Pa pressure difference.

Supplied as an unassembled unit incl. brackets.

1 per wall fan.



60-21-1412 50" light trap black out

Used if a large amount of dimming is required in the livestock house.

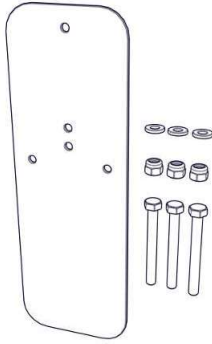
Light reduction factor 1.300.000:1.

The light trap reduces the air output of the fan without cone by approx. 31 % at 0-70 Pa pressure difference.

The light trap reduces the air output of the fan with cone by approx. 35 % at 0-70 Pa pressure difference.

Supplied as an unassembled unit incl. brackets.

1 per wall fan



435438 BD-Blue 130 support bracket kit f/air shutter

Is used to lift air controlled shutter. Can be used on both outside and inside mounted air controlled shutters.

Supplied with mounting parts.

One for each fan.



81-39-4012 LPC-2 relay module

Used for mounting in motor controller/frequency converter, if an alarm output is required or reversing of fan is required.

1 x potential free output relay 1 A, 30 V DC/24 V AC.

1 x digital input.

3 Mounting guide














Check that the parts ordered are present and undamaged before starting work. Please read through the entire guide before starting assembly and fitting.









If the BD-Blue 130 is installed in areas with risk of ice/snow slide, precautions must be made to avoid damage to the BD-Blue 130.

3.1 Recommended tools

A list of the recommended tools for mounting purposes can be seen below.

Item	Description
	Cordless drill
	Screwdriver bits
	Drill kit
	Atomizer
	Sealant gun
	Hammer
	Utility knife
	Wedge
	Marker pen
	Torque wrench
	Tape measure
	Combination spanner kit
	Screwdriver

Item	Description
	Foam gun
	Ladder
	Jigsaw
	Socket wrench set
	Spirit level
	Try square

3.2 Placement of BD-Blue 130

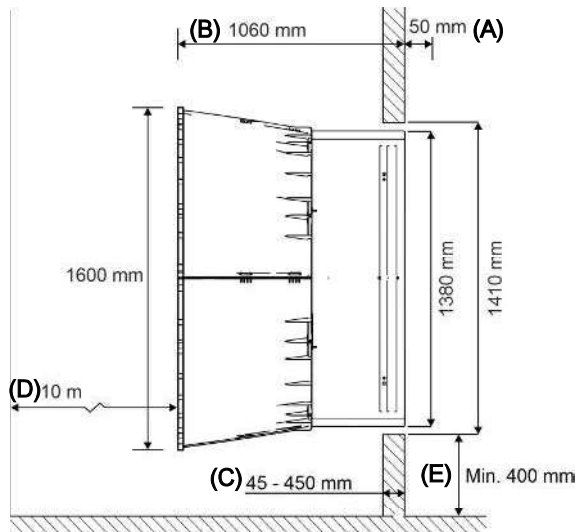
BD-Blue 130 must be placed in the livestock house according to the drawing supplied. Contact Big Dutchman if major changes are made.

Check that all BD-Blue 130 can be placed freely in relation to other housing equipment upon agreement with the client.

Place the insulation of the brickwork all the way in against the BD-Blue 130 and all the way round (as in other building constructions). This way you prevent a cold bridge along the side of BD-Blue 130 from being formed.

3.3 Preparing hole in wall

3.3.1 Necessary space for BD-Blue 130 without LPC motor controller



There must be a minimum of **(A)** space inside the livestock house for the wall fan.

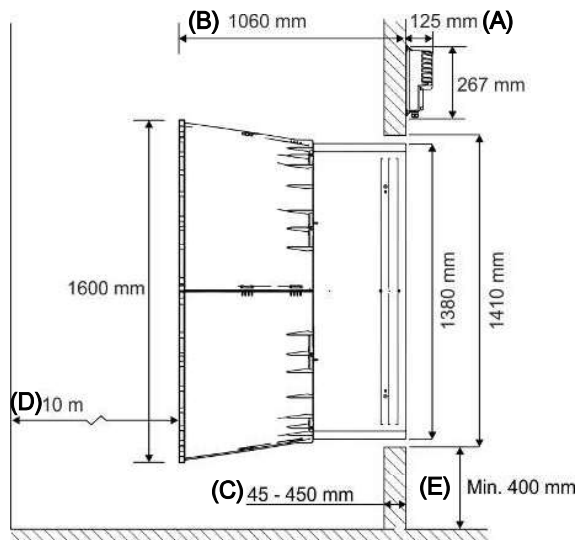
There must be minimum of **(B)** of space including the wall thickness outside the livestock house for the wall fan.

Wall thickness **(C)**.

The recommended space in front of the cone is **(D)**.

Recommended installation height from floor is minimum **(E)** in order to ensure space for dung removal.

3.3.2 Necessary space for BD-Blue 130 with LPC motor controller



There must be a minimum of **(A)** space inside the livestock house for the wall fan.

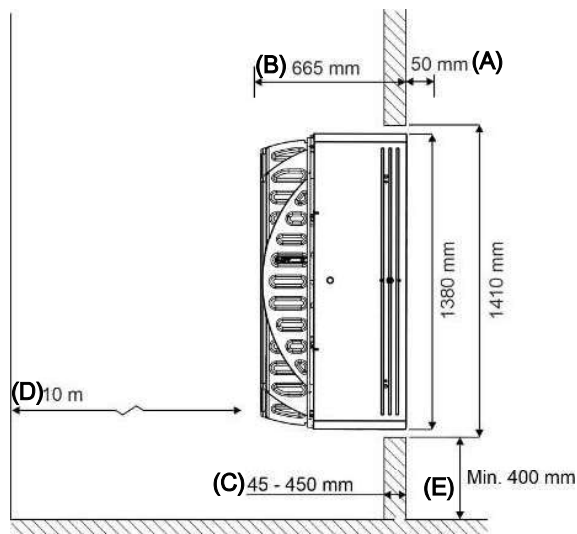
There must be minimum of **(B)** of space including the wall thickness outside the livestock house for the wall fan.

Wall thickness **(C)**.

The recommended space in front of the cone is **(D)**.

Recommended installation height from floor is minimum **(E)** in order to ensure space for dung removal.

3.3.3 Necessary space for BD-Blue 130 without cone



There must be a minimum of **(A)** space inside the livestock house for the wall fan.

There must be minimum of **(B)** of space including the wall thickness outside the livestock house for the wall fan.

Wall thickness **(C)**.

The recommended space in front of the cone is **(D)**.

Recommended installation height from floor is minimum **(E)** in order to ensure space for dung removal.

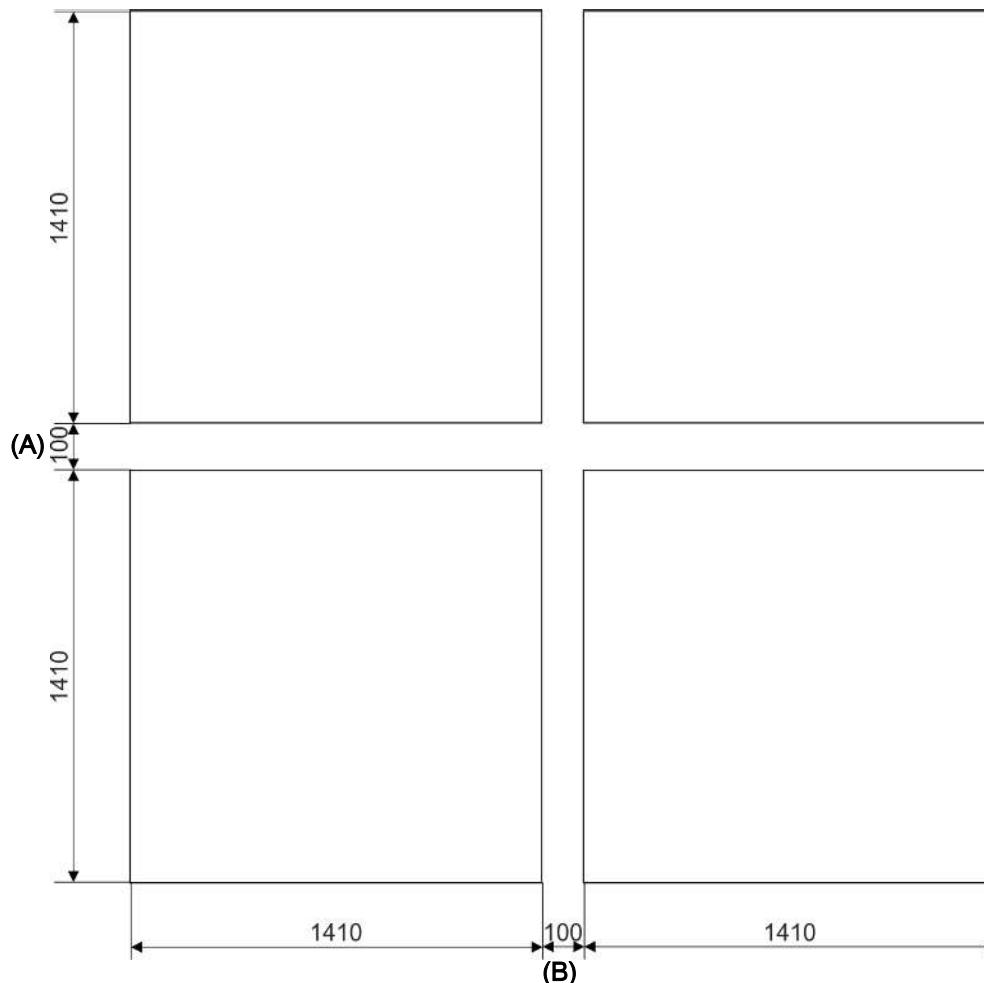
3.3.4 Measurements for square hole in wall

The dimensions below are given in mm .

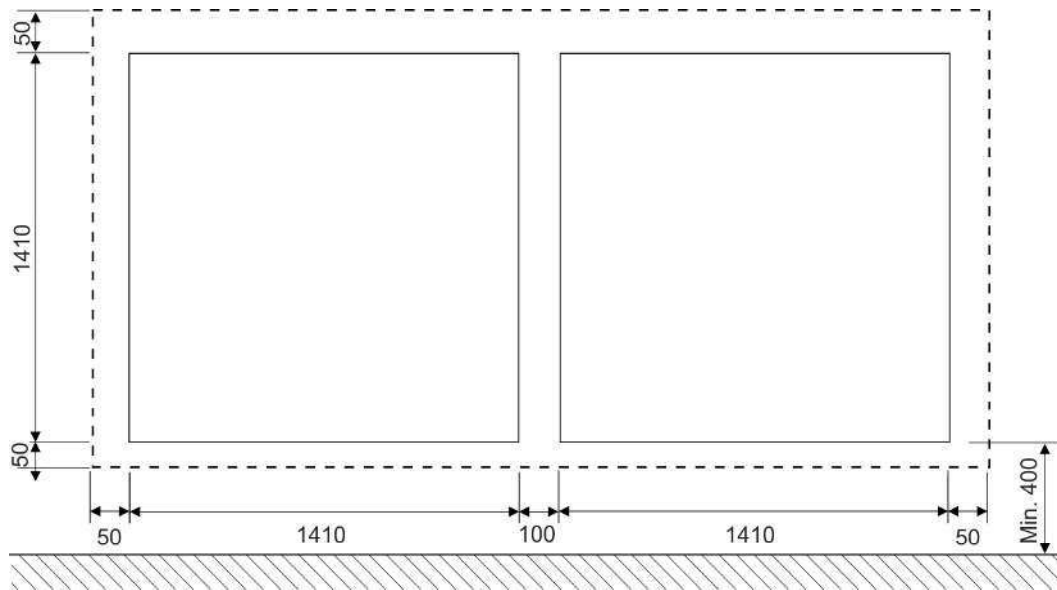
Recommended measurements for individual mounting of BD-Blue 130 wall fan.

(A) Minimum distance is 550 mm, when mounting the LPC motor controller above BD-Blue 130.

(B) Minimum distance is 300 mm, when mounting the LPC motor controller between BD-Blue 130.



Minimum distance from BD-Blue 130 to wall, floor and ceiling



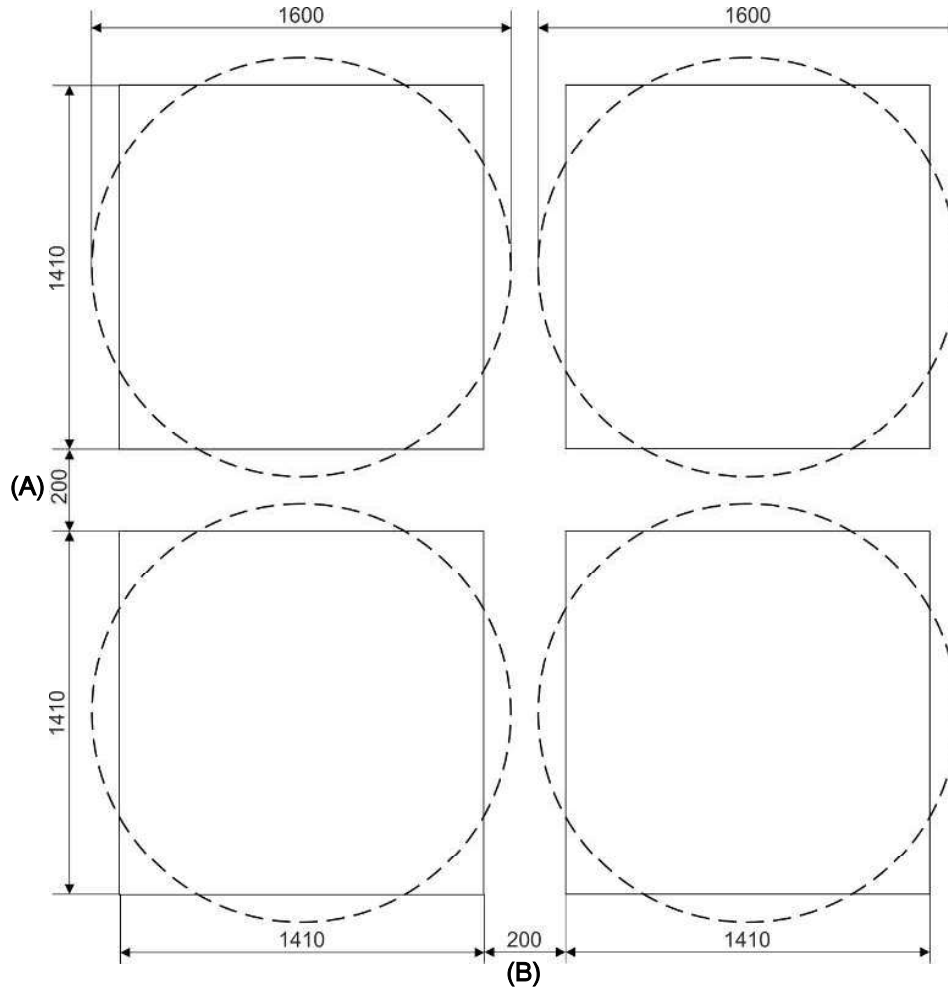
3.3.5 Measurements for square hole in wall with cone

The dimensions below are given in mm.

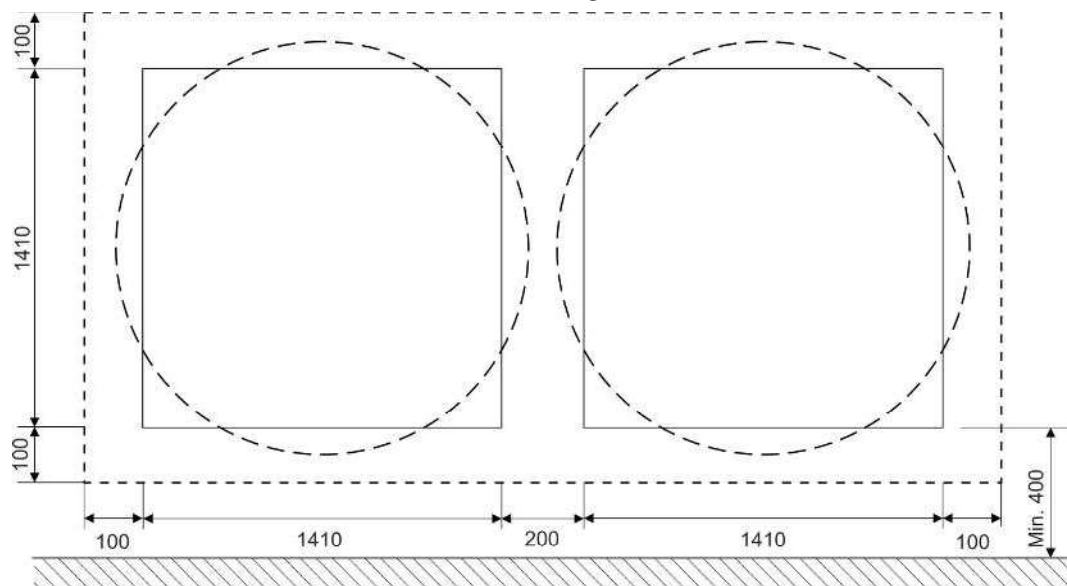
Recommended measurements for individual mounting of BD-Blue 130 wall fan with mounted cone.

(A) Minimum distance is 550 mm, when mounting the LPC motor controller above BD-Blue 130.

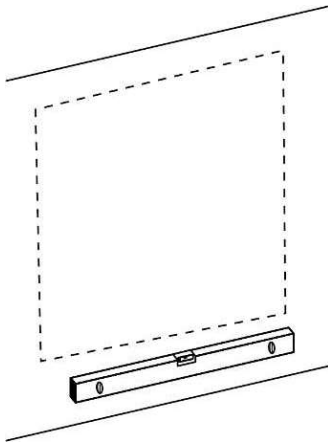
(B) Minimum distance is 300 mm, when mounting the LPC motor controller between BD-Blue 130.



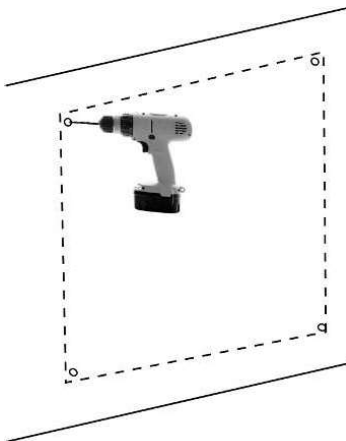
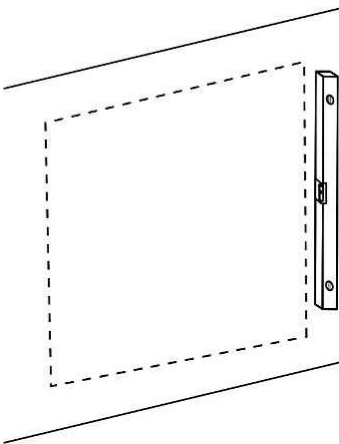
Minimum distance from BD-Blue 130 to wall, floor and ceiling



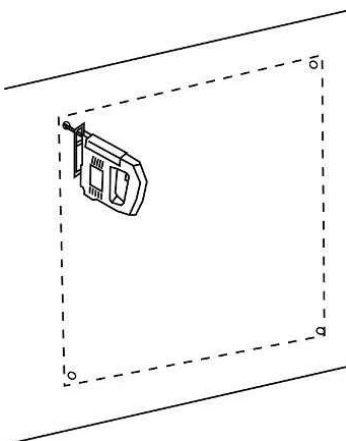
3.4 Measure and saw out the holes



! Remember to always use a spirit level.

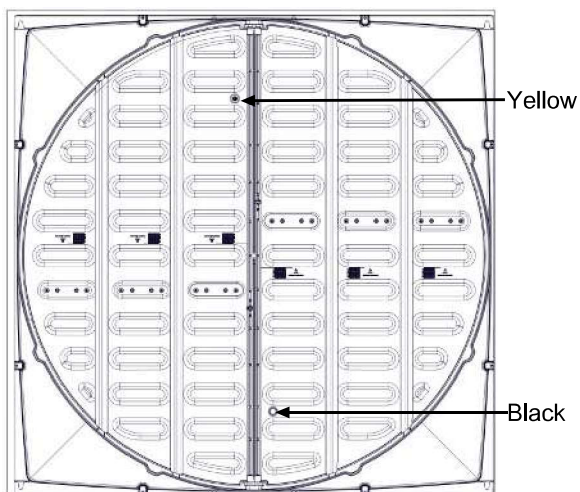


Drill 10 mm holes all the way through the wall.

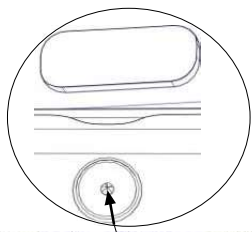


Cut the holes.

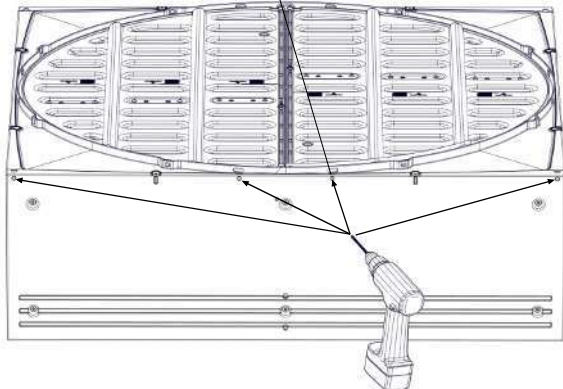
3.5 Drainage holes



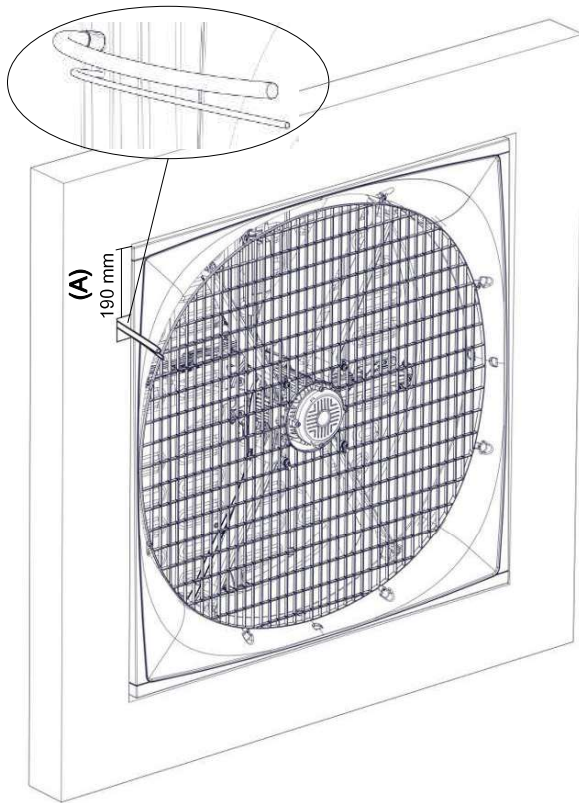
● Please note that the yellow blanking plug must be at the top.



If parts of BD-Blue 130 are outside the wall, on the outside, it is recommended to drill 4 pcs. 5 mm drain holes in the bottom on the four markings.



3.6 Mounting in wall

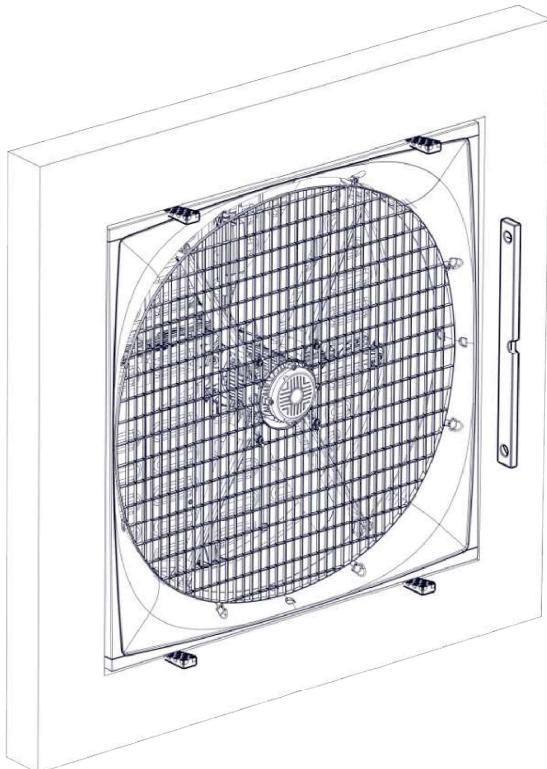


Lead the cables into the livestock house.



● Make sure that there is free space for cables.

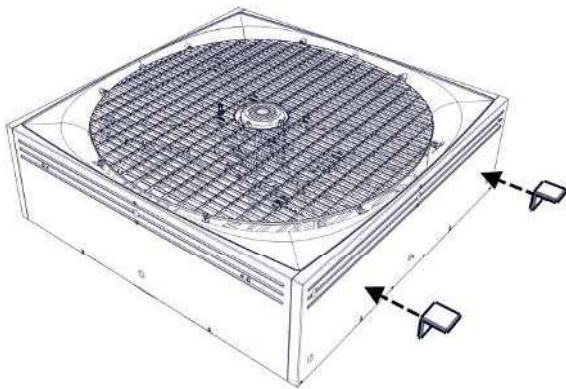
Measure from the top of BD-Blue 130 down **(A)** make a hole in the wall for the cables as the bending radius of the fan cables is 50 mm.



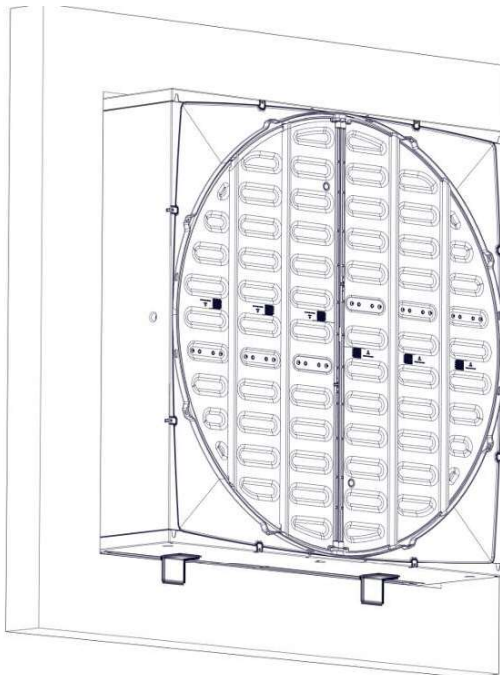
Use wedges to center BD-Blue 130 in the hole.

BD-Blue 130 must be level.

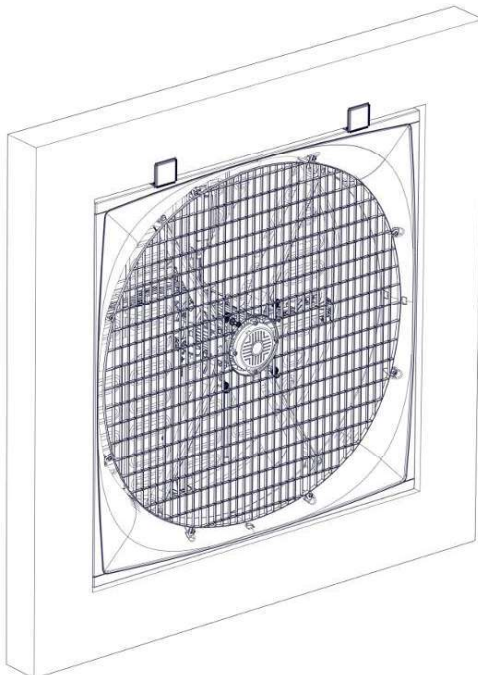
3.6.1 Mounting with four brackets



Mount 2 brackets (not supplied) in the bottom of BD-Blue 130 to fit the wall thickness.

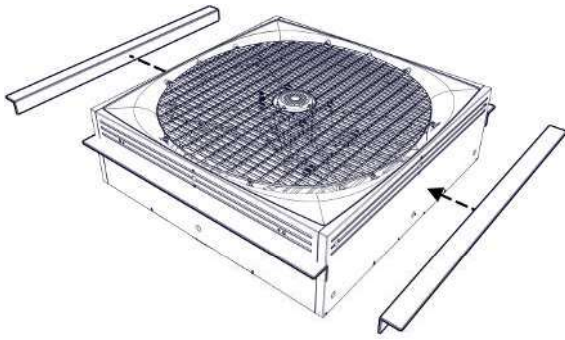


Place BD-Blue 130 in the wall.
Use wedges to center BD-Blue 130 in the hole.

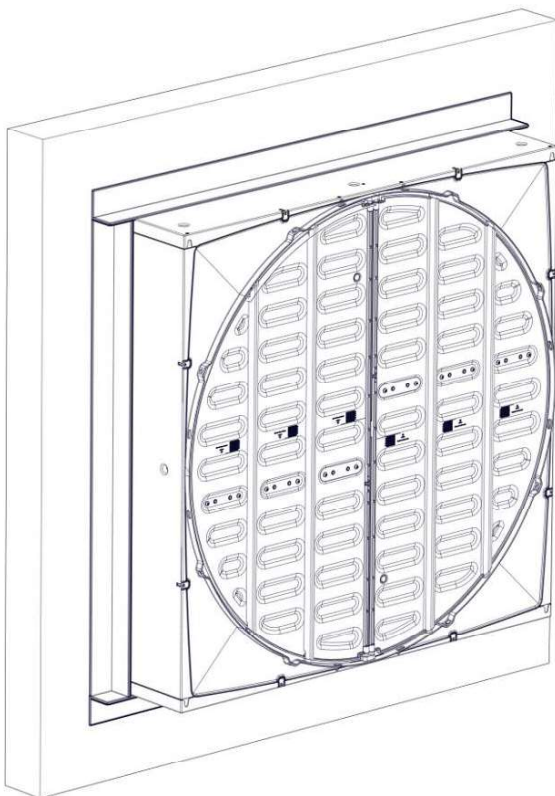
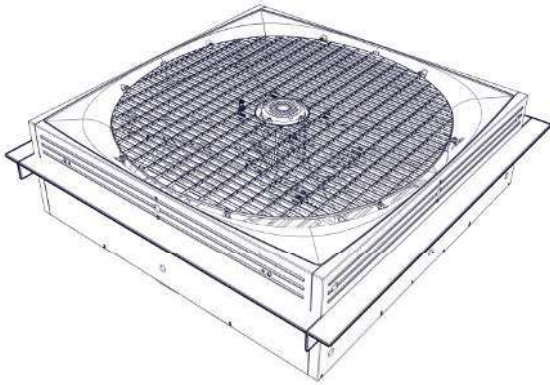


Tip BD-Blue 130 so that the 2 internal brackets can be mounted. The brackets must be in line with wall.

3.6.2 Mounting of four angle bars

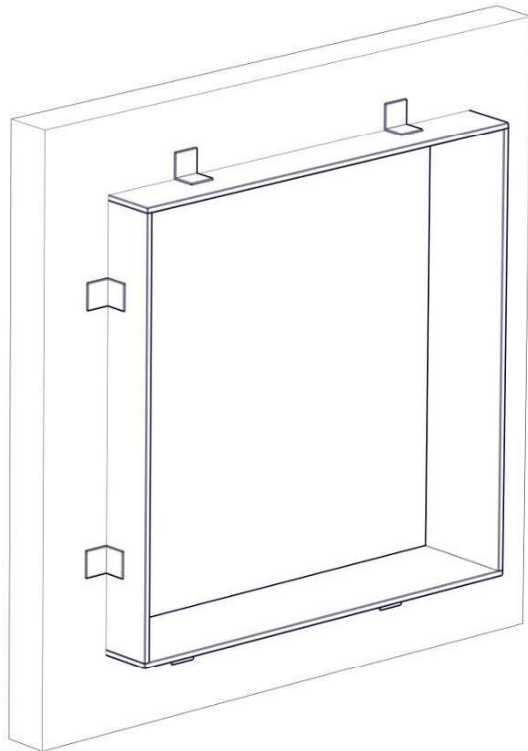


Mount the 4 angle bars (not supplied) on BD-Blue 130 to fit the wall thickness.

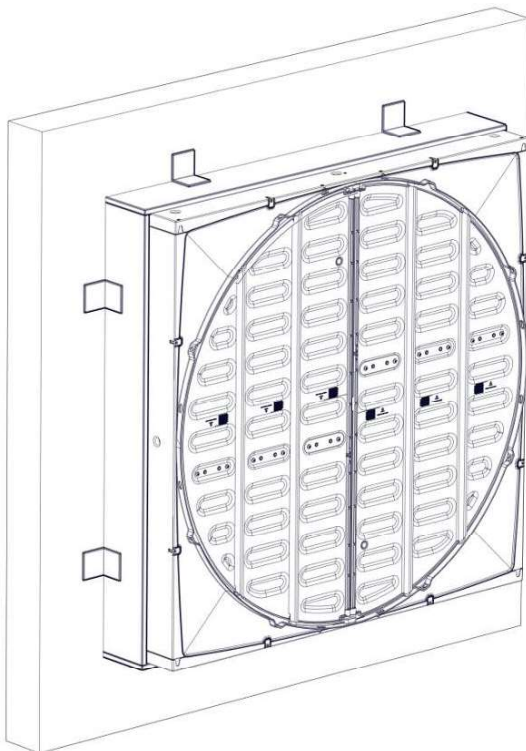


Place BD-Blue 130 in the wall.

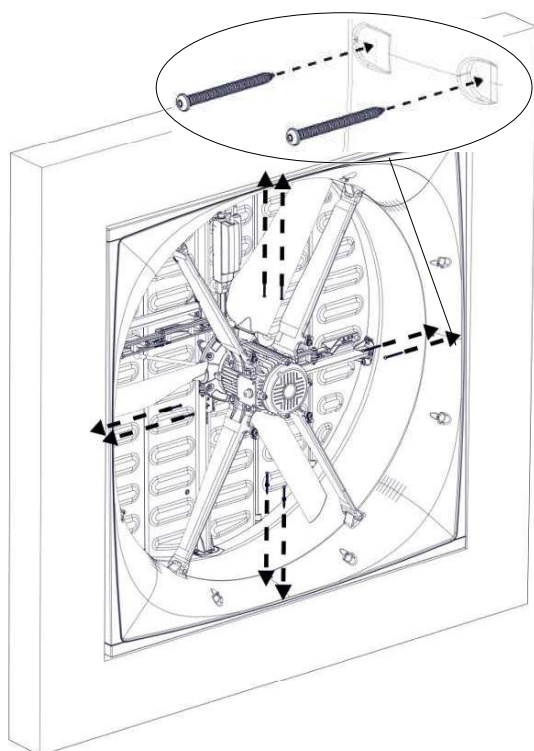
3.6.3 Mounting in wooden frame



Mount the wooden frame with brackets (not supplied).



Place BD-Blue 130 in the wall.



Remove the net, see section Mounting of inside safety net [► 34](Mounting of inside safety net).

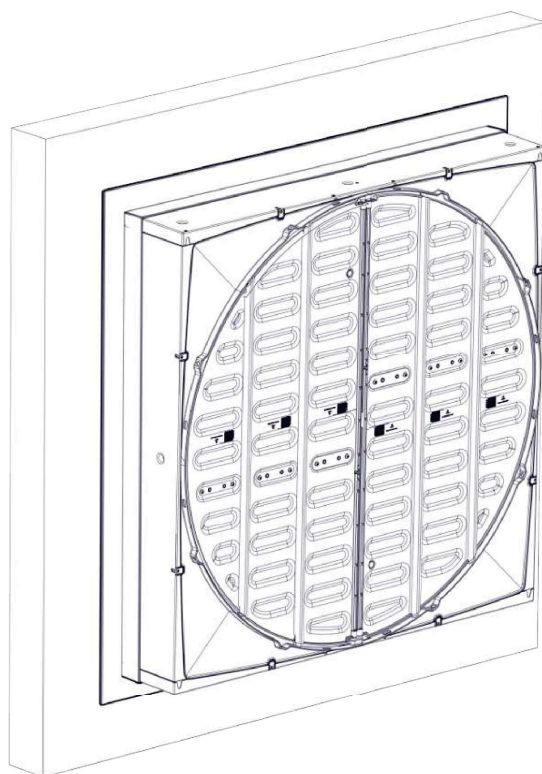
Pre-drill 8 holes for mounting on wall.

Screw BD-Blue 130 into the wall with 8 screws, with a length of minimum 150 mm.

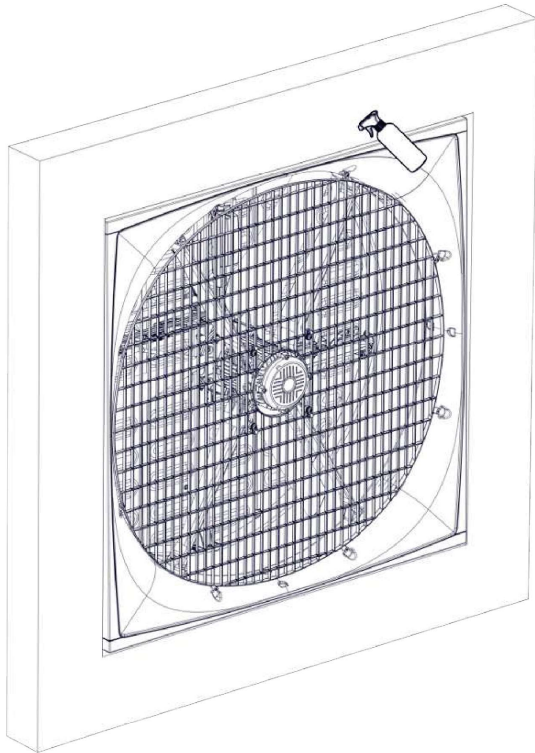
3.6.4 Foaming



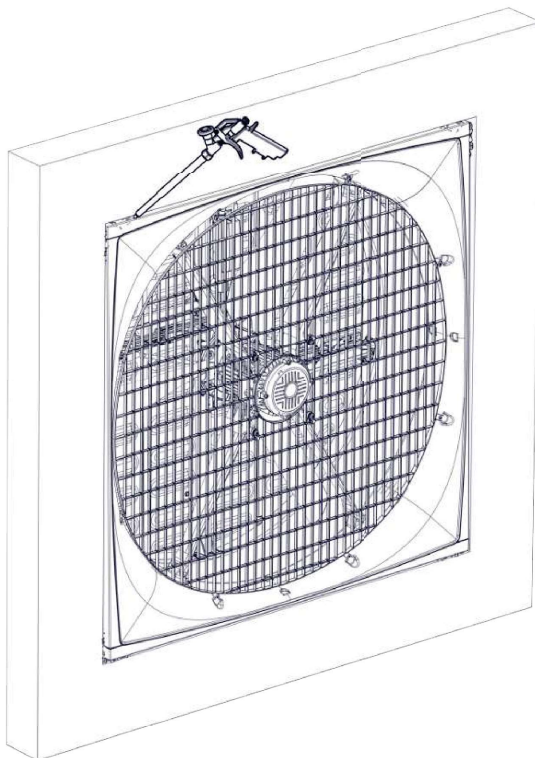
Big Dutchman recommends using single-component polyurethane foam or similar. Check before foaming how much the foam expands.



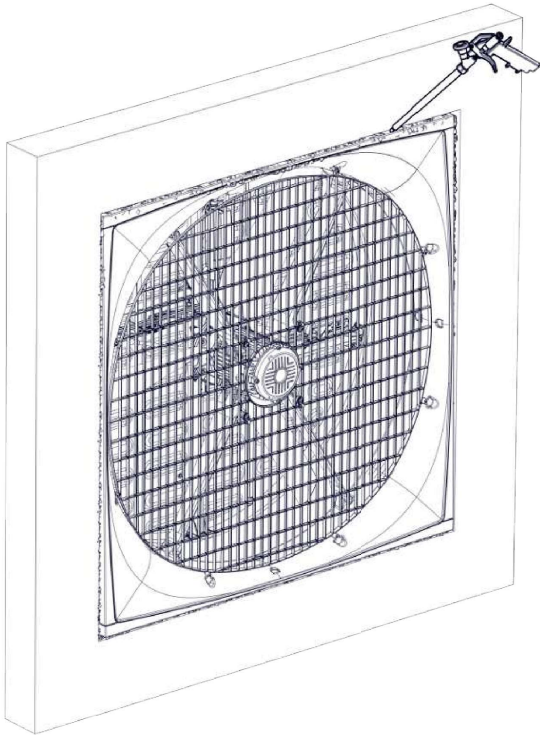
An external angle bracket can be used to for completion (not supplied by Big Dutchman).



Wet the faces with water from a mist sprayer before proceeding with the foaming.



Foam around BD-Blue 130 as shown in the drawing. Foam the wall fan's corners and approx. 100 mm to each side foam the entire depth of the BD-Blue 130.



In the middle part, it is essential only to foam along the edge, as the foam may otherwise cause BD-Blue 130 to warp.

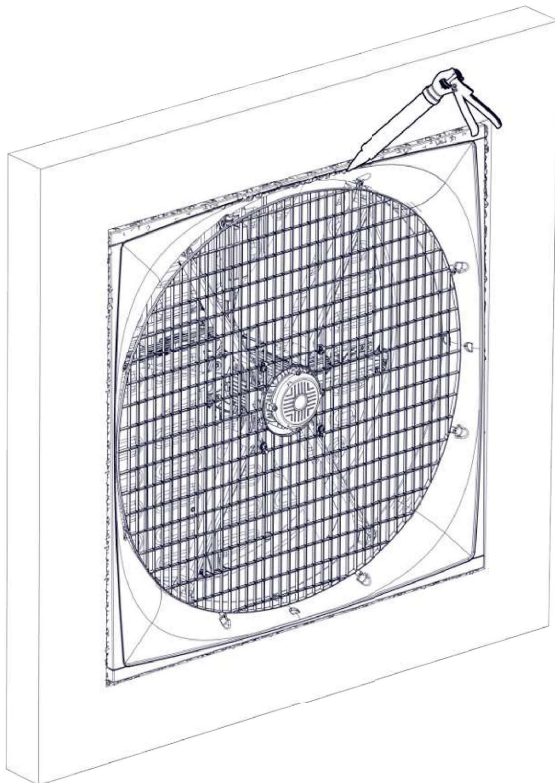
Push the foam in against BD-Blue 130 after the foam has dried a little to allow adequate space for resealing.

Wet the foam again with water from a mist sprayer.

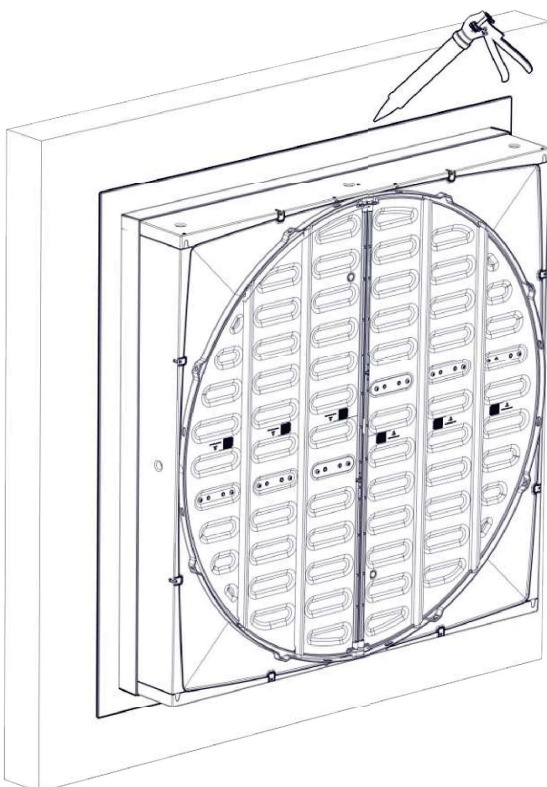
3.6.5 Pointing



Big Dutchman recommends Sikaflex 111 Stick & Seal.

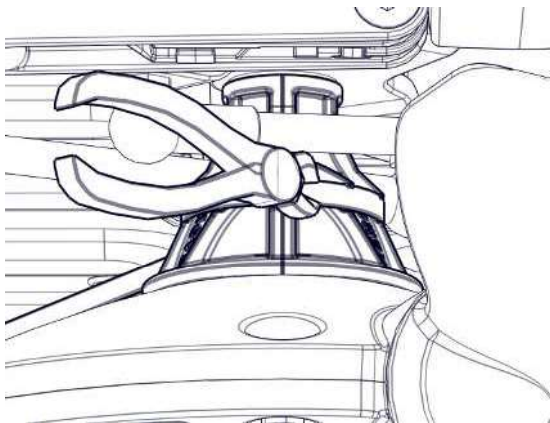


Complete by applying a sealing edge both internally and externally when the foam is dry.



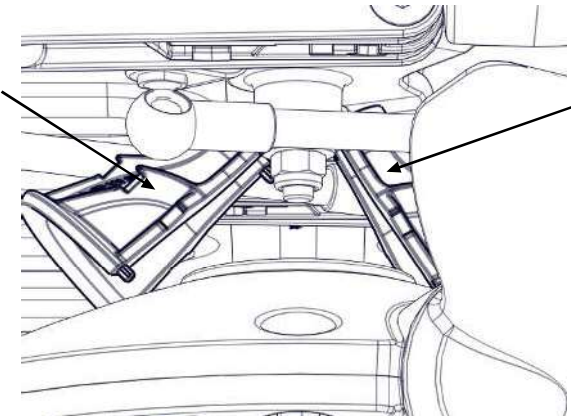
Apply a sealing edge along the angle bracket, as shown in the drawing.

3.7 Removing the transport bracket



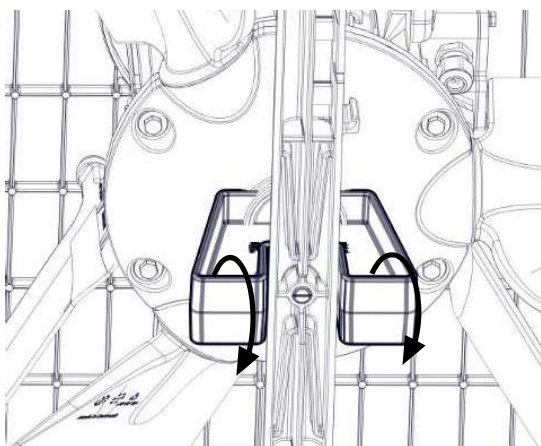
On BD-Blue 130 LPC and EL the red transport bracket is located behind the impeller hub.

Cut the cable ties.



Wrench the transport brackets apart.

Remove cable ties and transport brackets from the fan.

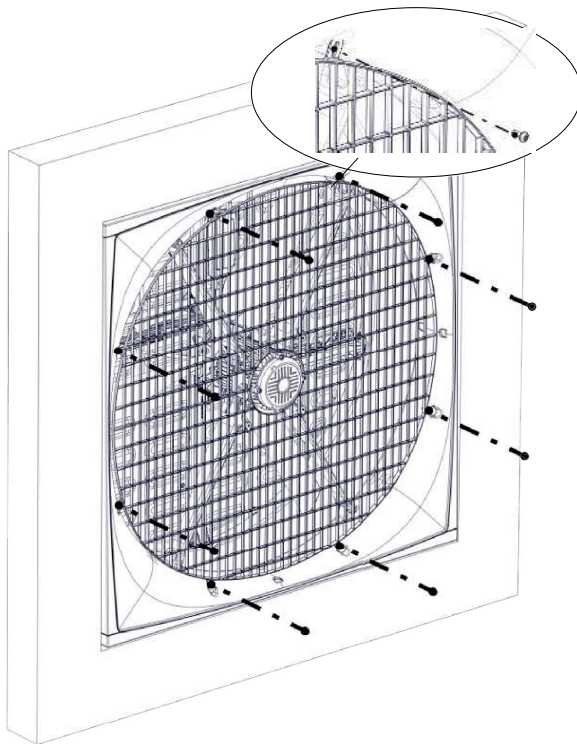


On BD-Blue 130 AIR the red transport bracket is placed between the impeller and the center pillar.

Twist the transport bracket out from the center pillar.

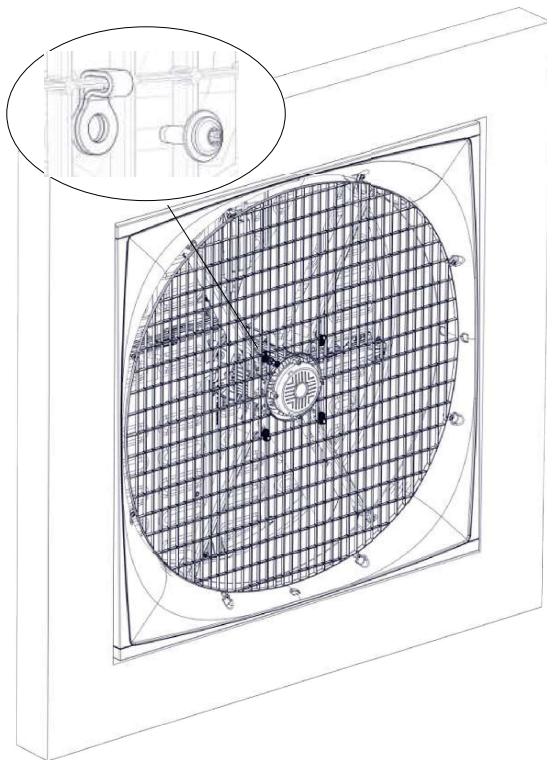
Remove transport brackets from the fan.

3.8 Mounting of inside safety net



Make sure that the net is turned as shown in the drawing.

Mount the inside safety net on the wall fan using 8 of the screws enclosed (do not tighten to more than 2 Nm).

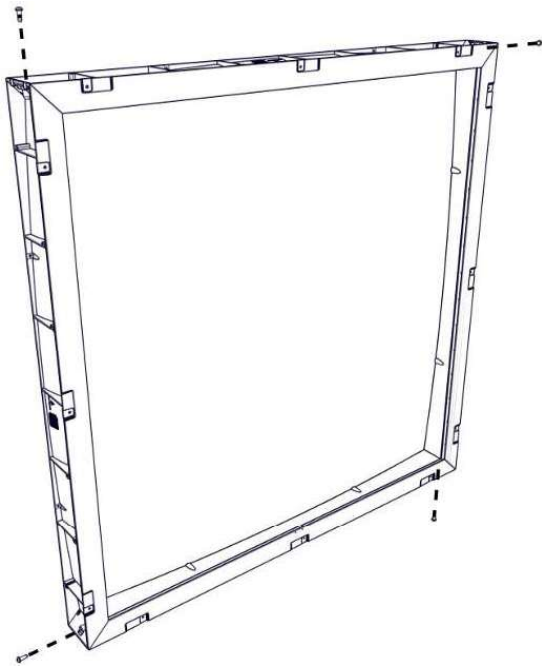


Mount the enclosed 4 straps and screws.

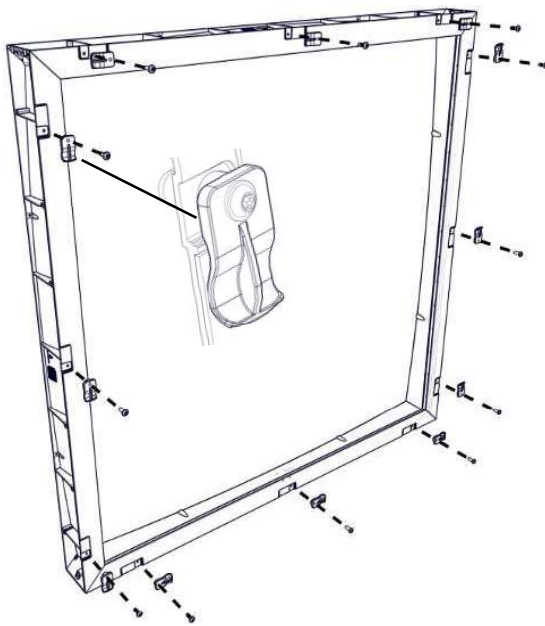
Guide the strap around the net.

Mount the screws (do not tighten to more than 2 Nm).

3.9 Mounting of air controlled shutter

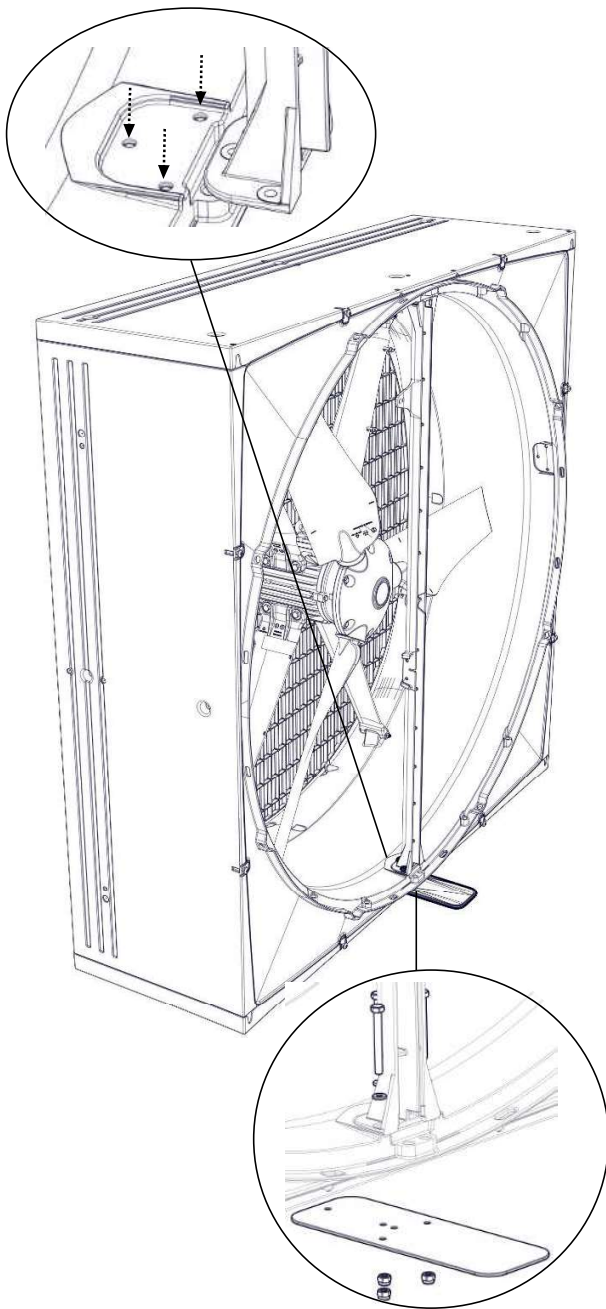


Assemble the 4 adapter pieces with a screw in each corner.



Mount 12 clips on the adapter frame using 12 screws.

3.9.1 Outside air controlled shutter

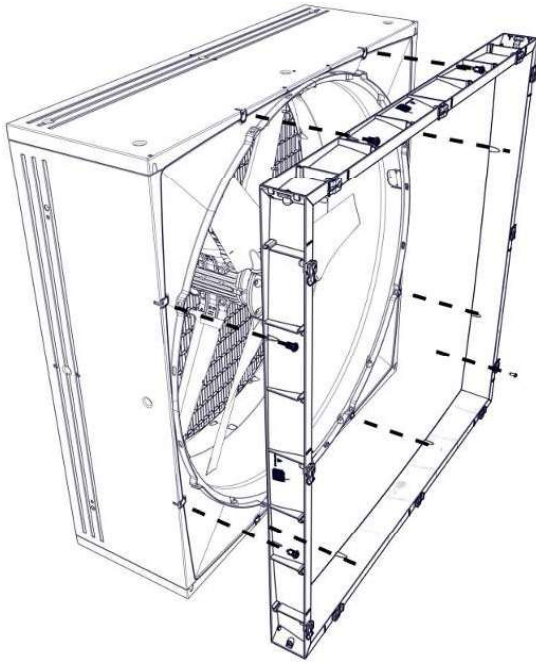


Mounting of BD-Blue 130 support bracket kit for air shutter (can be purchased as an accessory)

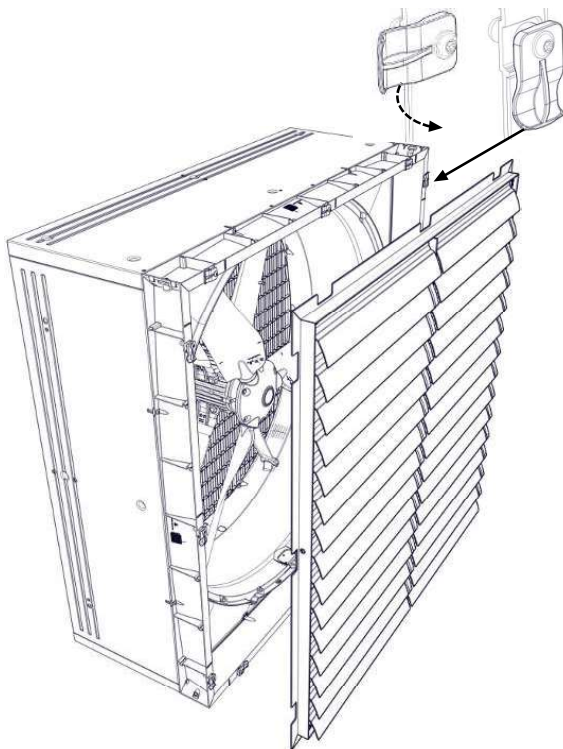
Dismount the 3 PT screws in the center pillar.

Push the center pillar slightly out and drill the 3 holes using a 6.5 mm drill.

Mount the center pillar and support bracket using 3 M6x60 screws, $\varnothing 6.4/\varnothing 12$ washer and M6 locking nuts.



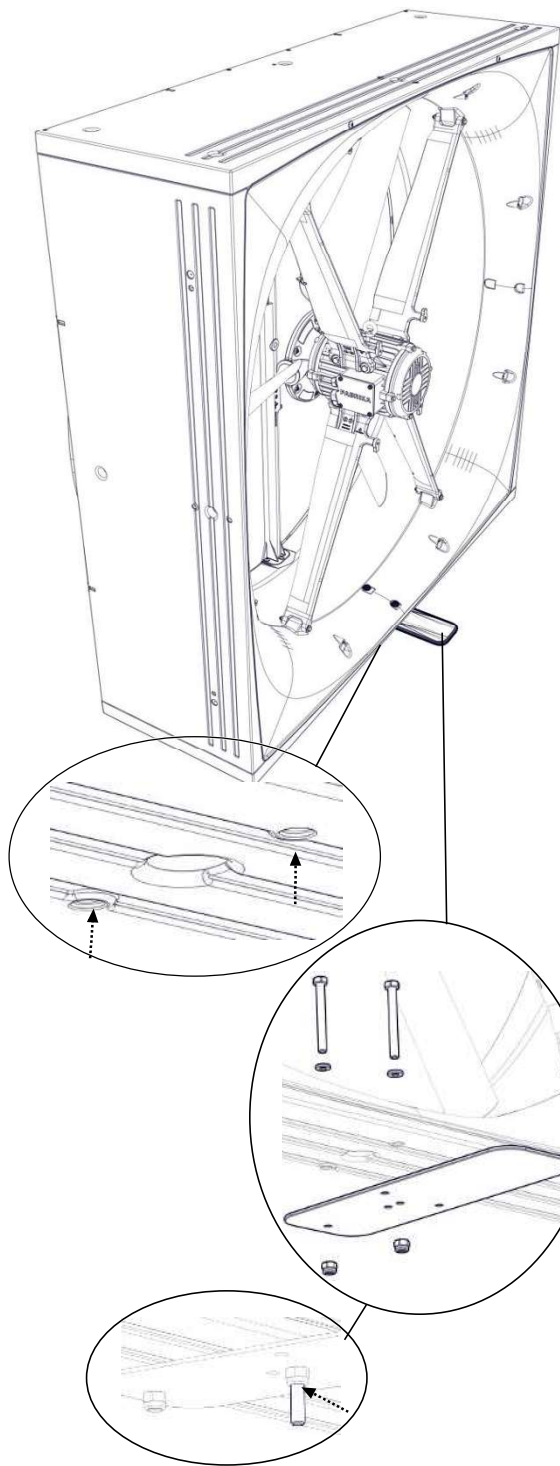
Mount the adapter frame on the fan with 8 screws.



Mount the air controlled shutter on the frame by turning the 12 clips.

The shutters must turn downwards and turn away from the fan.

3.9.2 Inside air controlled shutter

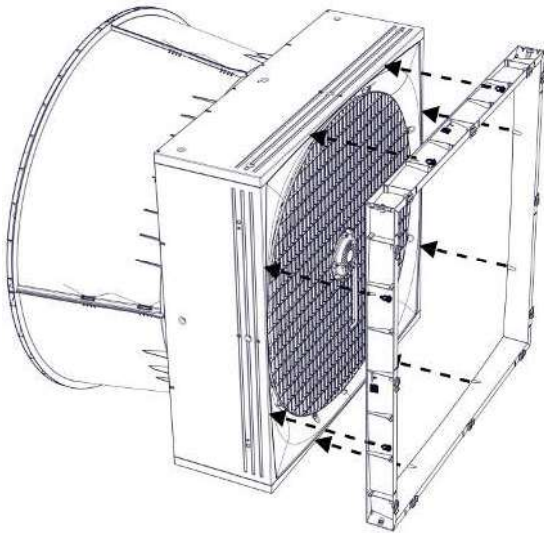


Mounting of BD-Blue 130 support bracket kit for air shutter (can be purchased as an accessory)

Drill out the 2 markings under the fan using a 6.5 mm drill bit.

Mount the support bracket on the fan using 2 M6x60 screws, $\varnothing 6.4/\varnothing 12$ washer and M6 locking nuts.

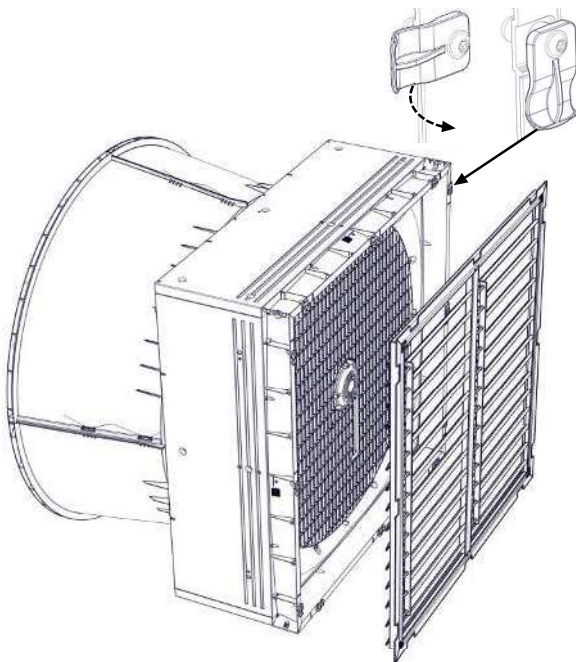
Saw the screw so that it does not interfere when mounting in the wall.



Mark the 8 holes for the adapter frame.

Drill the holes with a 5 mm drill bit.

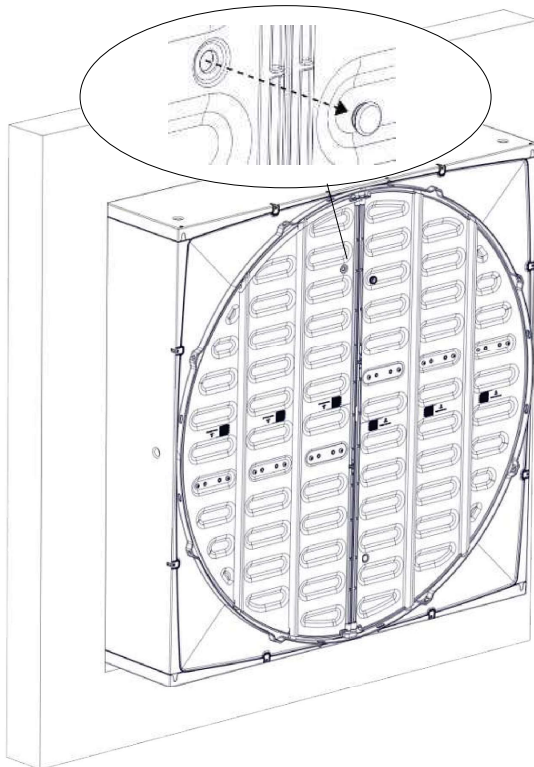
Mount the adapter frame on the fan with 8 screws.



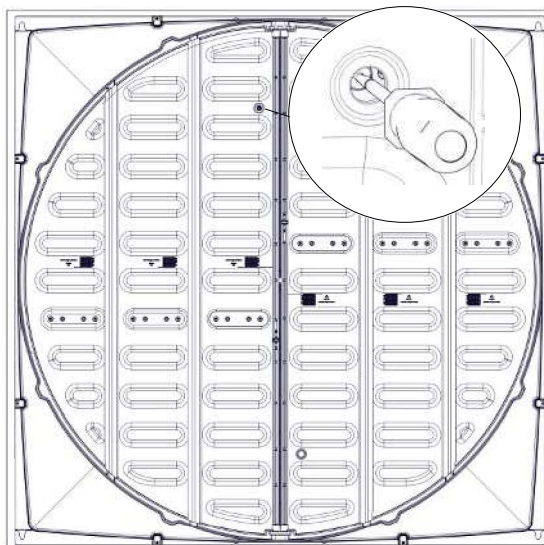
Mount the air controlled shutter on the frame by turning the 12 clips.

The shutters must turn downwards and turn against the fan.

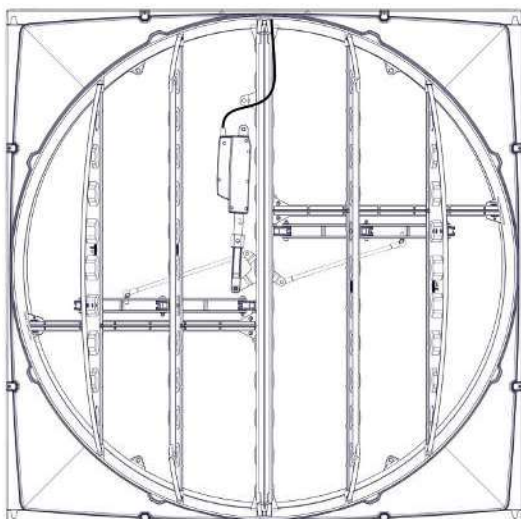
3.10 Manual opening of motor controlled shutter



Remove the yellow blanking plug.



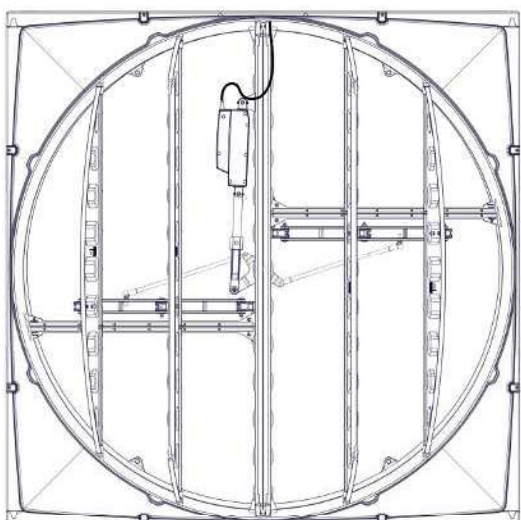
Press on the yellow actuator split with a screwdriver.



The shutter can now be opened manually.

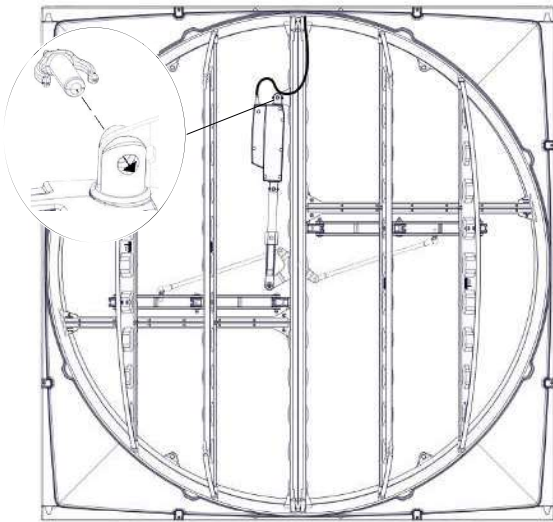


Remember to shut off the fan at the power supply isolator prior to mounting of manual opening.

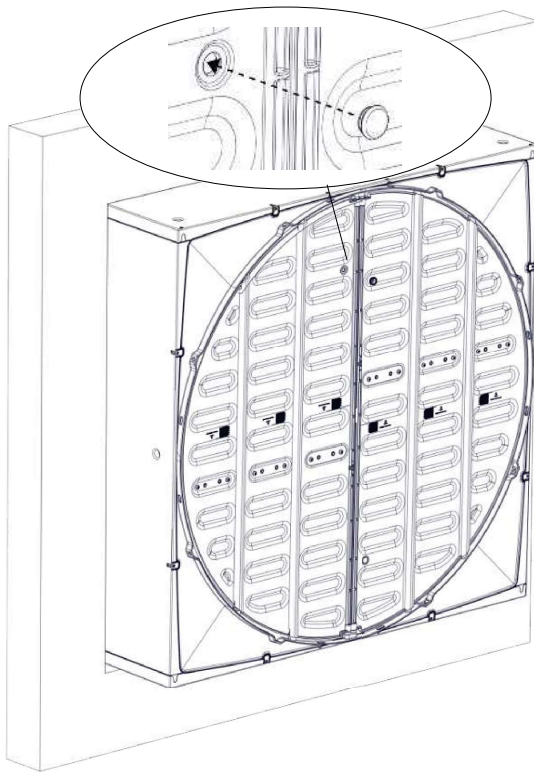


After manual opening.

Open the shutters by moving the actuator into its extreme position.



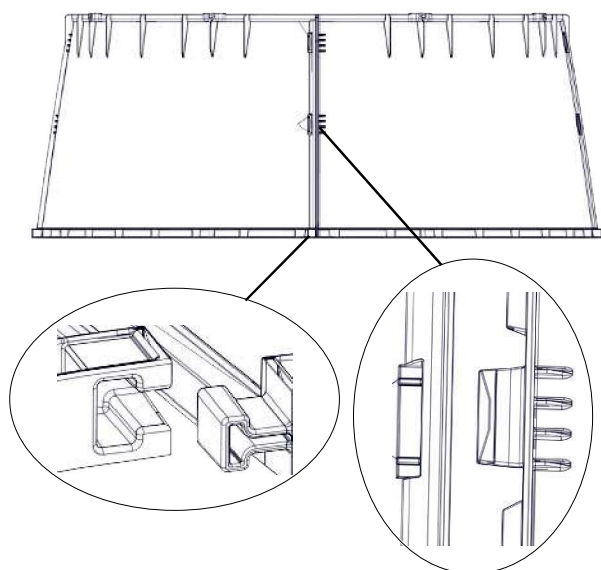
Mount the yellow actuator split in the actuator and center column.



Mount the rubber plug in the shutter.

3.11 Mounting of accessories

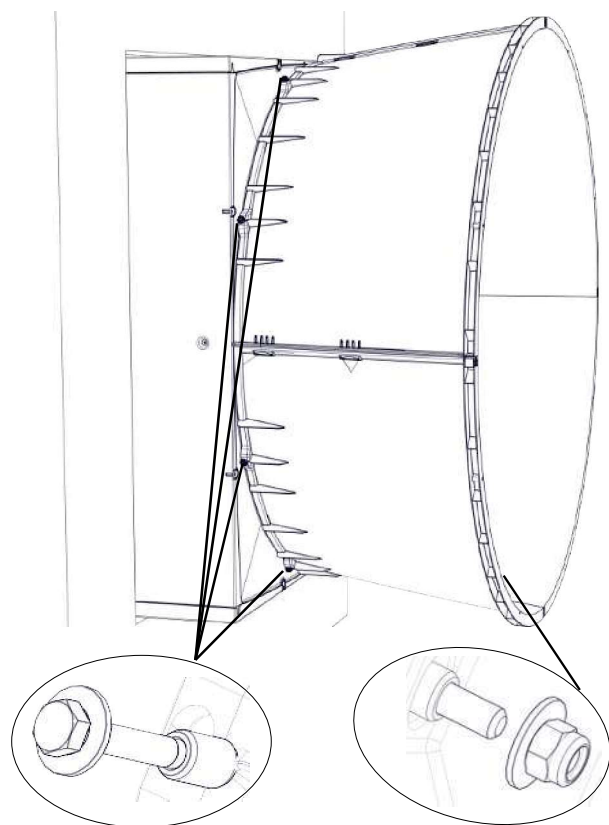
3.11.1 Cone



Consists of 4 identical parts.

Ensure the tongue and groove at the base are in line.

Click the sides together.



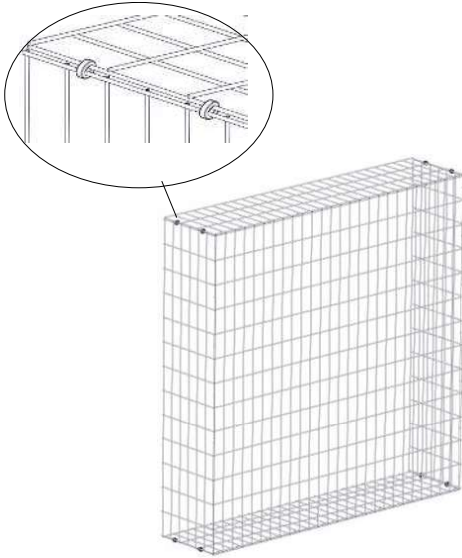
Hang the cone on the wall fan.

Mount the assembled cone on the wall fan using the enclosed screws, female connectors and self-locking nuts.

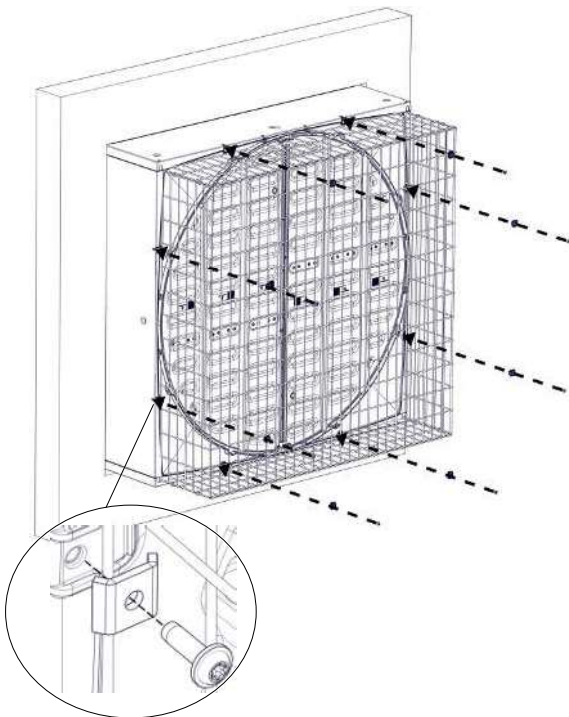
3.11.2 Outside safety net

If a BD-Blue 130 outside safety net has not been selected, a safety guard must be established. The requirements of the International Standard for Safety of machinery ISO 13857 shall be complied with.

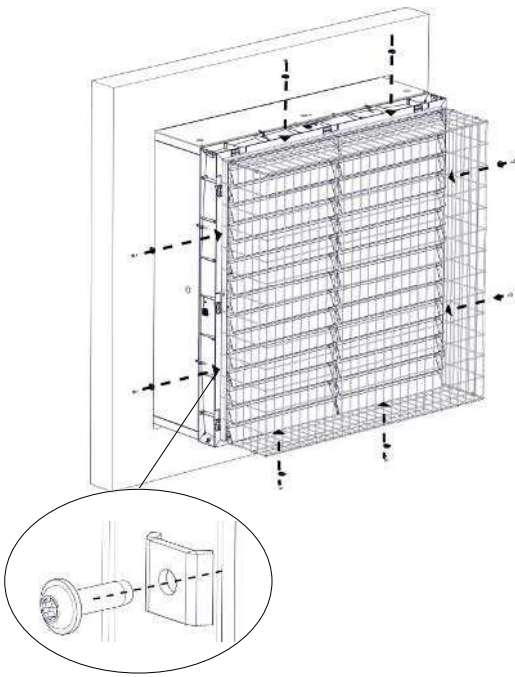
3.11.2.1 Without cone



Assemble the safety net outside with the included strips.
Mount 2 strips in all corners.



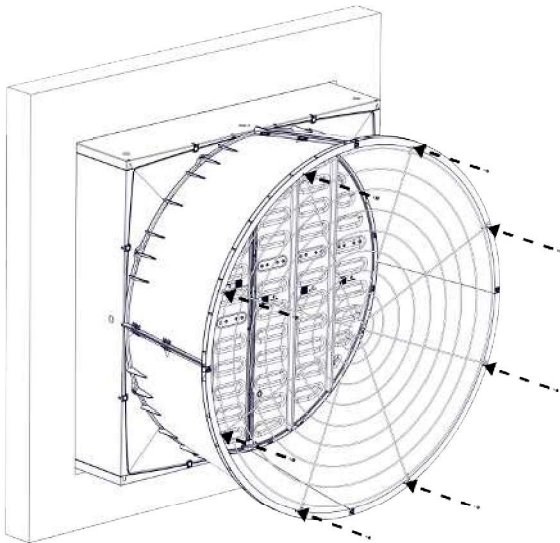
Mount the safety net outside on the wall fan using the clips and screws enclosed (do not tighten to more than 2 Nm).



When mounting on an air controlled shutter, pre-drill with a 4.5 mm drill on the side of the shutter.

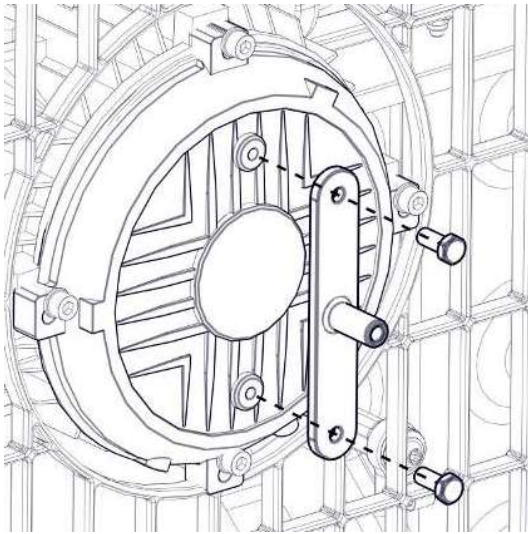
Mount the safety net outside on the air controlled shutter using the clips and screws enclosed (do not tighten to more than 2 Nm).

3.11.2.2 With cone

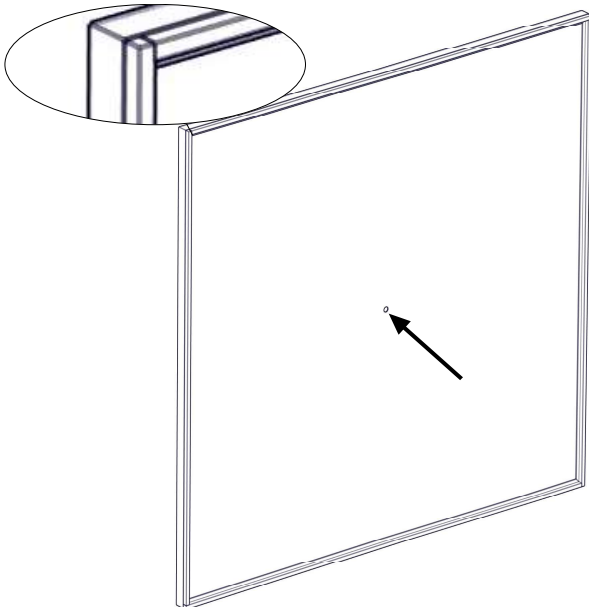


Mount the outside safety net for the cone using the screws enclosed (do not tighten to more than 2 Nm).

3.11.3 Insulation plate

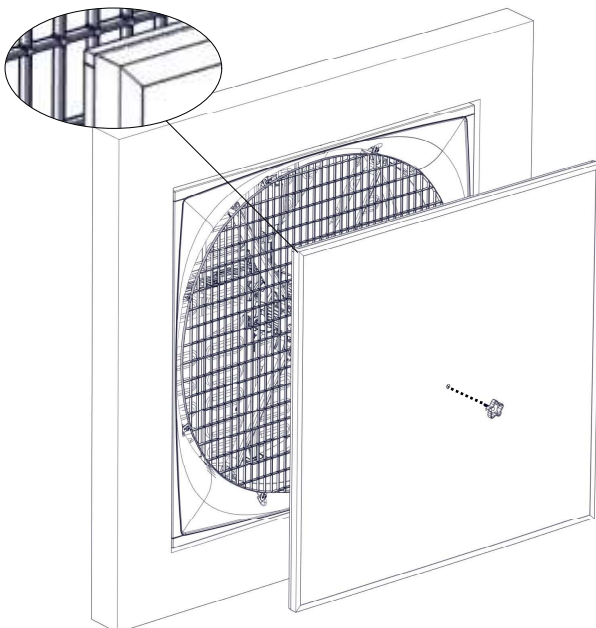


Mount brackets for the insulation plate on the fan with the 2 screws.



Mount the sealing profile on the insulation plate.

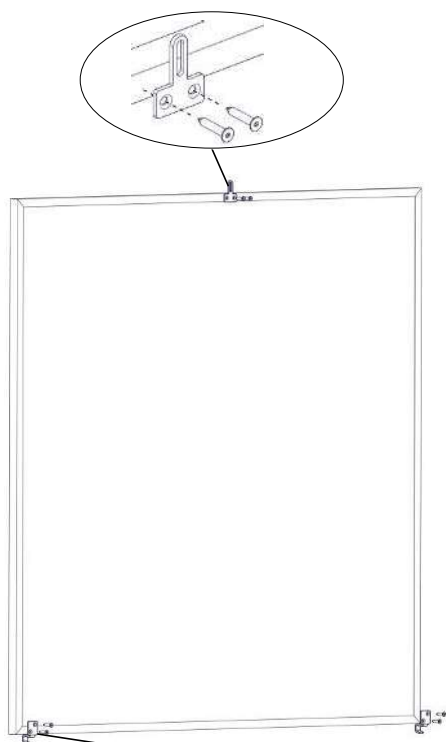
Drill a 12 mm hole in the center of the insulation plate.



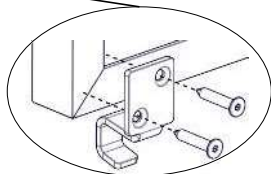
The sealing profile must be facing the wall fan.

Mount the insulation plate on the insulation plate bracket with handle with threaded rod.

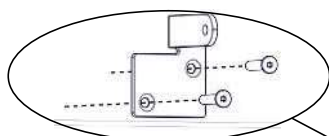
3.11.4 Shading kit



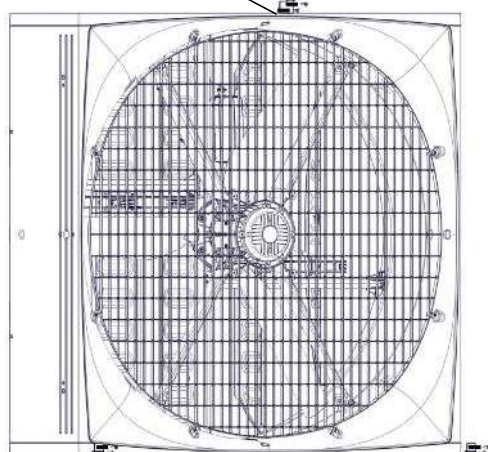
Mount the top bracket on the plate with 2 screws.



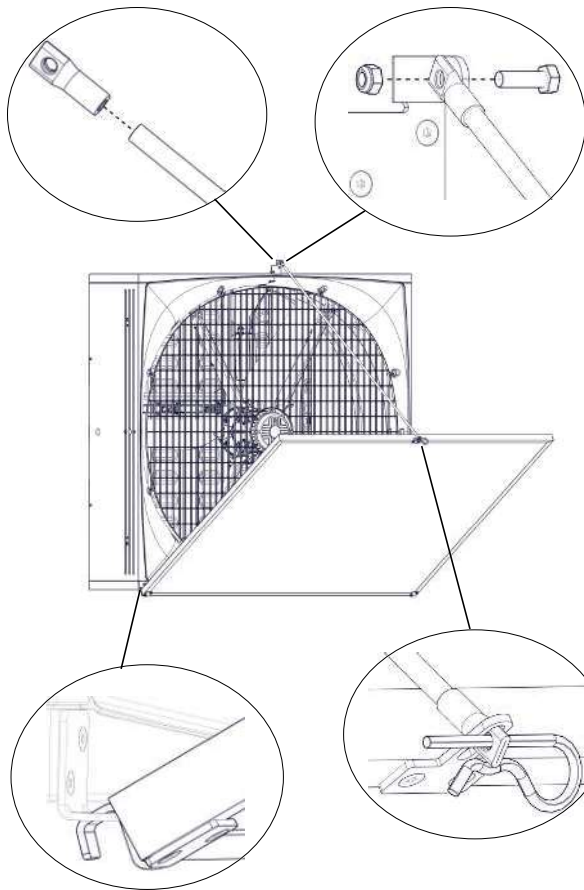
Mount 2 bottom brackets on the plate with 2 screws in each.



Mount the top bracket on the wall using 2 screws.



Mount 2 bottom brackets on the wall fan with 2 screws in each.



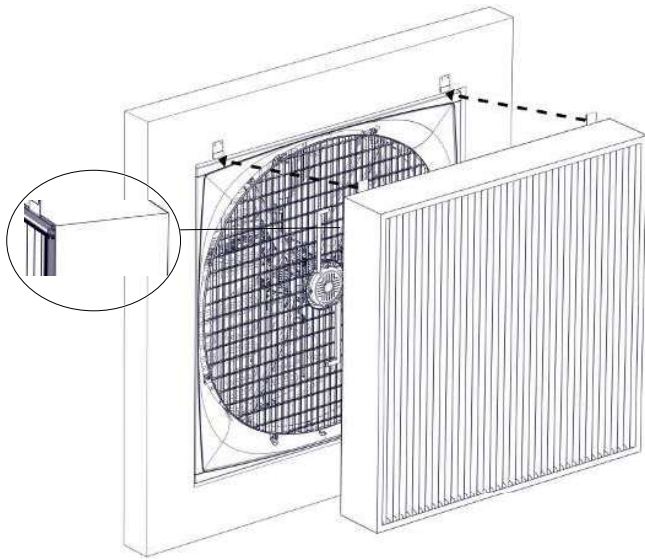
Screw 2 eye joiners onto the pull rod.

Mount eye joiner in top bracket mounted on wall with 1 x M6x20 screw and M6 washer.

Mount plate in the bottom bracket on the wall fan.

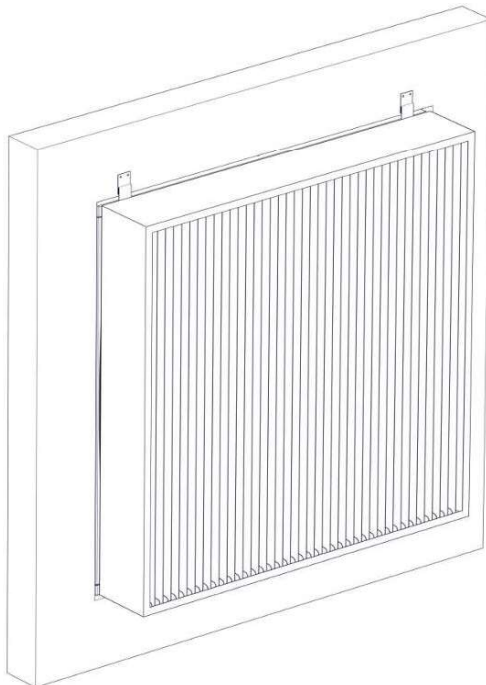
Mount eye joiner in top bracket on plate with split pin.

3.11.5 Light trap



The sealing profile must be facing BD-Blue 130.

Mount the mounting fittings on the wall and on the light trap.



Hang the light trap on the wall by engaging the 2 suspension brackets.

4 Installation guide

4.1 Electrical connection



Installation, servicing and troubleshooting of all electrical equipment must be carried out by qualified personnel in compliance with the applicable national and international standard EN 60204-1 and any other EU standards that are applicable in Europe.

The installation of a power supply isolator is required for each motor and power supply to facilitate voltage-free work on the electrical equipment. The power supply isolator is not included.

4.1.1 Disclaimer at retrofitting fans

In the case of retrofitting fans in an existing house, regardless of ON/OFF fans, LPC fans or frequency converters Big Dutchman recommends that a local expert is involved in checking the electrical installations. The focus should be on cable dimensions, overload protections, local transformers, etc. It is of outmost importance to take the fan specifications into account and, at the same time, ensure that local requirements are fulfilled.

4.1.2 cUL

Overcurrent protection provide overload protection to avoid overheating of the cables in the installation. Overcurrent protection must always be carried out according to local and national regulations. Suitable for use on a circuit capable of delivering not more than 5,000 rms symmetrical amperes, 480 V maximum. Circuit breakers must be designed for protection in a circuit capable of supplying a maximum of 10,000 Arms (symmetrical), 480 V maximum; or the value rated on the individual circuit breaker.

For UL Compliance Use the breakers or fuses listed below in the table to ensure compliance with UL or IEC 61800-5-1. Circuit breakers must be designed for protection in a circuit capable of supplying a maximum of 10,000 Arms (symmetrical), 480 V maximum. In the event of malfunction, failure to follow the protection recommendation may result in damage to the drive / frequency converter. Circuit breaker must comply with UL 489.

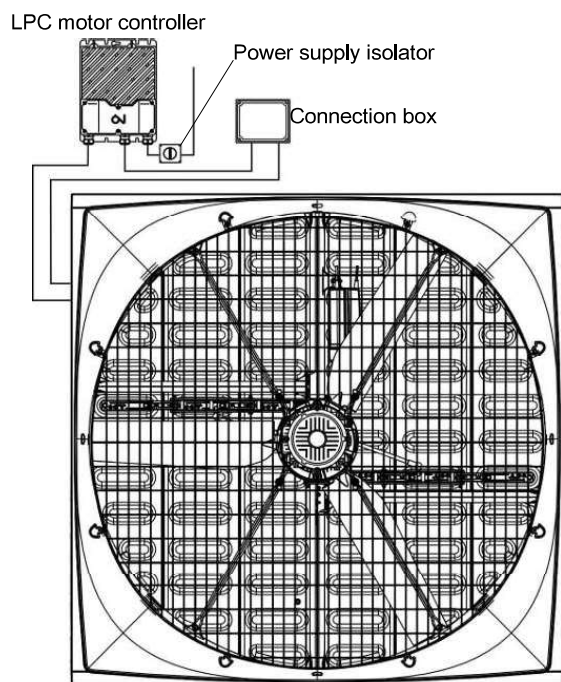
Input voltage Nominal [V]	Input voltage Voltage range [V]	Controller type	Circuit breaker UL recommended		Fuse UL recom- mended
			MCCB		Type: RK5, RK1, J,T or CC [A]
			Recommended by UL [A]	Max. UL [A]	
1x230	207 - 256	BD-Blue 130 LPC	10	35	15
3x400	360 - 440	BD-Blue 130 LPC	4	15	6
3x230	207 - 256	BD-Blue 130 LPC	8	25	15

4.1.3 Mains supply dimensioning regarding harmonic distortion

LPC motor controllers and frequency converters function like any other electronic power converter by converting AC to DC. As this conversion produces a non-sinusoidal current, the mains supply for the controller is affected by harmonic distortion.

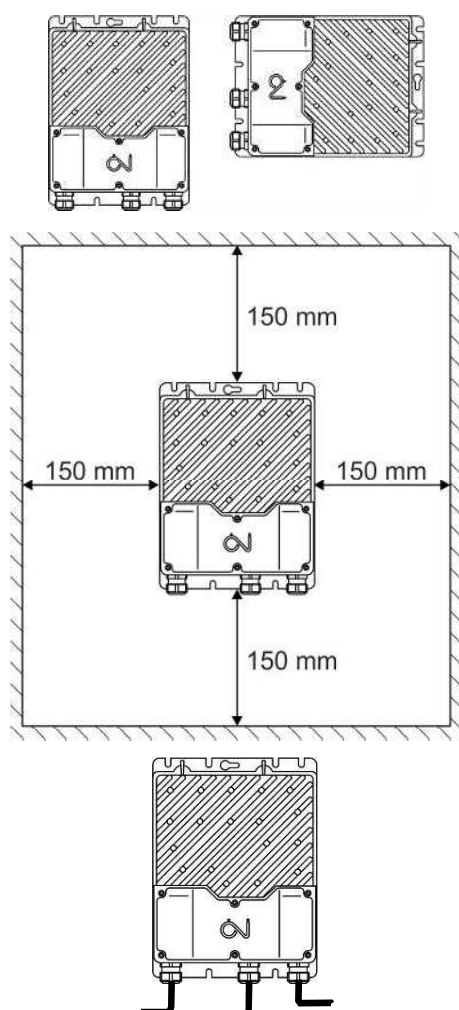
The electrician or the user of the equipment must ensure, possibly through contact with the supply company, that the equipment is connected to a properly sized mains supply.

4.1.4 Cabling to connection box and LPC motor controller



Example of cabling to connection box and LPC motor controller.

4.1.5 Cabeling and placement of LPC motor controller

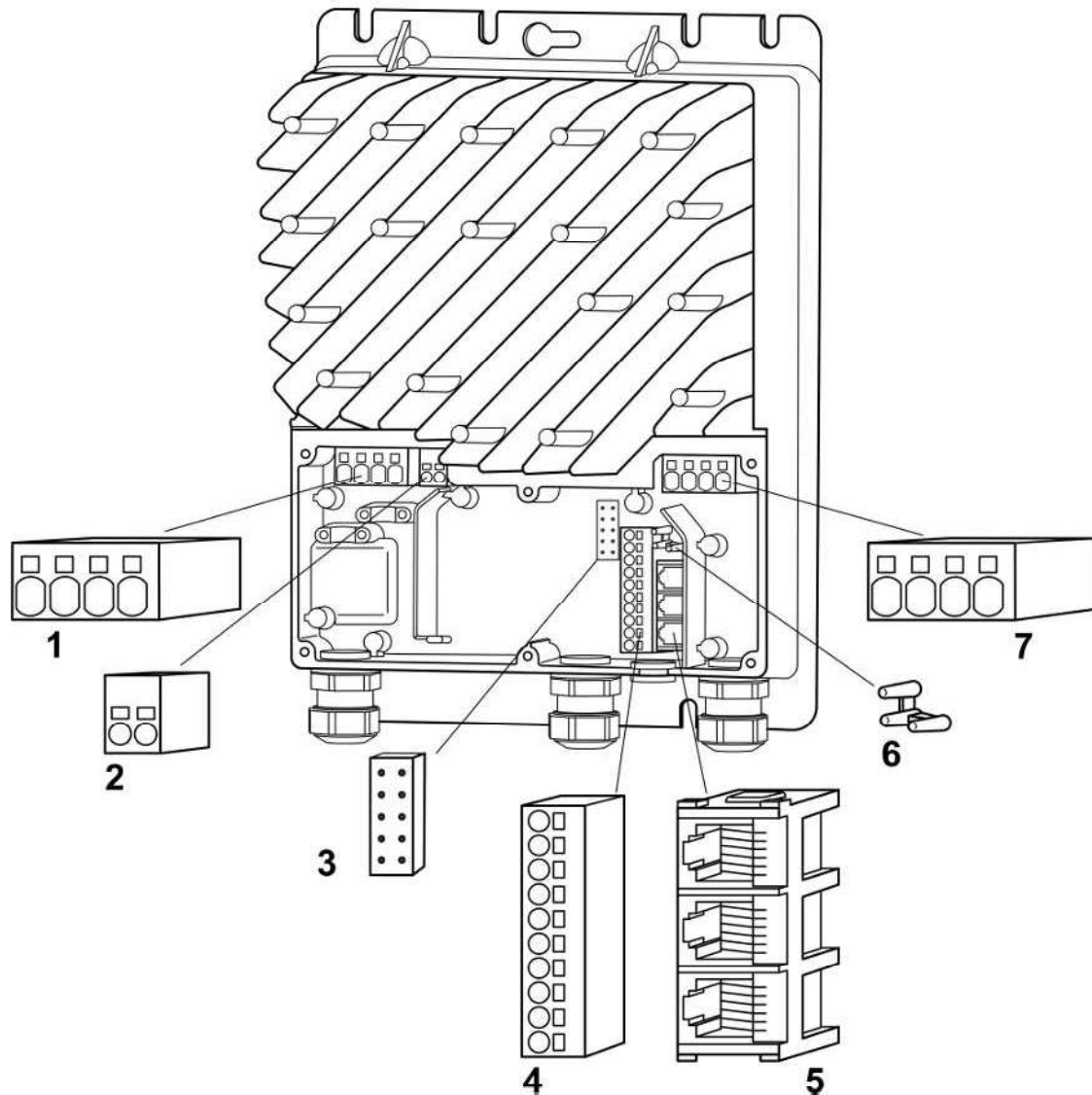


Motor controller must not be built-in or covered and must be mounted on a solid, level surface.

In order to uphold protection classifications, ensure access of cables and cooling of the motor controller, the distances to the surroundings of 150 mm must be adhered to.

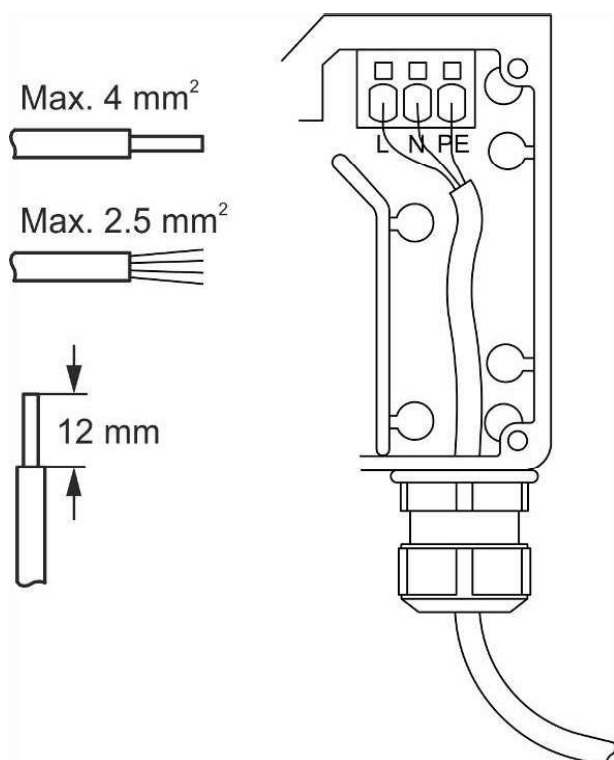
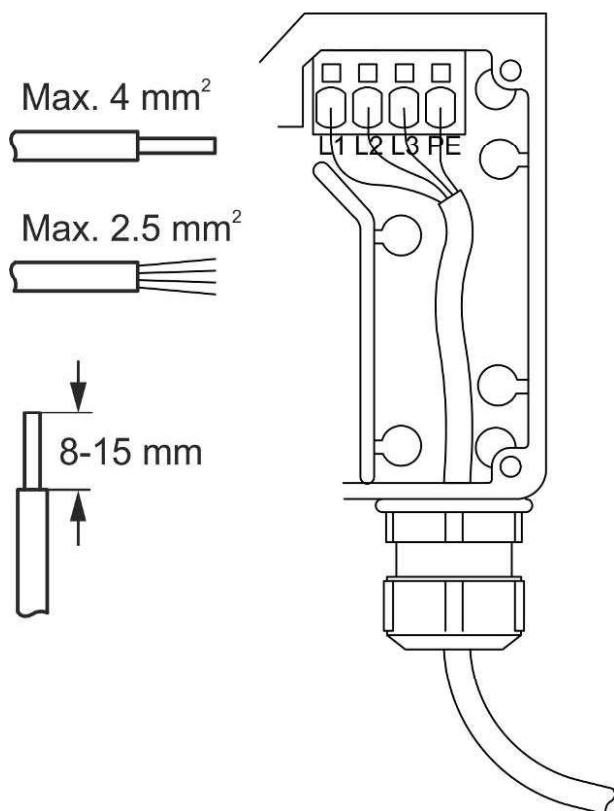
In order to prevent water from running into the motor controller via cables and screwed connections, the cabling must be carried out so that it can stand water around the cable in the gasket of the screwed connection.

4.1.6 Connection in the motor controller/frequency converter

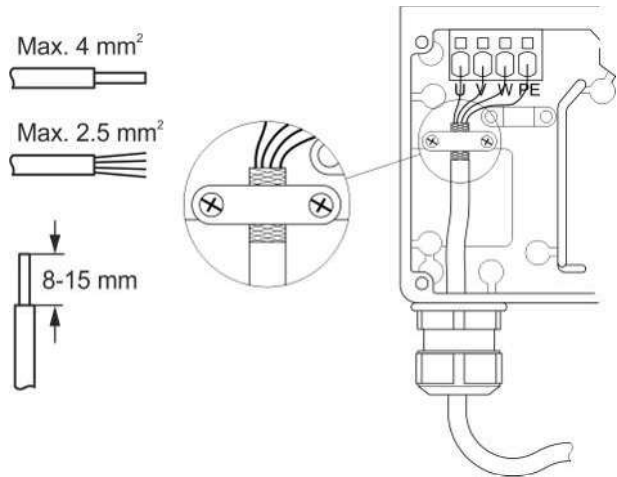


1	Motor connection terminals (U, V, W, PE)
2	Connection terminals for braking resistor (not used)
3	Connector for optional module
4	Terminal block for programming interface
5	RJ12 programming connector (2 x slave / 1 x master)
6	3-point strain relief for modbus cable
7	Power supply terminals for 1-phase (L, N, PE) and 3-phase (L1, L2, L3, N, PE)

4.1.6.1 Terminals for power supply



4.1.6.2 Terminals for power supply of fan



Remember to strip the cable so that the protective shield from the fan can be connected to the motor controller during mounting under the rail.

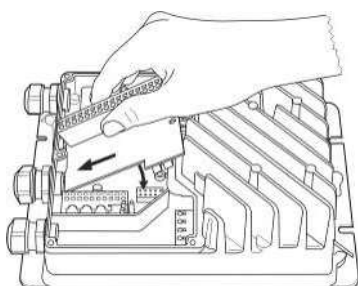
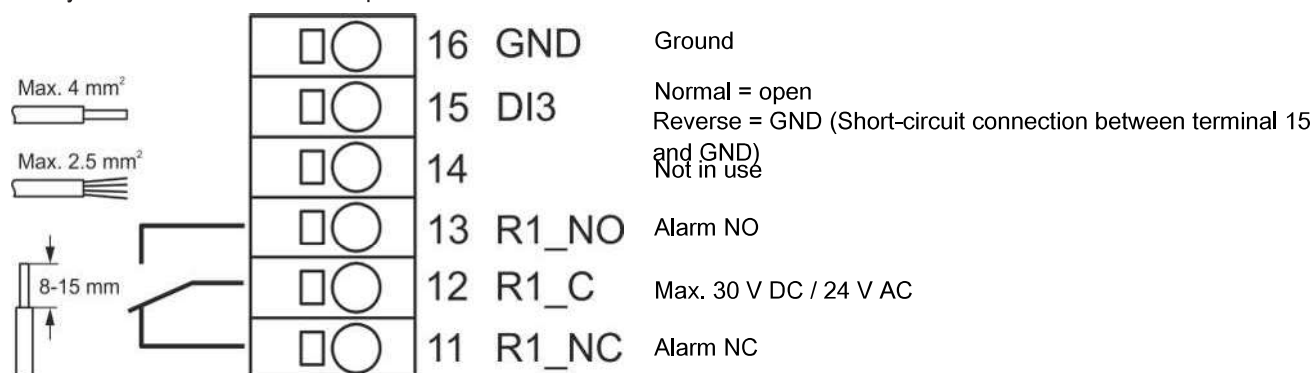
Connection from motor controller to fan motor.

4.1.6.3 Signal terminals

	A	1		Not in use
	B	2		Not in use
	GND	3		Ground
	+10V	4		Not in use
	0-10V	5		Signal from controller
	GND	6		Ground
	D2	7		10-0 V = open 0-10 V = GND (Short-circuit connection between terminal 7 and GND)
	D1	8		Stop = open Start = GND (Short-circuit connection between terminal 8 and GND)
	DO	9		Not in use
	GND	10		Ground

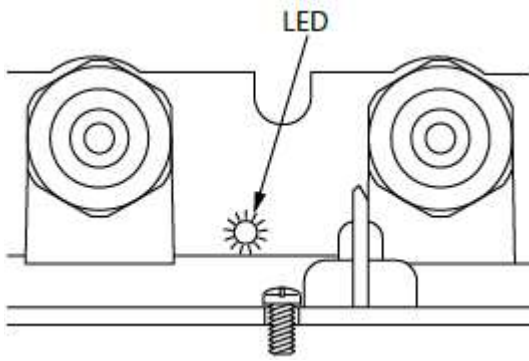
4.1.6.4 Terminals on relay module

Relay module 445076 can be purchased as accessories.



Mount the relay module as shown in the picture.

4.1.7 LED indication on the motor controller/frequency converter



The motor controller/frequency converter is equipped with a two-color LED for indication of different operating modes.

LED is located on the underside next to the cable glands.

- Constantly green when mains voltage is connected.
- Constantly red in case of at least one critical alarm.
- Flashes red in case of at least one non-critical alarm.

4.1.8 Alarms

The motor controller/frequency converter including relay module provides alarm monitoring which monitors the optimal and flawless operation and generates an alarm if operating or performance problems are observed.

Alarms are divided into "critical" alarms and "non-critical" alarms.

"Critical" alarms stop the motor controller/frequency converter/motor, LED emits red light and the alarm relay is activated.

"Non-critical" alarms reduce the performance of the motor controller/frequency converter/motor, and the LED flashes red.

The built-in alarm monitoring stops the motor controller/frequency converter/motor.

The alarm automatically resets, if the error ceases, and motor controller/frequency converter/motor starts.

Reset the alarm, if the maximum number of restarts (5 x/60 min) is exceeded.

Disconnect the mains voltage for more than 60 sec and the alarm will automatically be reset.

Alarm overview				
Error	Alarm priority	Motor controller/frequency converter/motor	Error	Alarm priority
Supply voltage too high	Critical	Stopped after 5 restart attempts caused by the same error within 60 minutes	Emits red light	Enabled
Current consumption of the motor too high				
Phase errors; one or more phases interrupted (L1, L2, L3)				
Obstructed impeller				
Wrong direction of rotation				
Phase error on the motor supply (U, V, W)				
Internal communication error				
Supply voltage too low	Non-critical	Reduced performance	Flashes red	Not activated
Internal temperature of motor controller too high. (>95 °C)				
Motor current has reached its limit value				
Error in internal EEPROM circuit				
Ripple voltage too high				

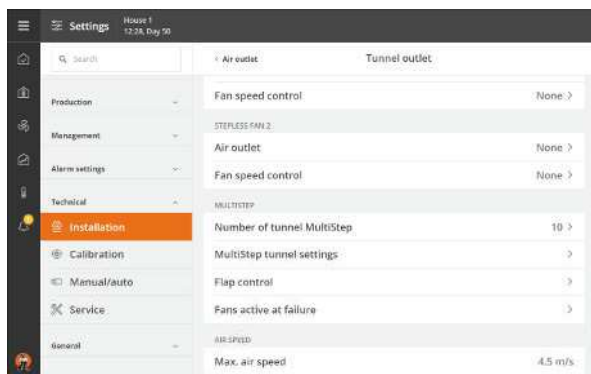
Alarm overview				
External 24V DC supply over-loaded				
Supply voltage too high				

4.1.9 Emergency opening for BD-Blue 130 actuator – house controller

If emergency unlock for the shutter motor is required, it must be powered by an F6 24V power supply via the computer in the livestock house.

For fans that do not require emergency unlock, the shutter motor is powered by an external 24 V power supply without battery backup.

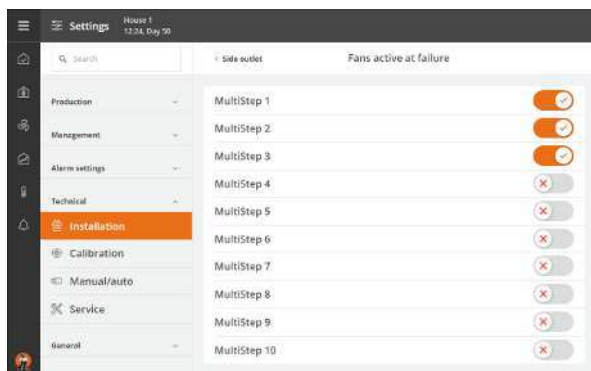
4.1.9.1 Fan active at power failure



To activate the fan at a power failure, select

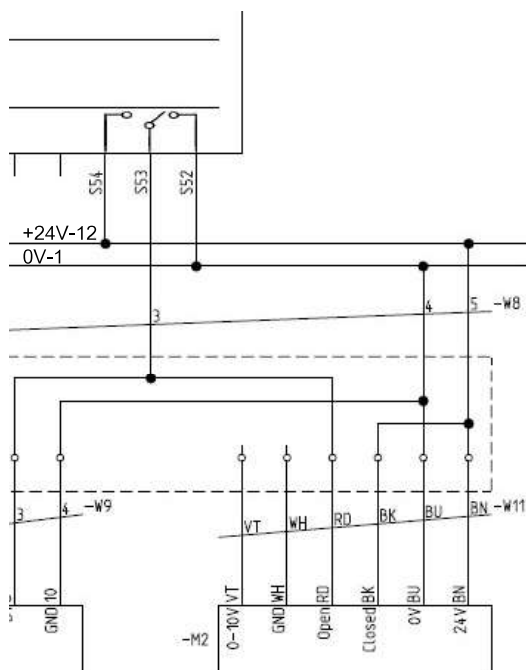
| Installation | Manual installation | Climate | Air outlet | Tunnel outlet and after that **Fans active at failure**.

In the menu in the climate controller.



The default setting of **MultiStep 1** to **MultiStep 3** is set to be **active**.

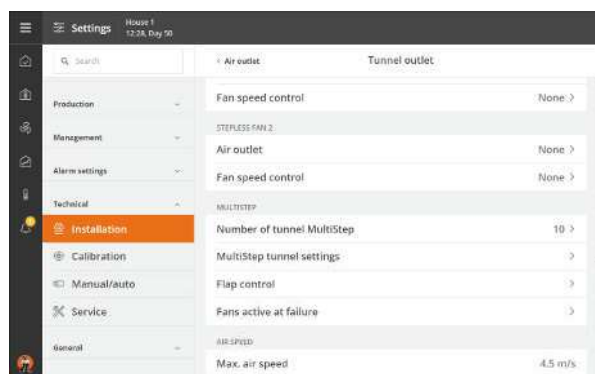
To change this, select the **MultiStep** which should be changed, and **activate**.



+24V-12 is mounted on NO relay in the climate controller.

0V-1 is mounted on NO relay in the climate controller.

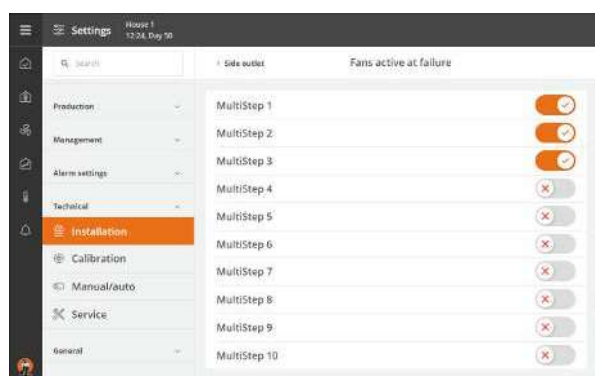
4.1.9.2 Fan not active at power failure



To deactivate the fan at a power failure, select

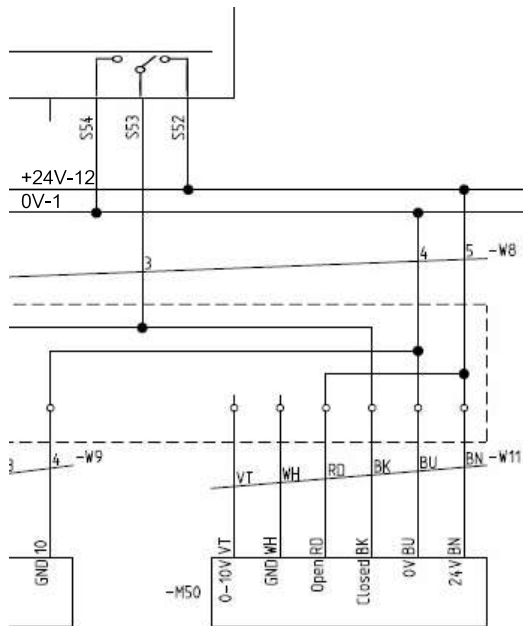
Installation | Manual installation | Climate | Air outlet | Tunnel outlet and after that **Fans active at failure**.

in the menu in the climate controller.



The default setting of **MultiStep 4** to **MultiStep 16** is set to be **deactive**.

To change this, select the **MultiStep** which should be changed, and select **deactivate**.

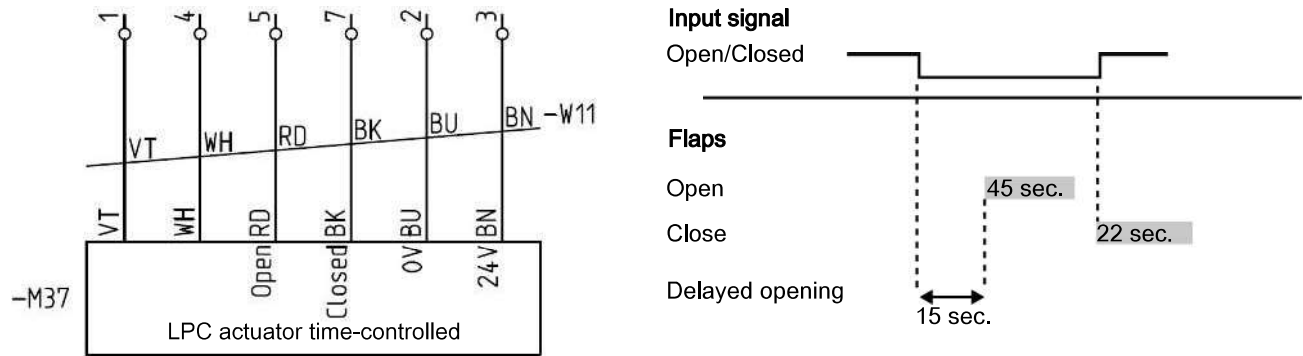


External +24V is mounted on NC relay in the climate controller.

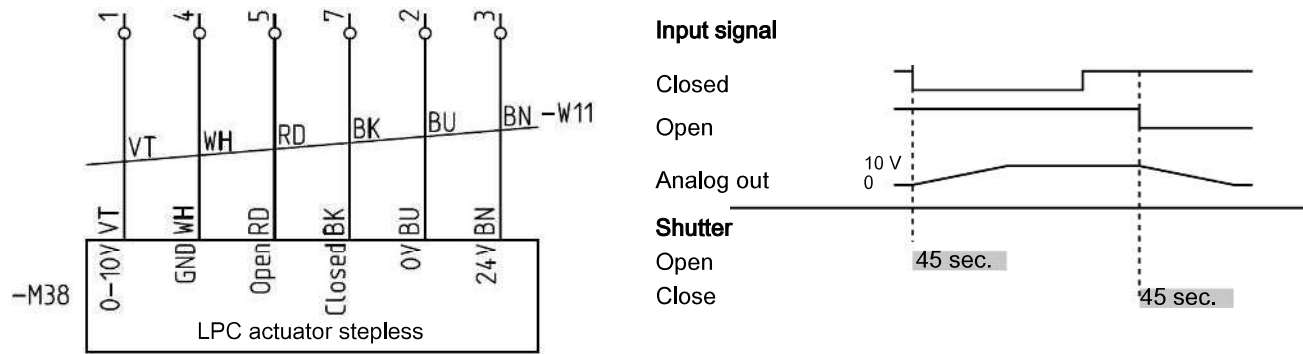
0V is mounted on NO relay in the climate controller.

4.1.10 Connection in the actuator

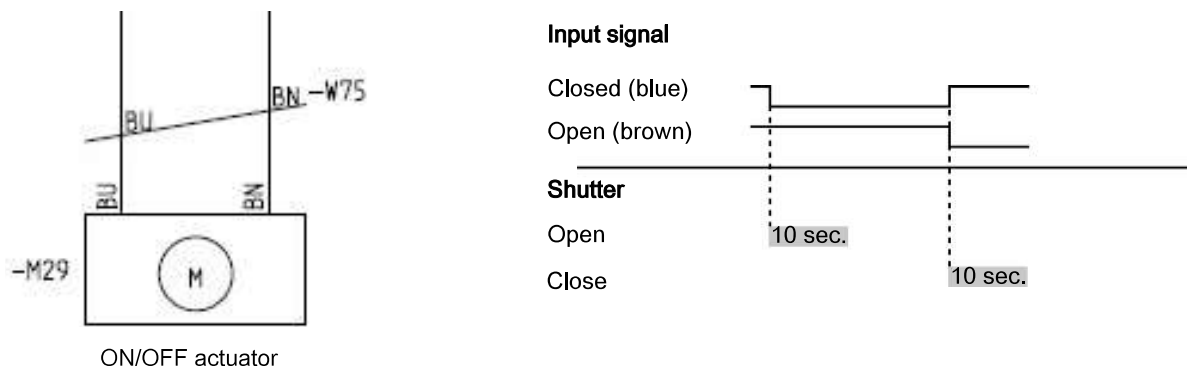
4.1.10.1 BD-Blue 130 LPC actuator time-controlled



4.1.10.2 BD-Blue 130 LPC actuator stepless



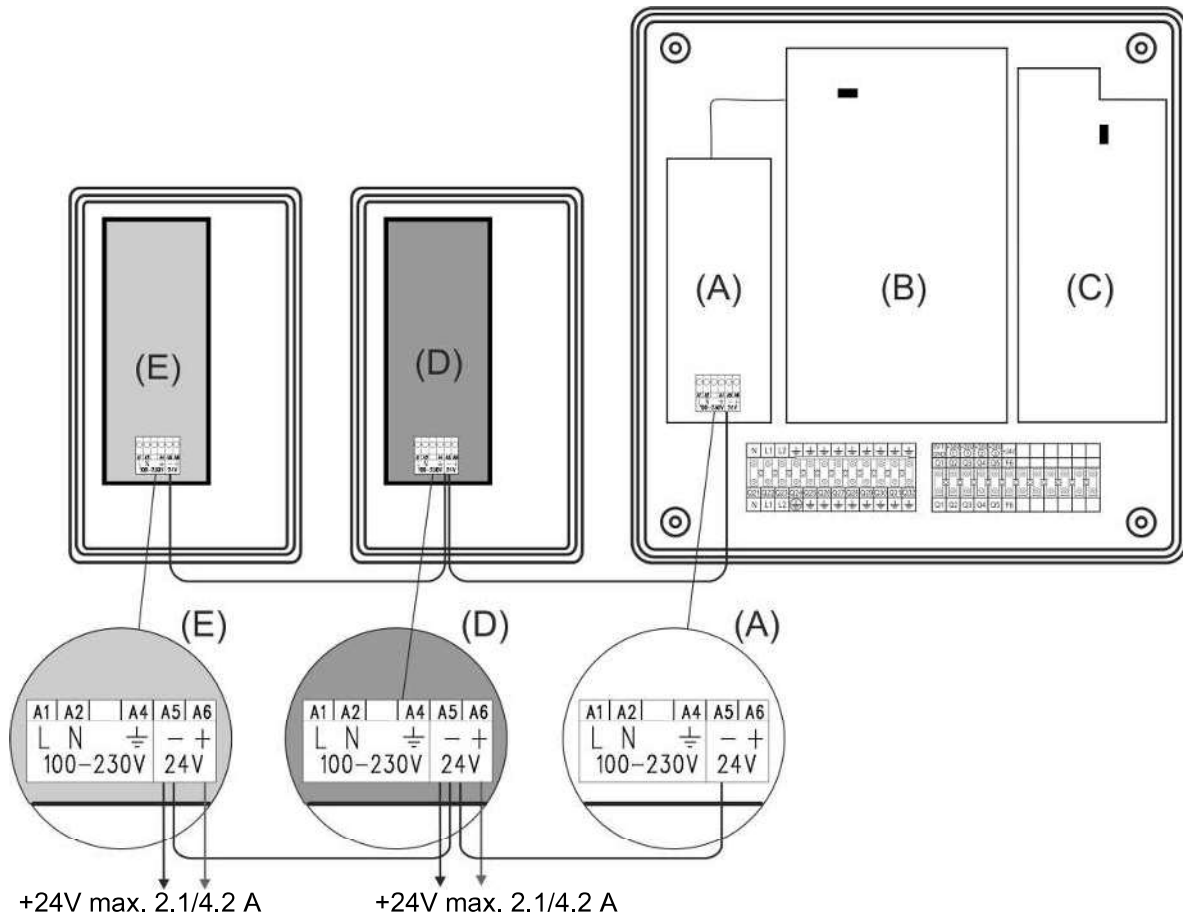
4.1.10.3 BD-Blue 130 ON/OFF actuator



4.1.11 Connection of extra 24 V power supply

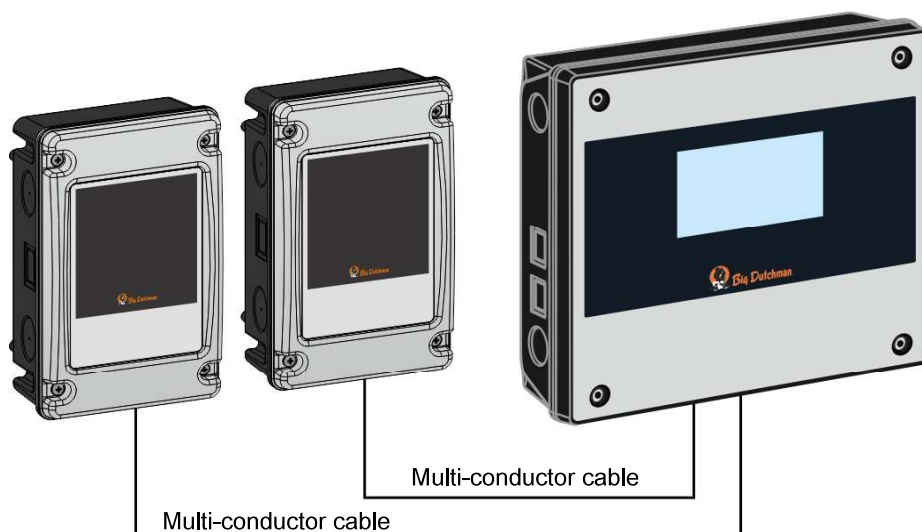
Internal power supply **(A)** may only be used to supply factory-installed modules.

In case of a greater power consumption than 0.4 A from the main module **(B)** and 0.4 A from the I/O modules **(C)** an extra power supply **(D)** must be used and possibly **(E)**. The A5 minus terminal is connected in parallel (terminal A5 to A5).



The power supply must be connected to the controller using a multi-conductor cable. Number of conductors in the multi-conductor cable is determined by the connected products.

The multi-conductor cable is used for input and output signals from the connected products and to the minus wire of the power supply.



4.1.12 Cable plans and circuit diagrams

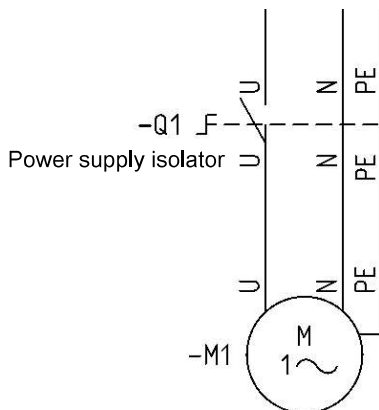
4.1.12.1 General information about circuit diagrams

Symbols are in accordance with the IEC/EN 60617 standard. The classification of the ("letter codes") on the symbols is in accordance with the IEC/EN 81346-2 standard. Reference designations are in accordance with IEC/EN 81346-1:2001 structuring principles and reference designations. This standard indicates structured methods for naming electrotechnical systems.

4.1.12.1.1 Color code

Letter Code	Color	Standard
BK	Black	Color coding on wires are in accordance with standard IEC 60757: Letter codes to identify colors used on drawings, diagrams, labelling, etc.:
BN	Brown	
RD	Red	
OG	Orange	
YE	Yellow	
GN	Green	
BU	Blue (incl. light blue)	
VT	Violet (purple red)	
GY	Grey (slate)	
WH	White	
PK	Pink	
GD	Gold	
TQ	Turquoise	
SR	Silver	
GNYE	Green-and-yellow	

4.1.12.1.2 Power supply isolator



The installation of a power supply isolator is required for each motor and motor control.

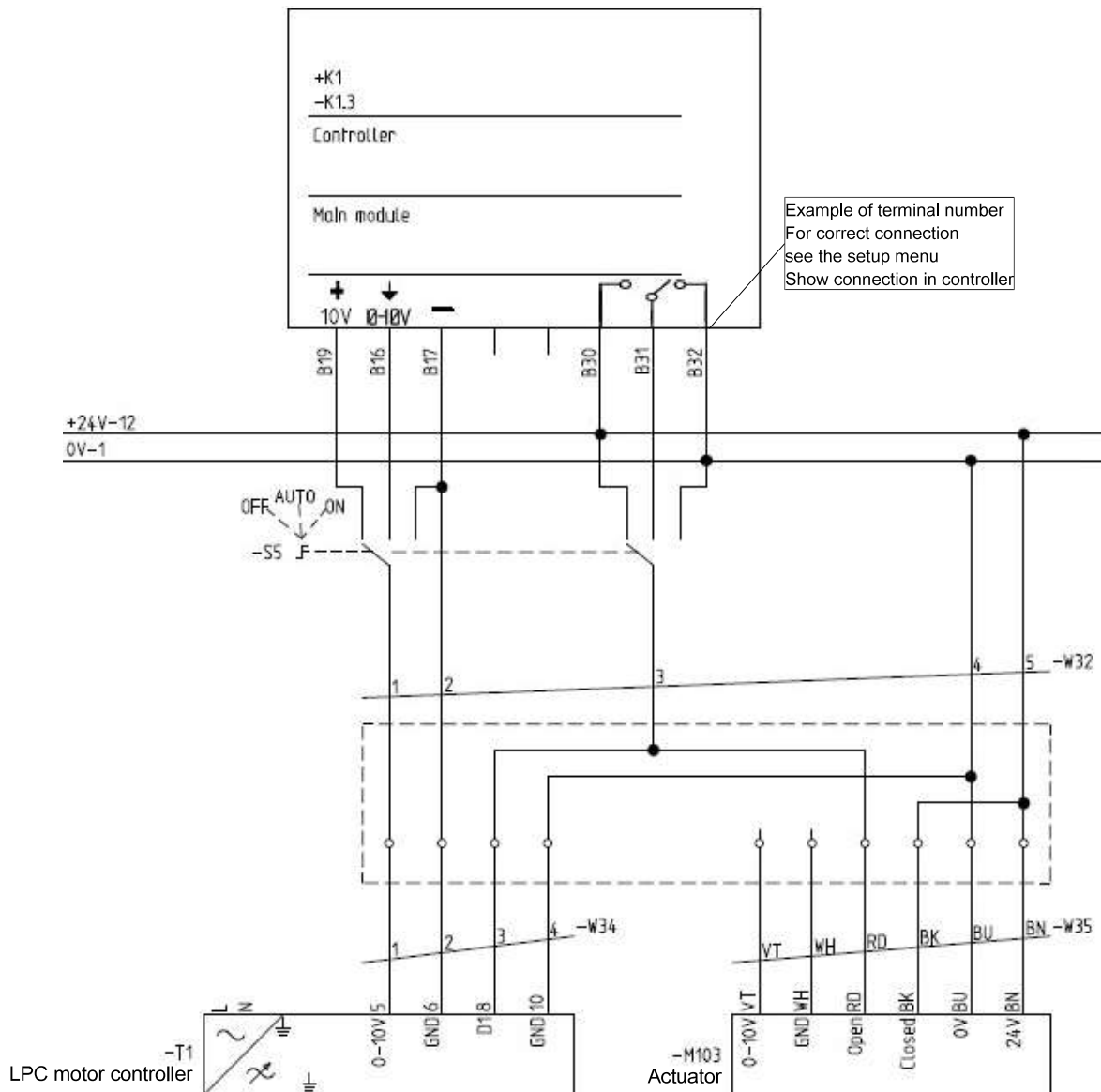
4.1.12.1.3 Letter code

The letter codes used in accordance with standard IEC/EN61346-2.

-F	-K	-M	-Q	-S	-T	-W
Protective equipment RCCB / Initial fuse Protective motor switch	Controller Contactor	Fan Motor	Power supply isolator	Switch	Motor con- troller	Cable

4.1.13 Circuit diagram for OFF/AUTO/ON switch

4.1.13.1 BD-Blue 130 LPC



4.1.13.2 BD-Blue 130 ON/OFF

If using BD-Blue 130 ON/OFF 3x400 V with motor controlled shutter, e.g. for renovation tasks where existing installations are expected to be recycled, this must be solved by contacting Big Dutchman.

4.1.14 Circuit diagram for emergency opening

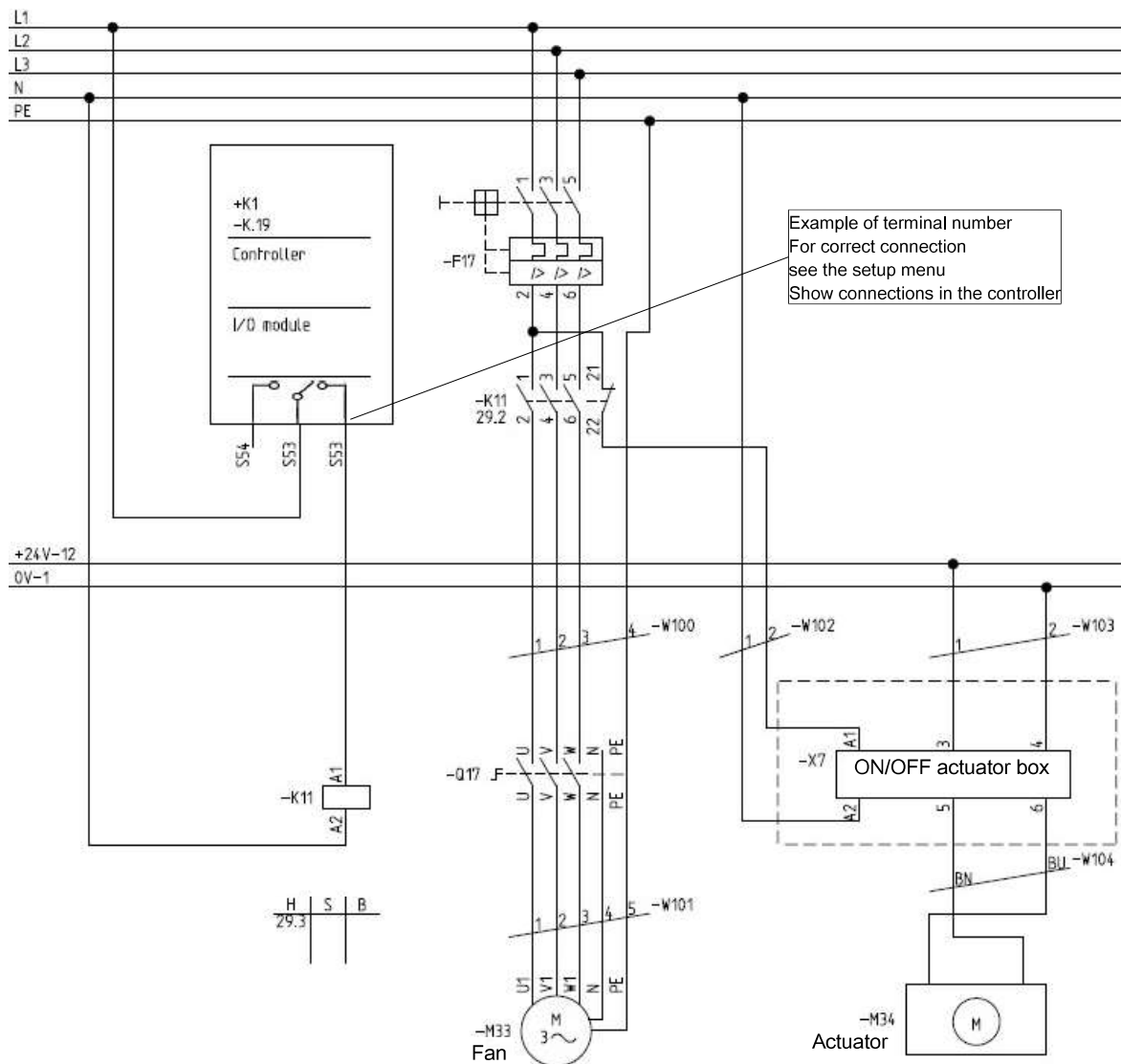
4.1.14.1 BD-Blue 130 LPC

Regarding circuit diagram for BD-Blue 130 LPC, see section Emergency opening for BD-Blue 130 actuator – house controller [► 57]

4.1.14.2 BD-Blue 130 ON/OFF

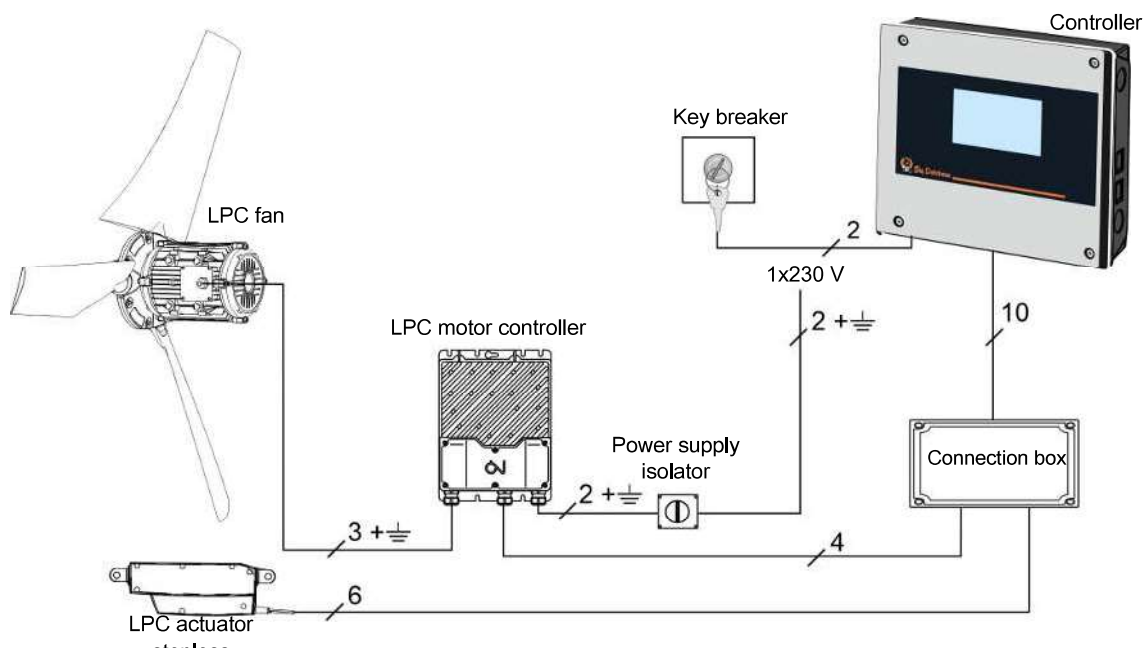
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.



4.1.15 BD-Blue 130 LPC with reverse (1x230 V)

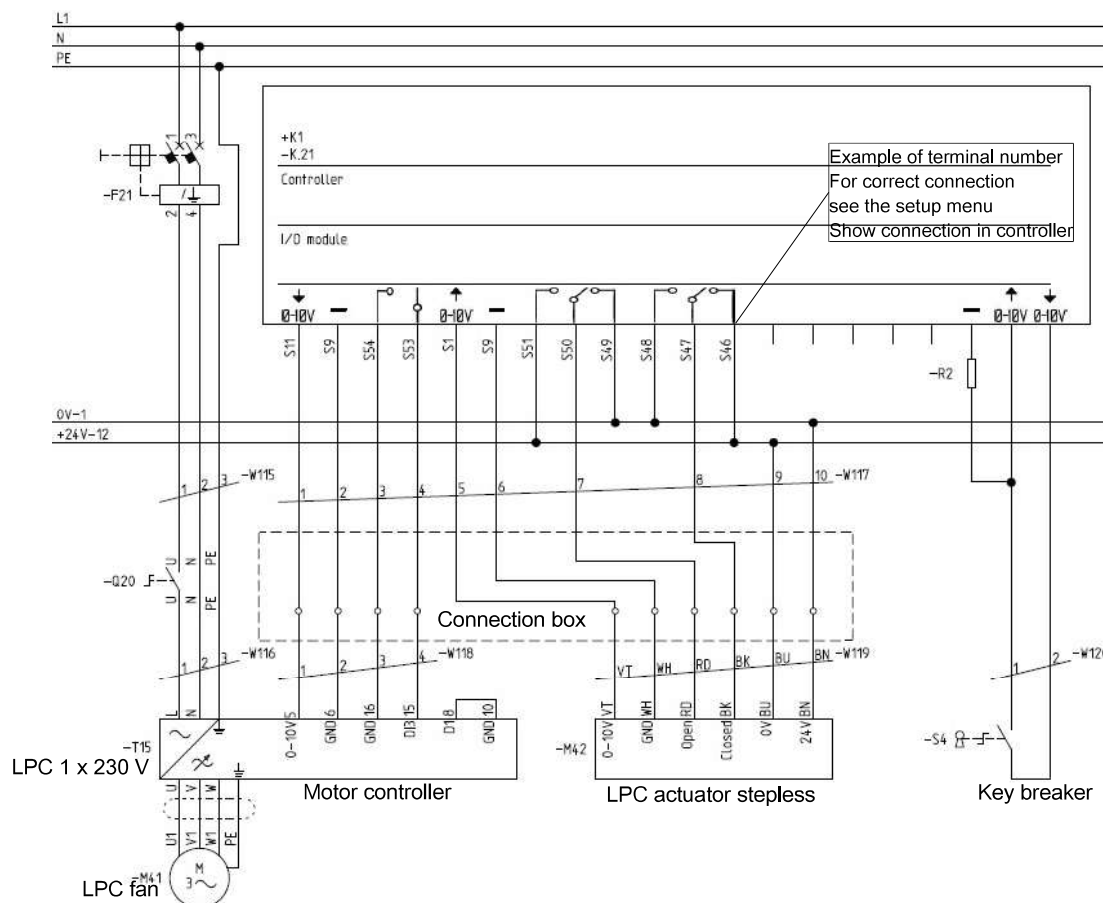
4.1.15.1 Cable plan



4.1.15.2 Circuit diagram

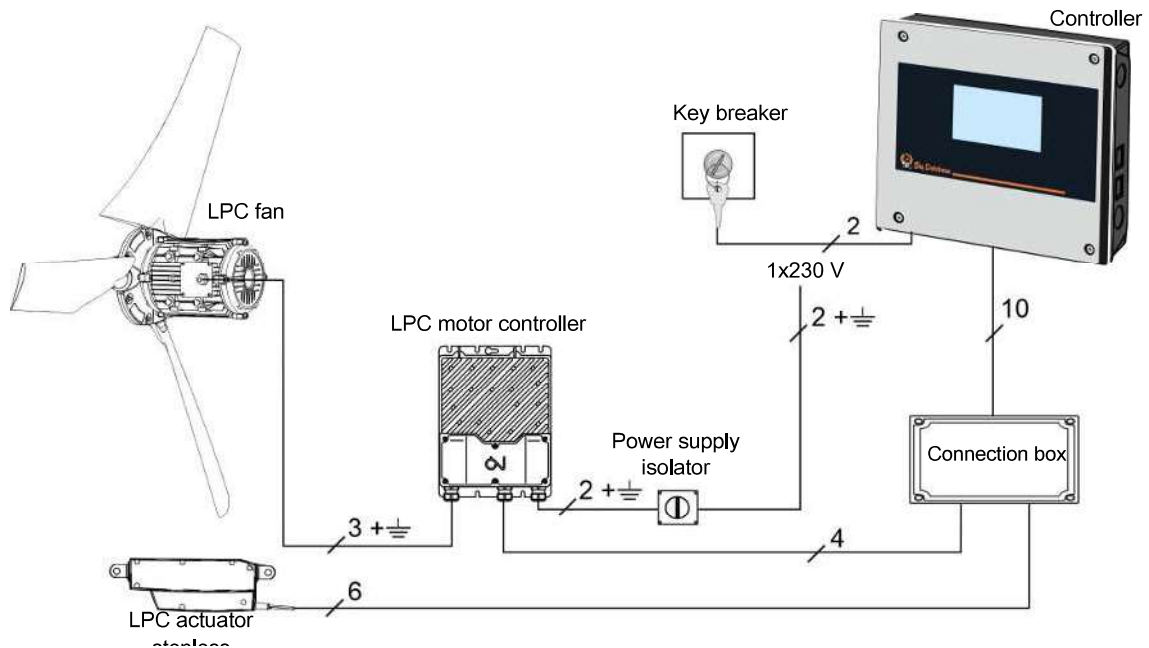
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.



4.1.16 BD-Blue 130 LPC with alarm relay (1x230 V)

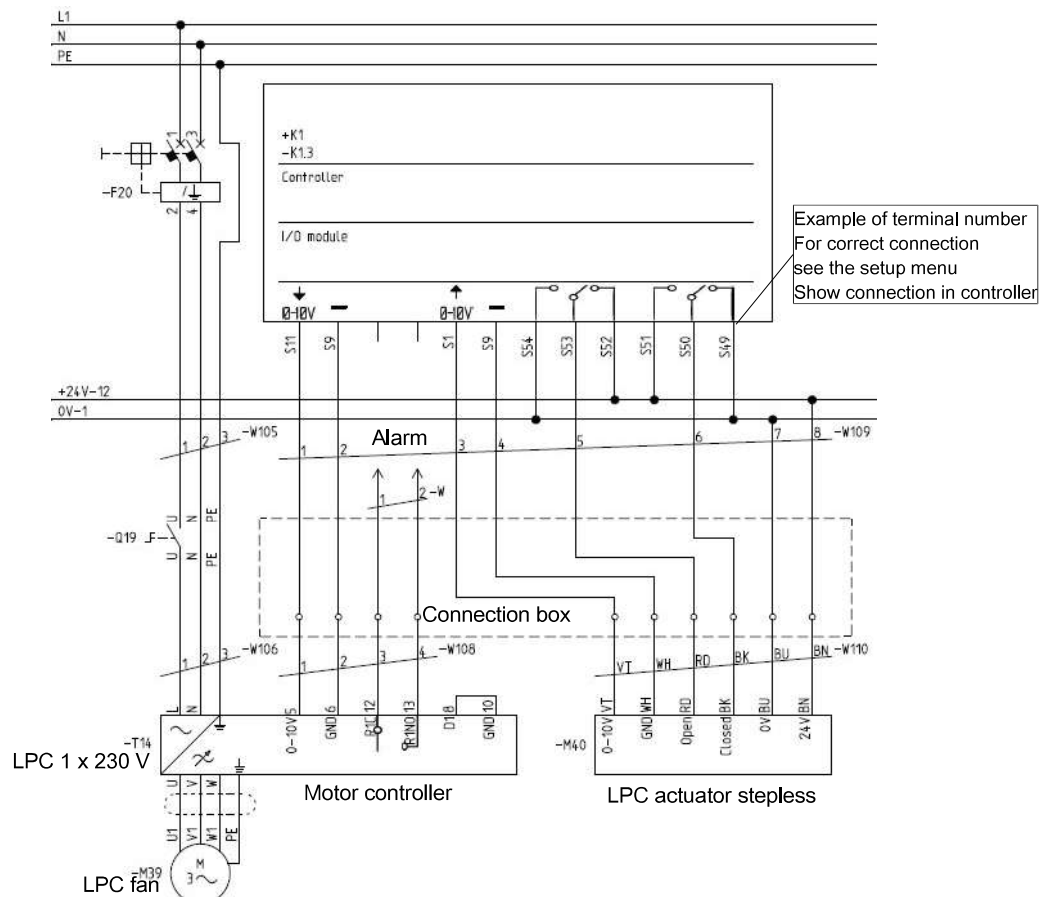
4.1.16.1 Cable plan



4.1.16.2 Circuit diagram

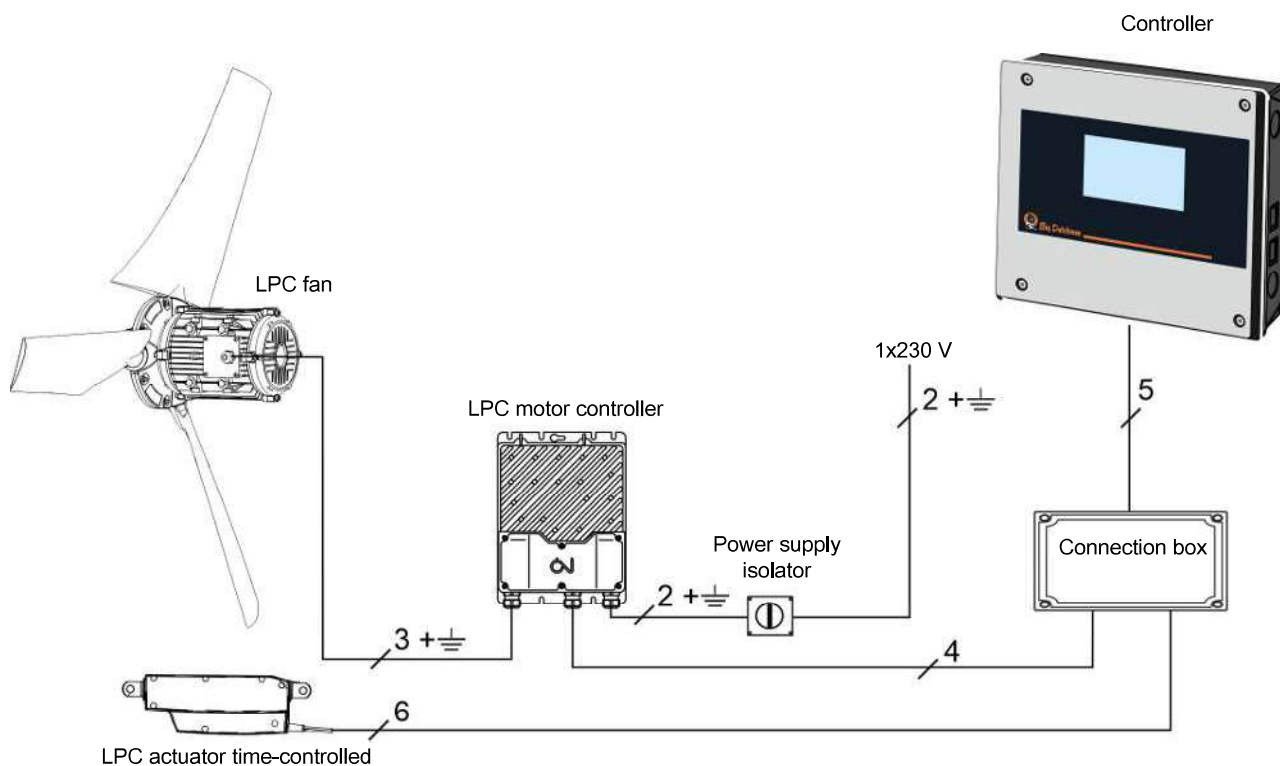
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.

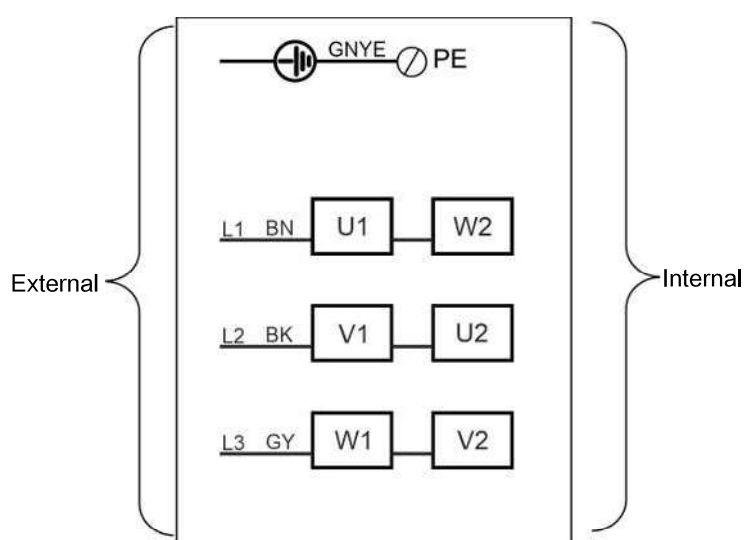


4.1.17 CL 1400 LPC 1x230 V variable ON/OFF (60-25-4566)

4.1.17.1 Cable plan



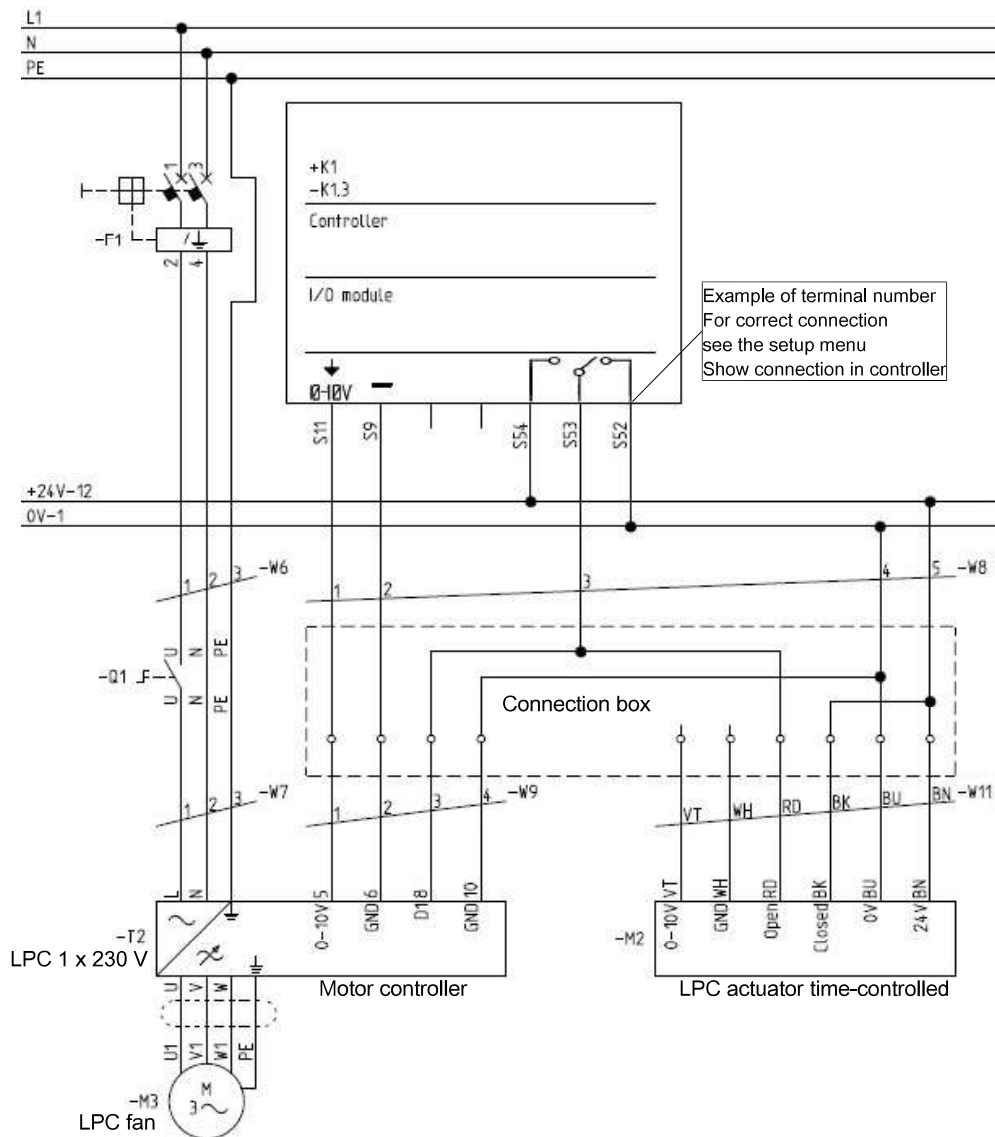
4.1.17.2 Terminals in LPC 1x230 V fan



4.1.17.3 Circuit diagram

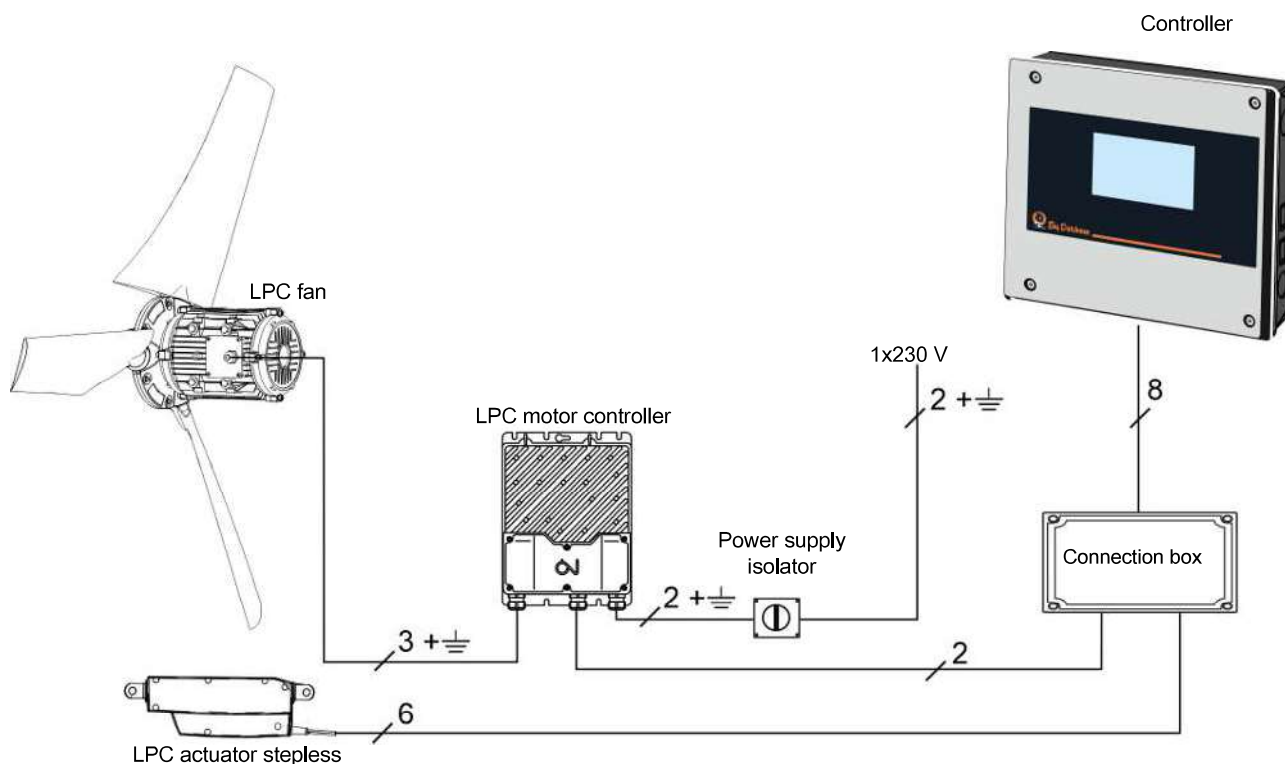
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.

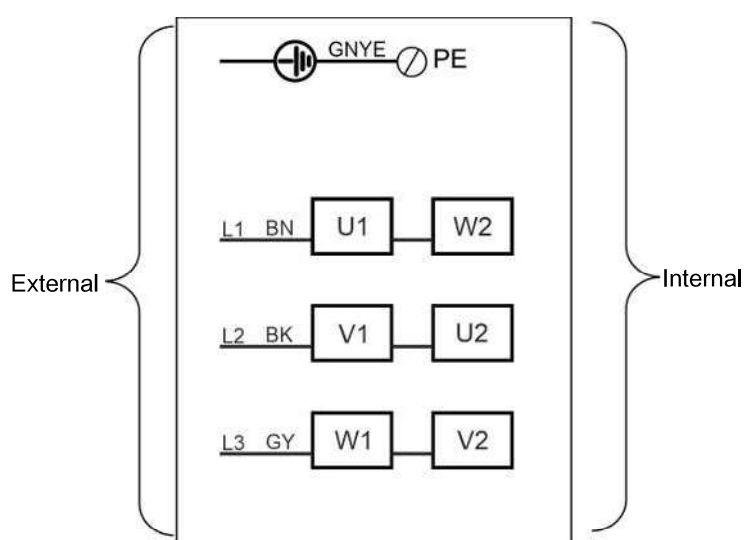


4.1.18 BD-Blue 130 LPC 1x230 V stepless (60-25-4569)

4.1.18.1 Cable plan



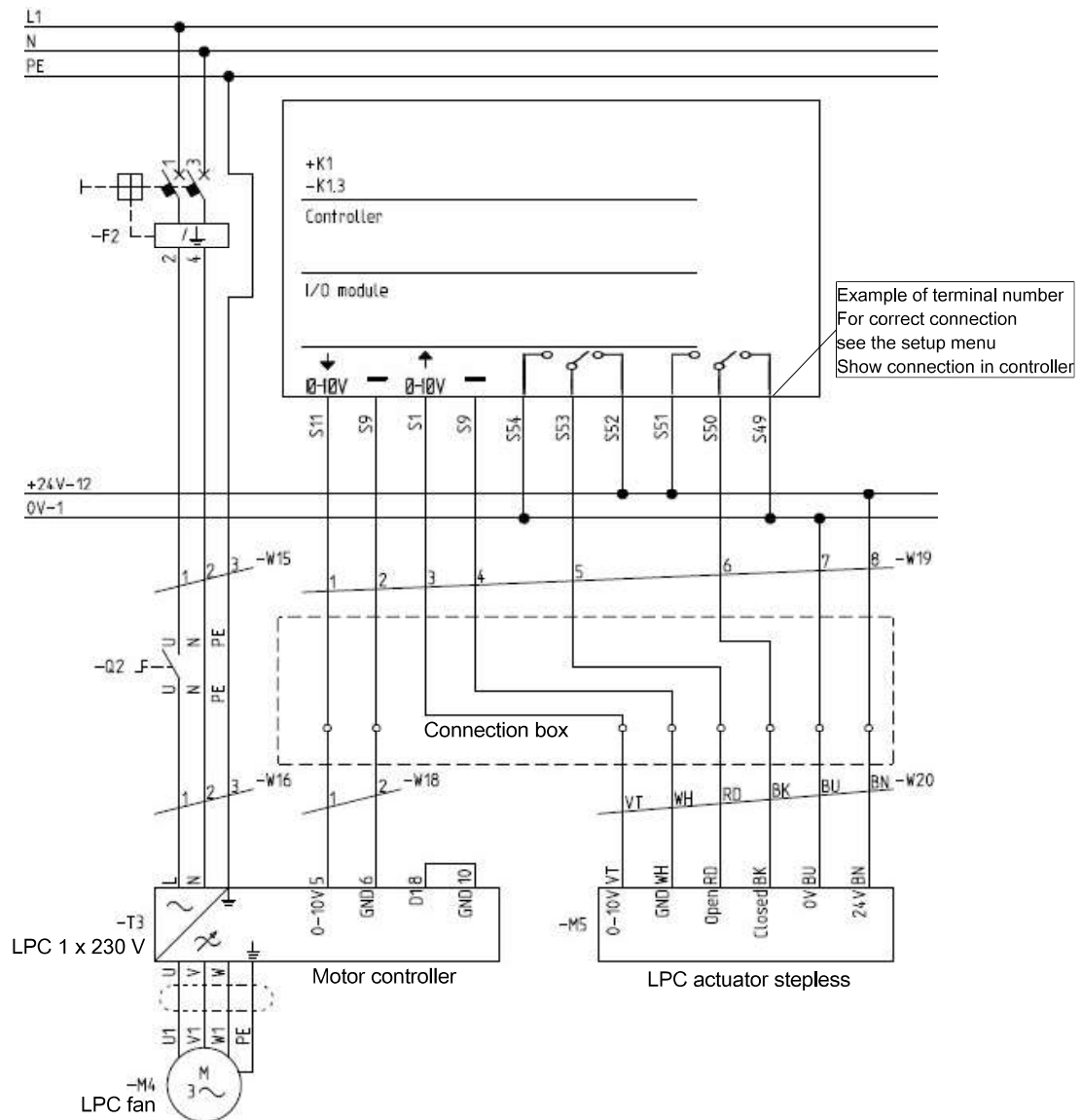
4.1.18.2 Terminals in LPC 1x230 V fan



4.1.18.3 Circuit diagram

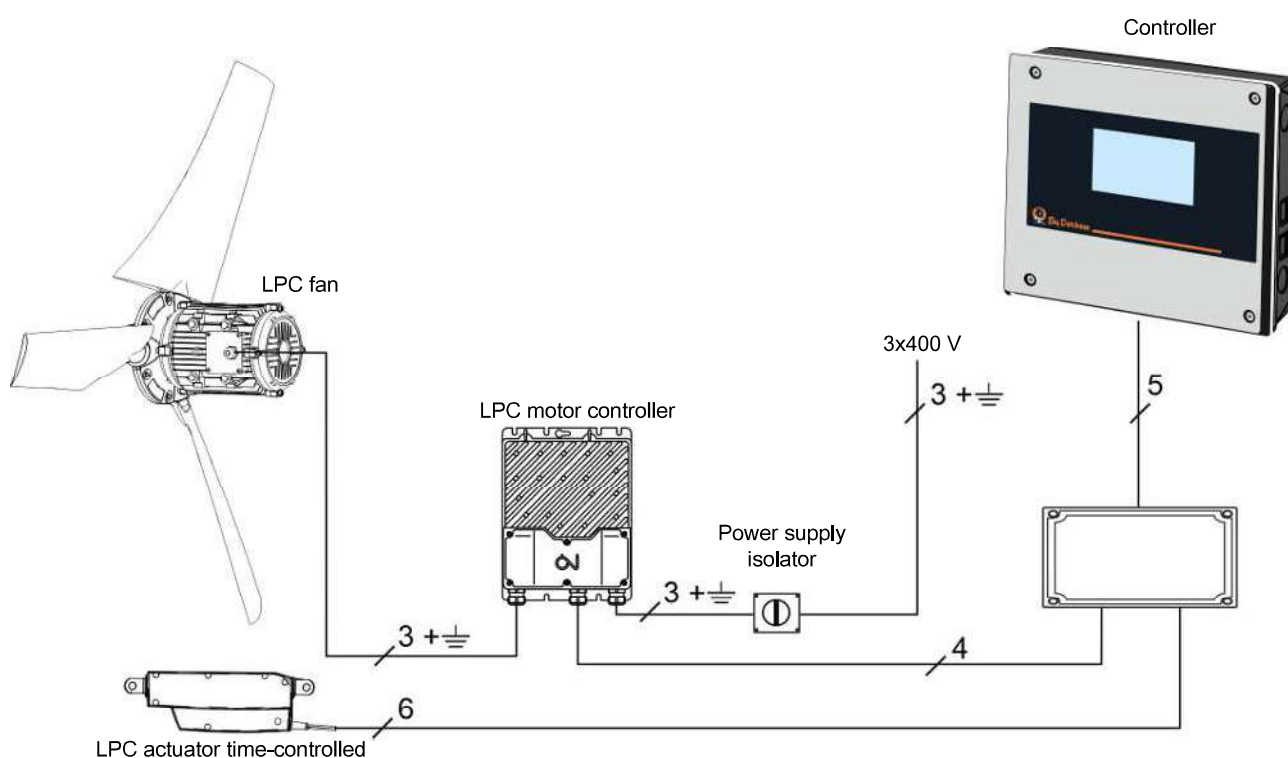
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.

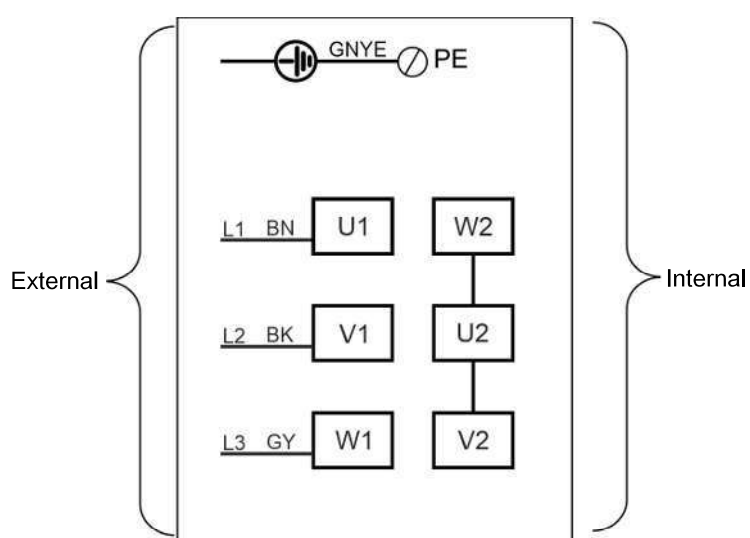


4.1.19 BD-Blue 130 LPC 3x400 V variable ON/OFF (60-25-4562/60-25-4568)

4.1.19.1 Cable plan



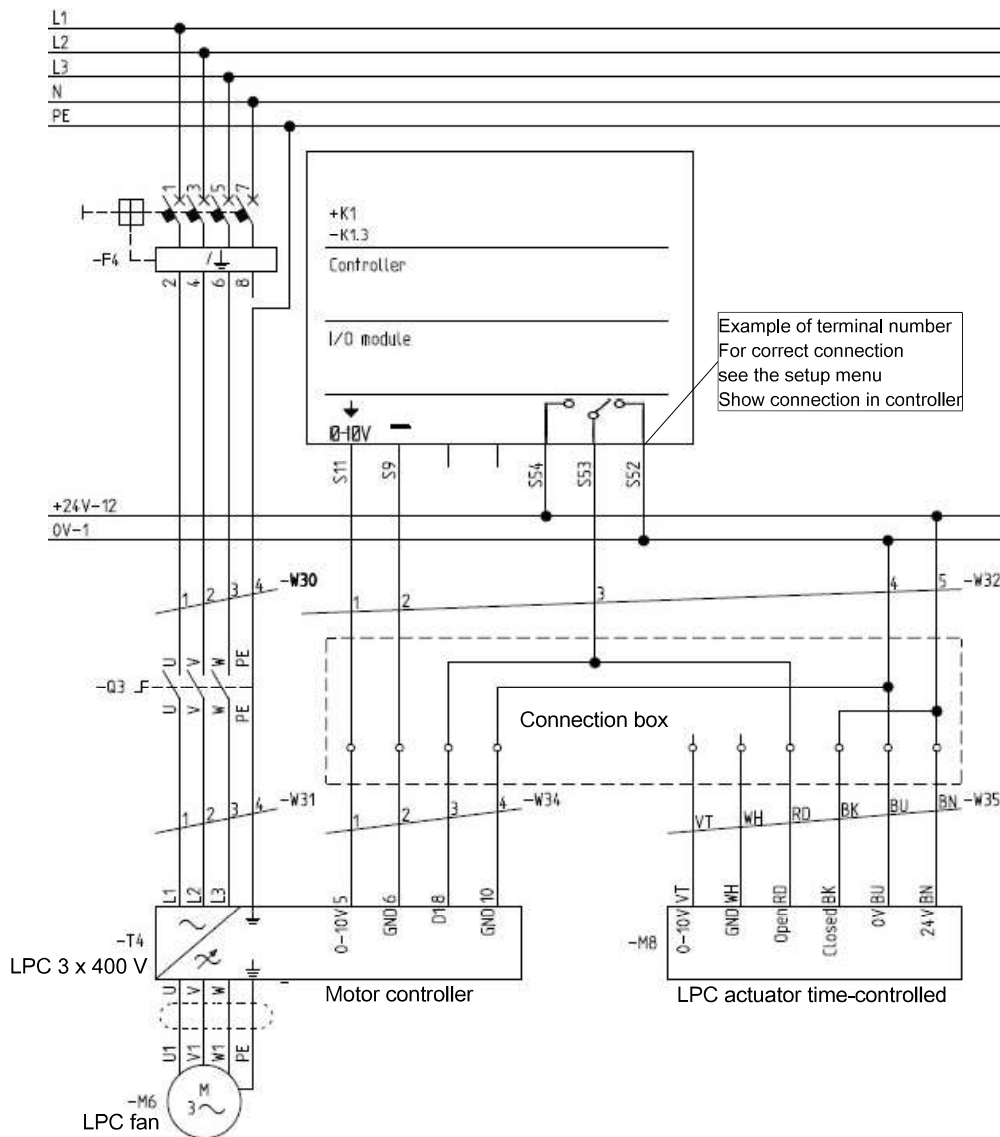
4.1.19.2 Terminals in LPC 3x400 V fan



4.1.19.3 Circuit diagram

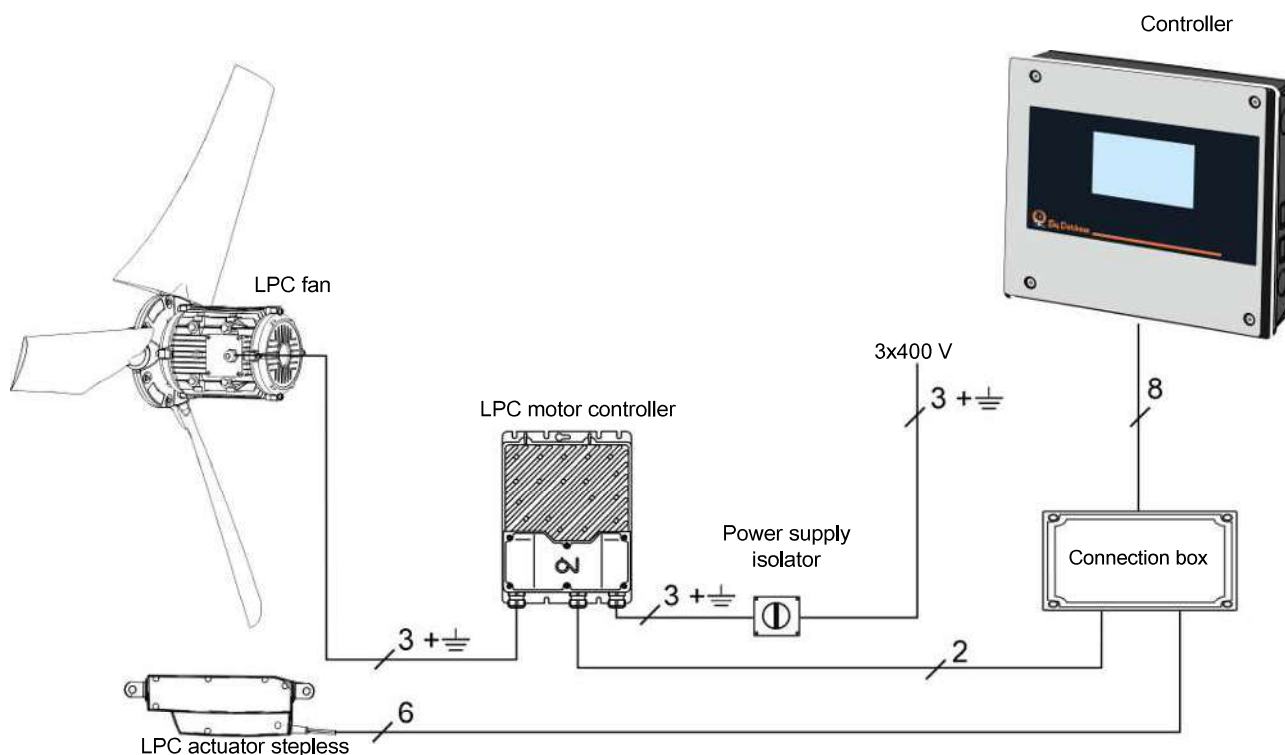
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.

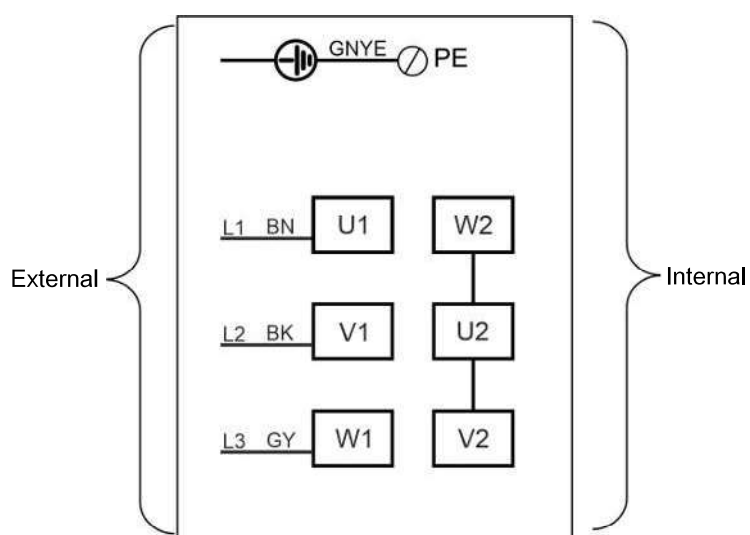


4.1.20 BD-Blue 130 LPC 3x400 V with actuator – stepless (60-25-4560/60-25-4571)

4.1.20.1 Cable plan



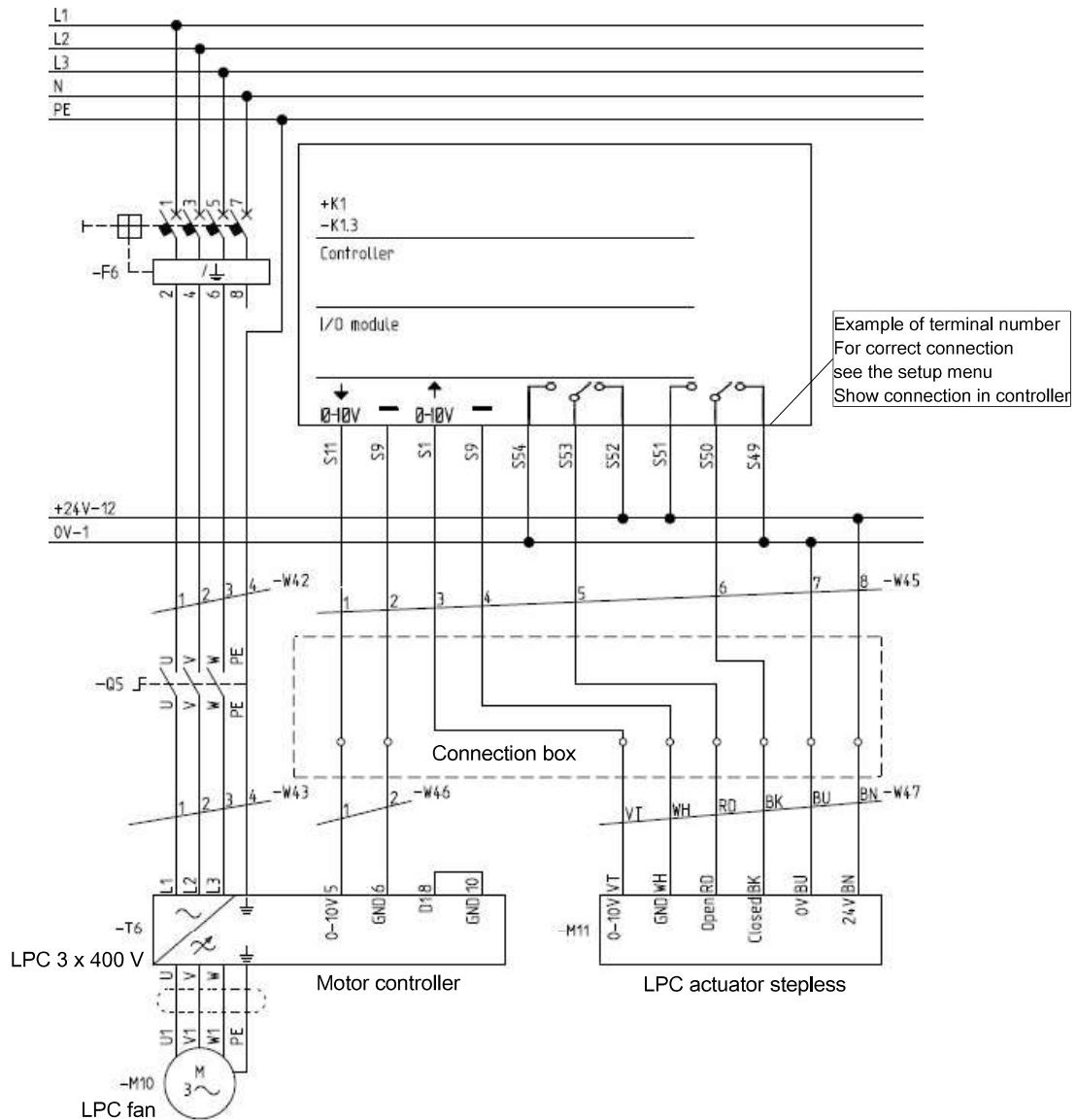
4.1.20.2 Terminals in LPC 3x400 V fan



4.1.20.3 Circuit diagram

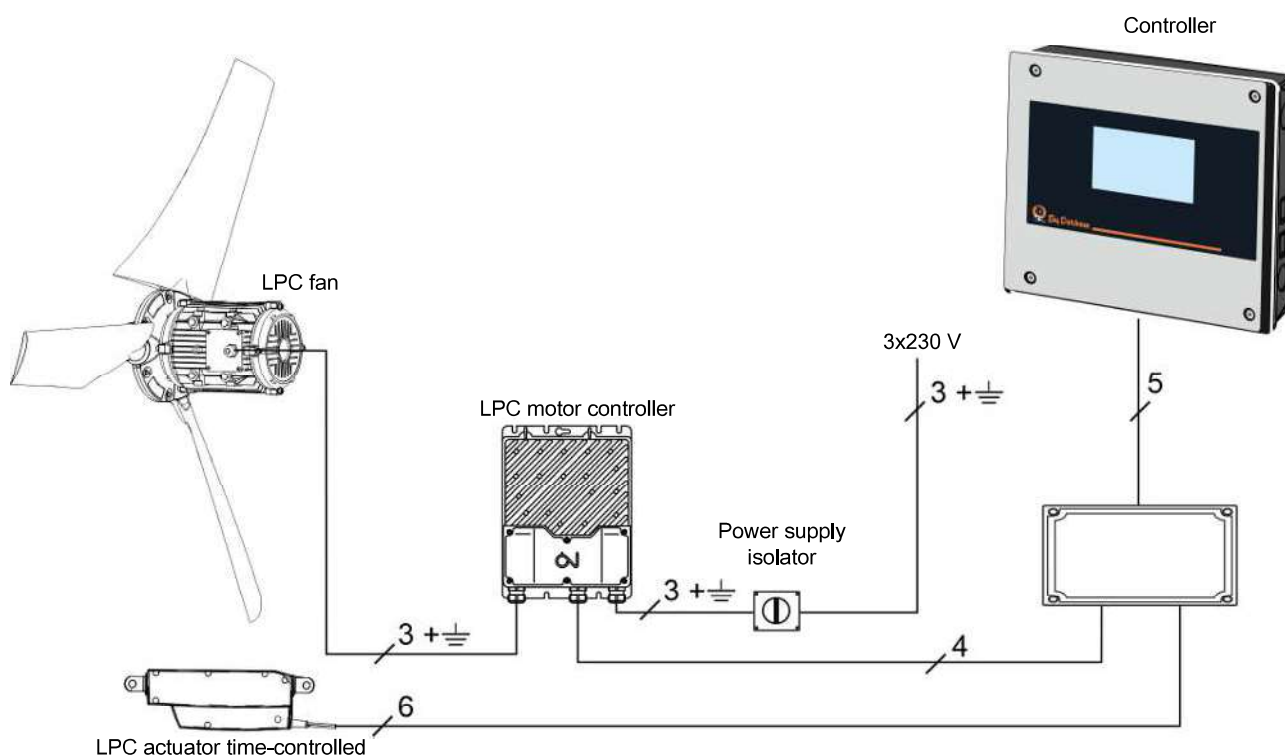
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.

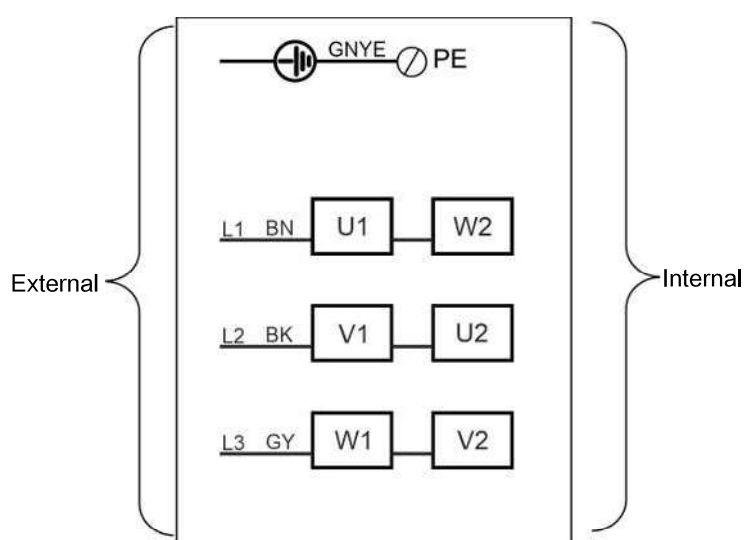


4.1.21 BD-Blue 130 LPC 3x230 V variable ON/OFF (60-25-4567)

4.1.21.1 Cable plan



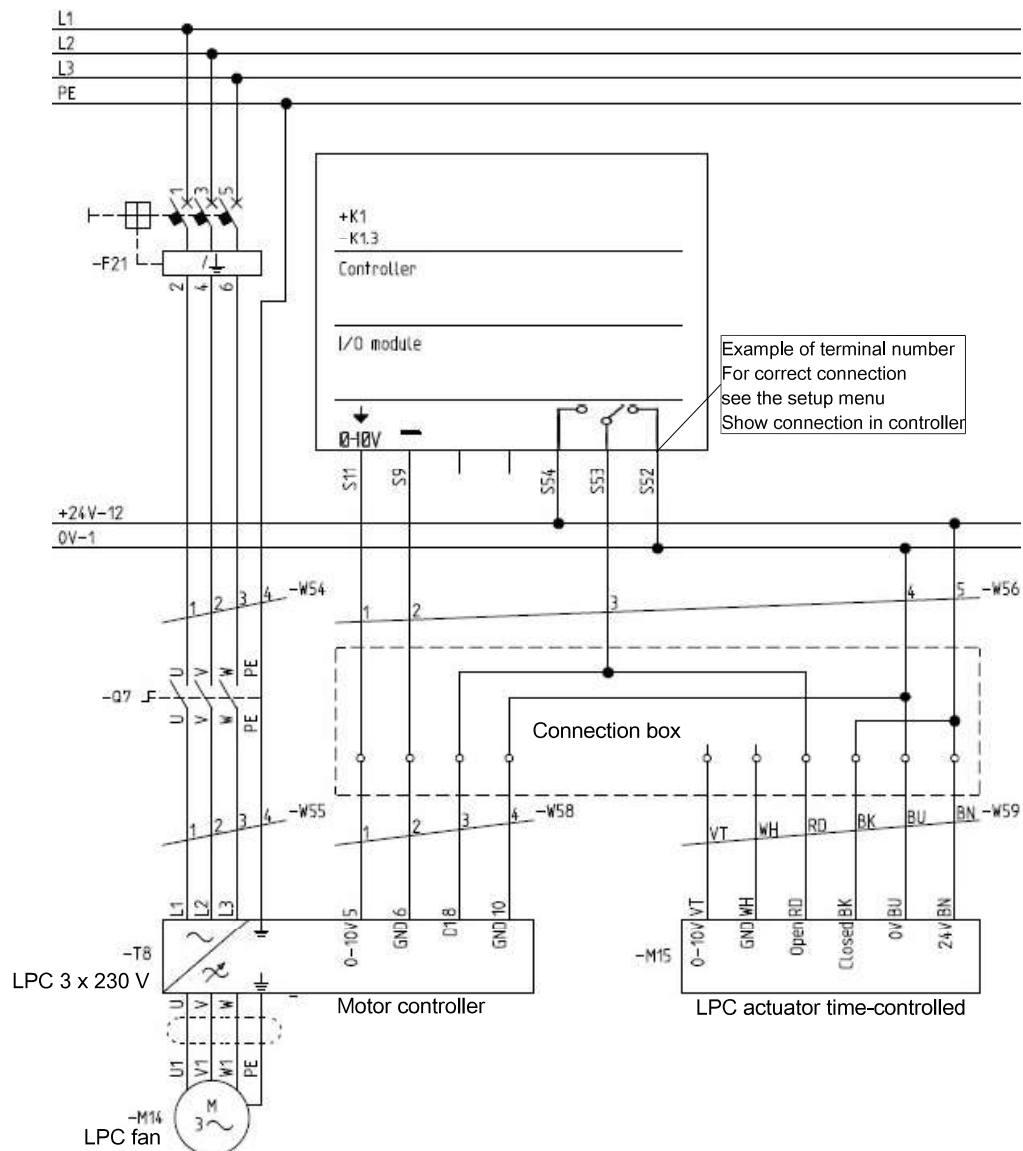
4.1.21.2 Terminals in LPC 3x230 V fan



4.1.21.3 Circuit diagram

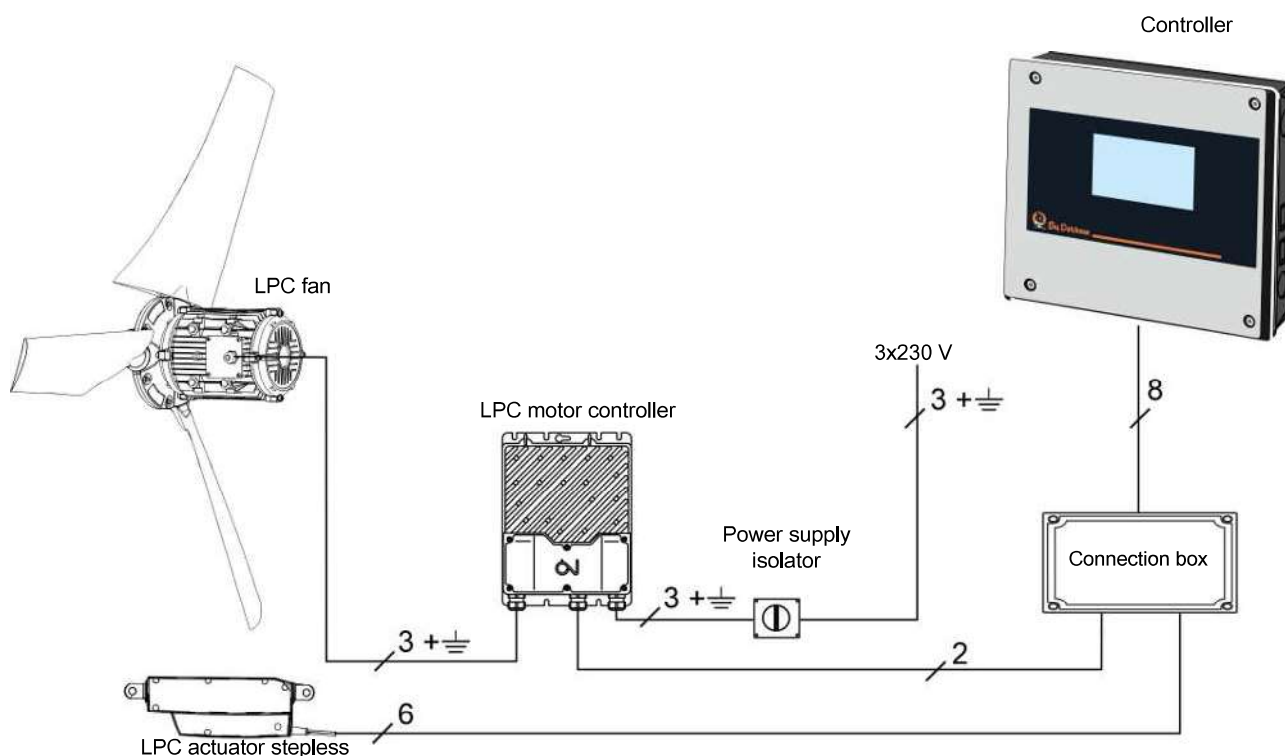
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.

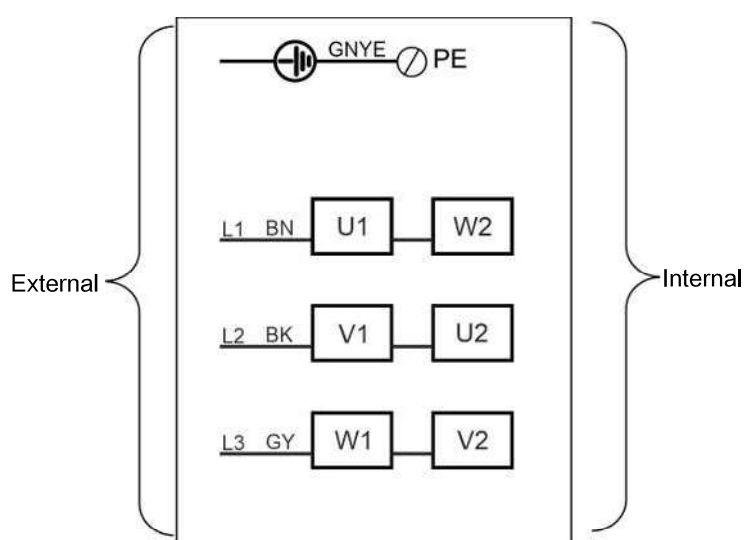


4.1.22 BD-Blue 130 LPC 3x230 V stepless (60-25-4570)

4.1.22.1 Cable plan



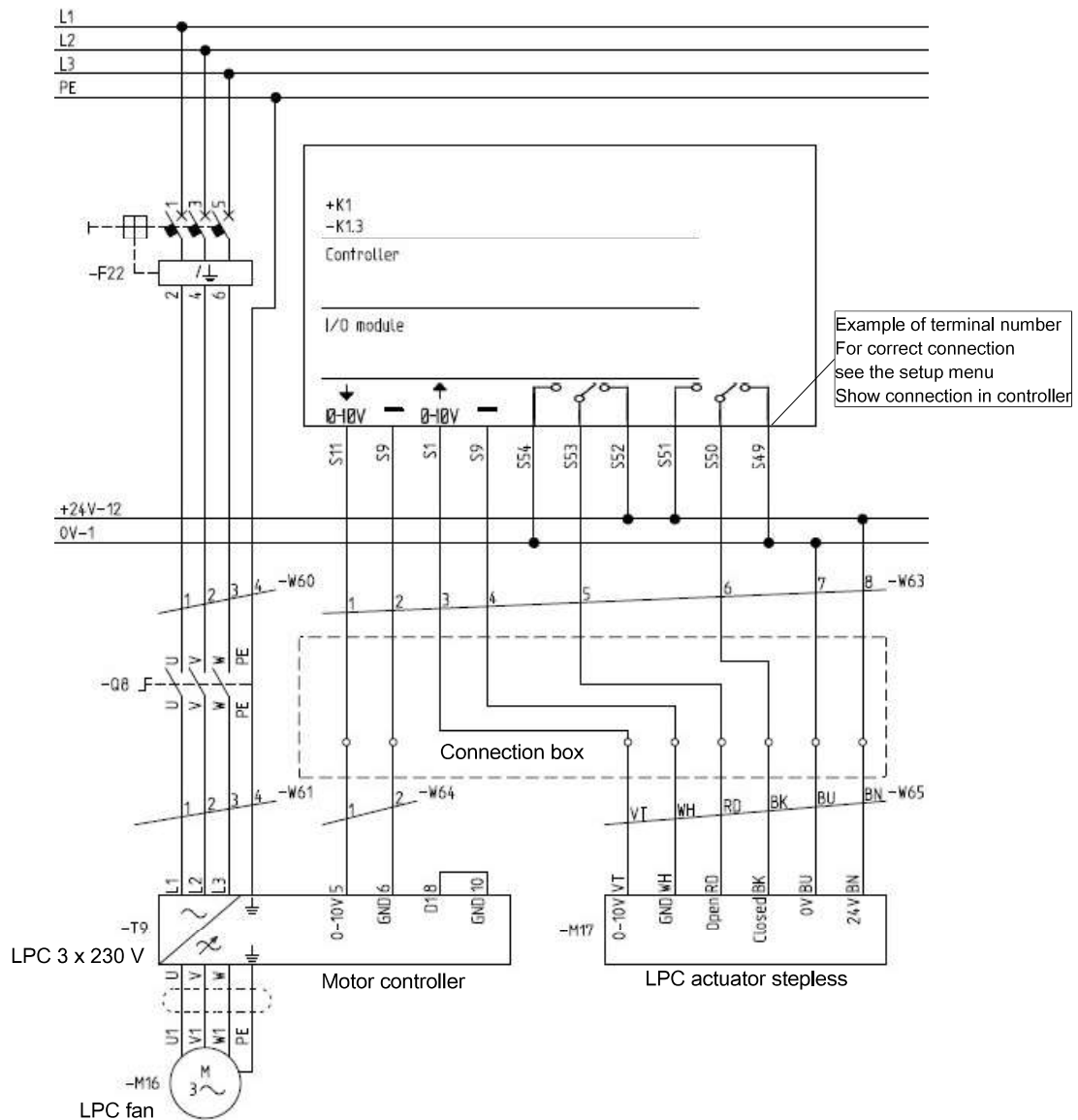
4.1.22.2 Terminals in LPC 3x230 V fan



4.1.22.3 Circuit diagram

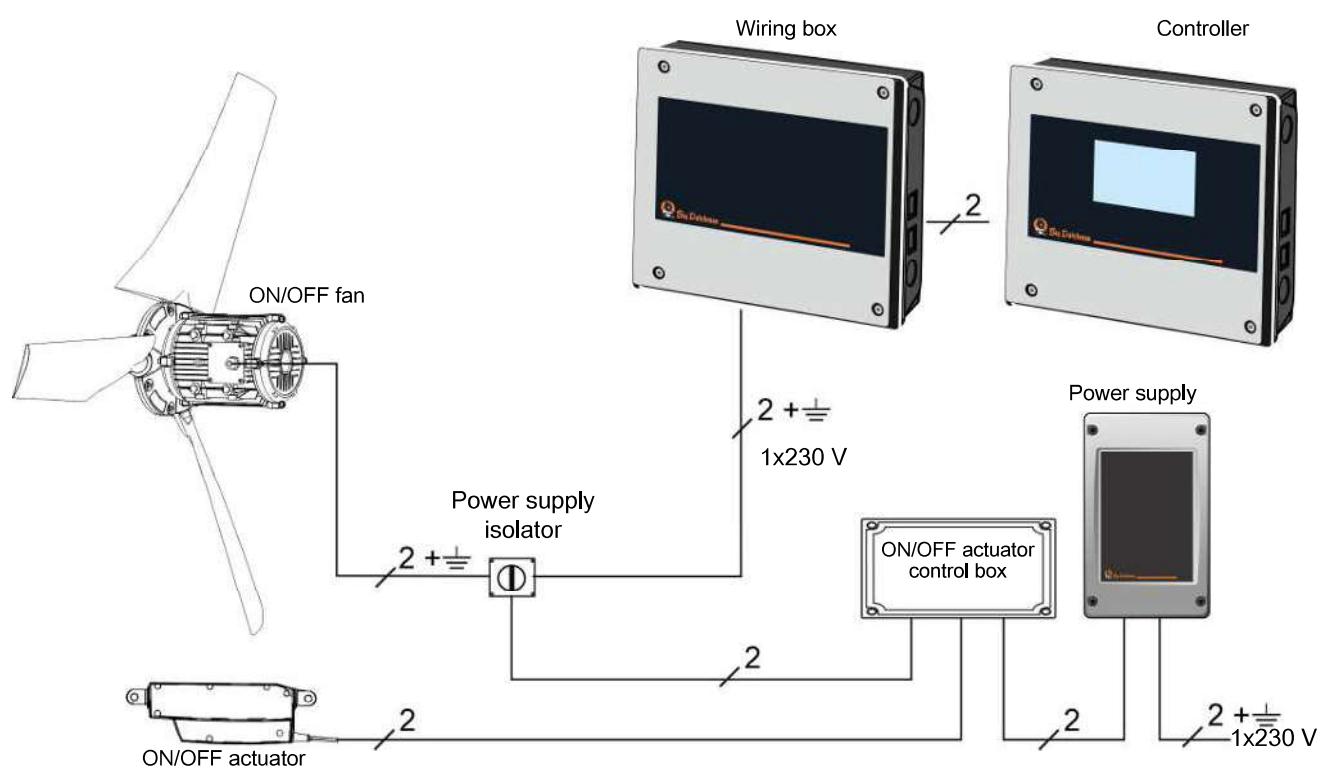
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.

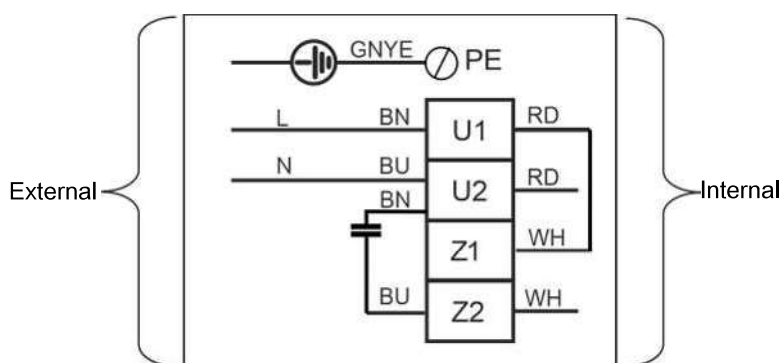


4.1.23 BD-Blue 130 EL ON/OFF 1x230 V (60-25-4577/60-25-4578)

4.1.23.1 Cable plan



4.1.23.2 Terminals in ON/OFF 1 x 230 V fan



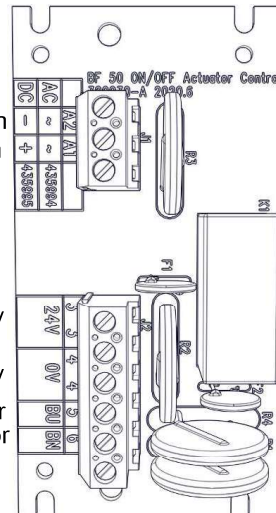
4.1.23.3 ON/OFF actuator control box

230 V AC N from fan
230 V AC L from supply to fan

24 V DC from power supply

0 V from power supply

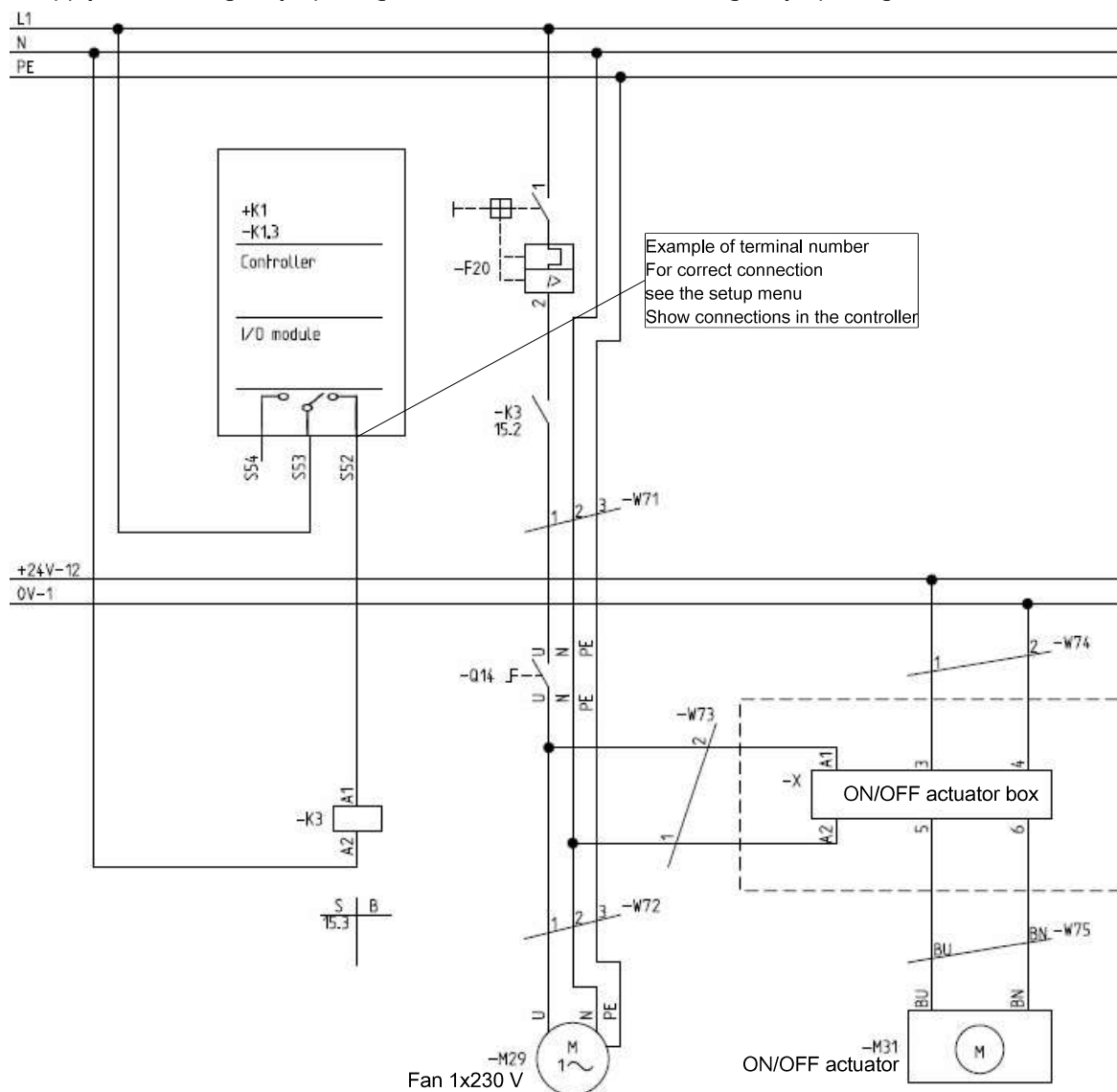
Blue wire from actuator
Brown wire from actuator



4.1.23.4 Circuit diagram

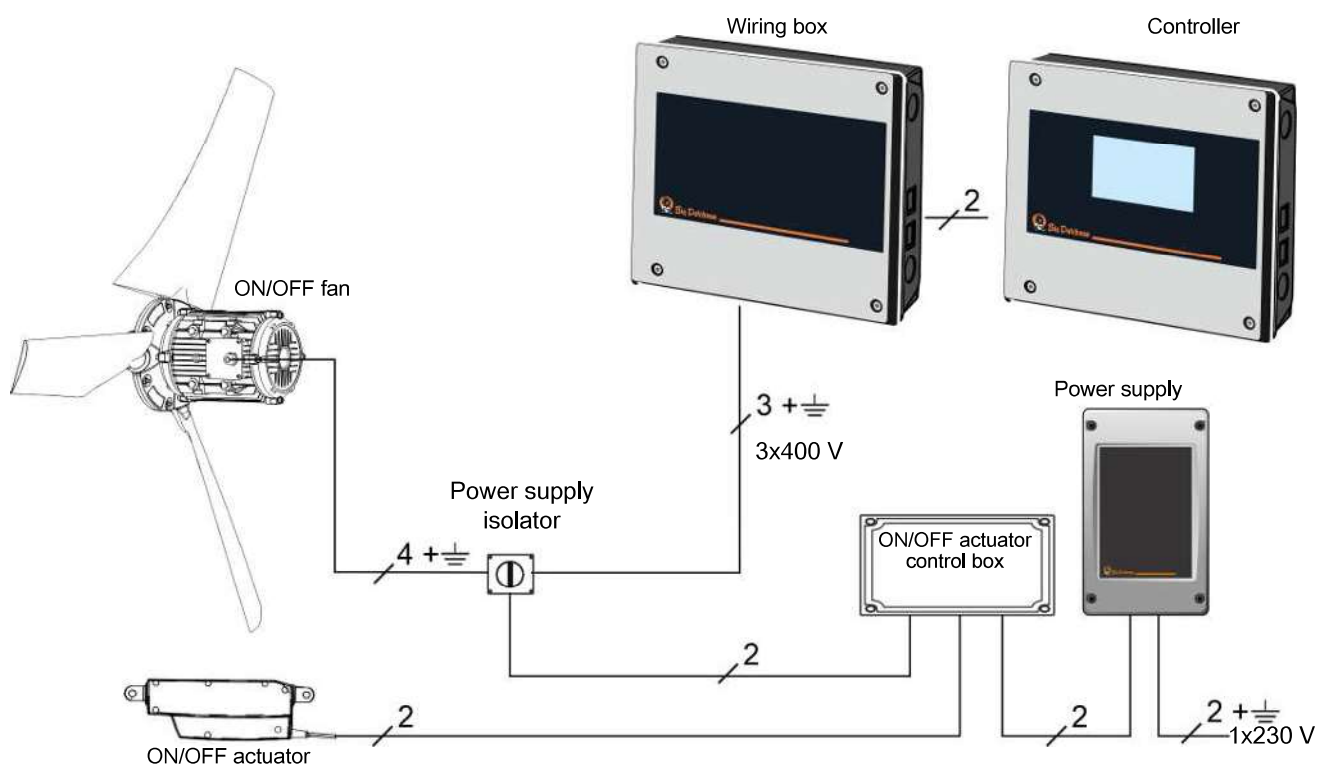
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.

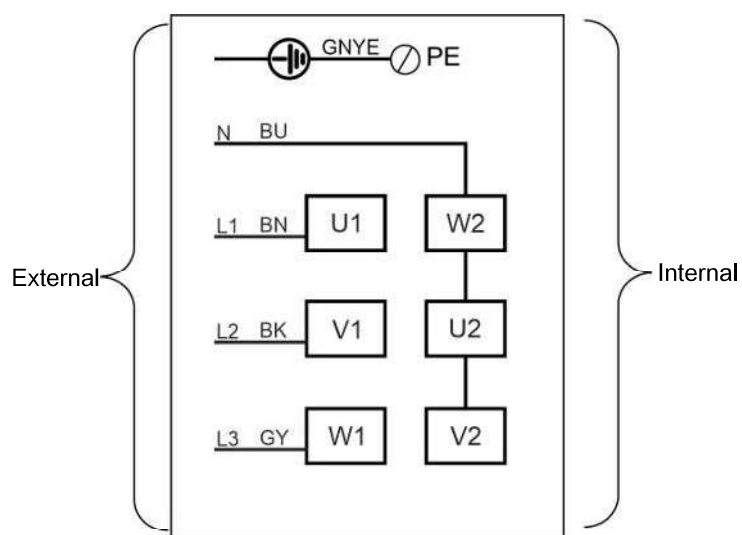


4.1.24 BD-Blue 130 EL ON/OFF 3x400 V (60-25-4580)

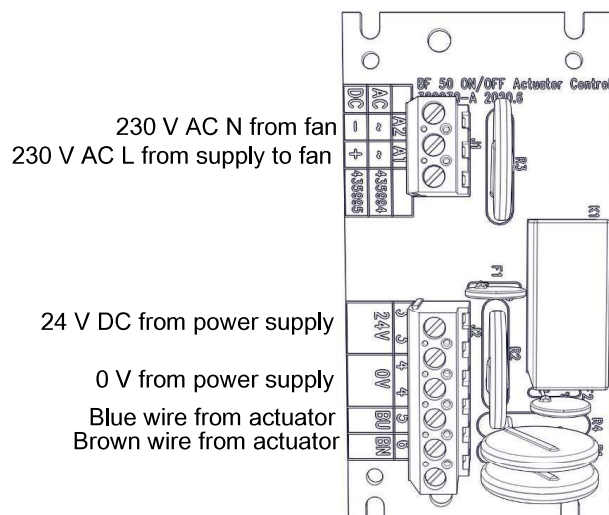
4.1.24.1 Cable plan



4.1.24.2 Terminals in ON/OFF 3x400 V fan



4.1.24.3 ON/OFF actuator control box

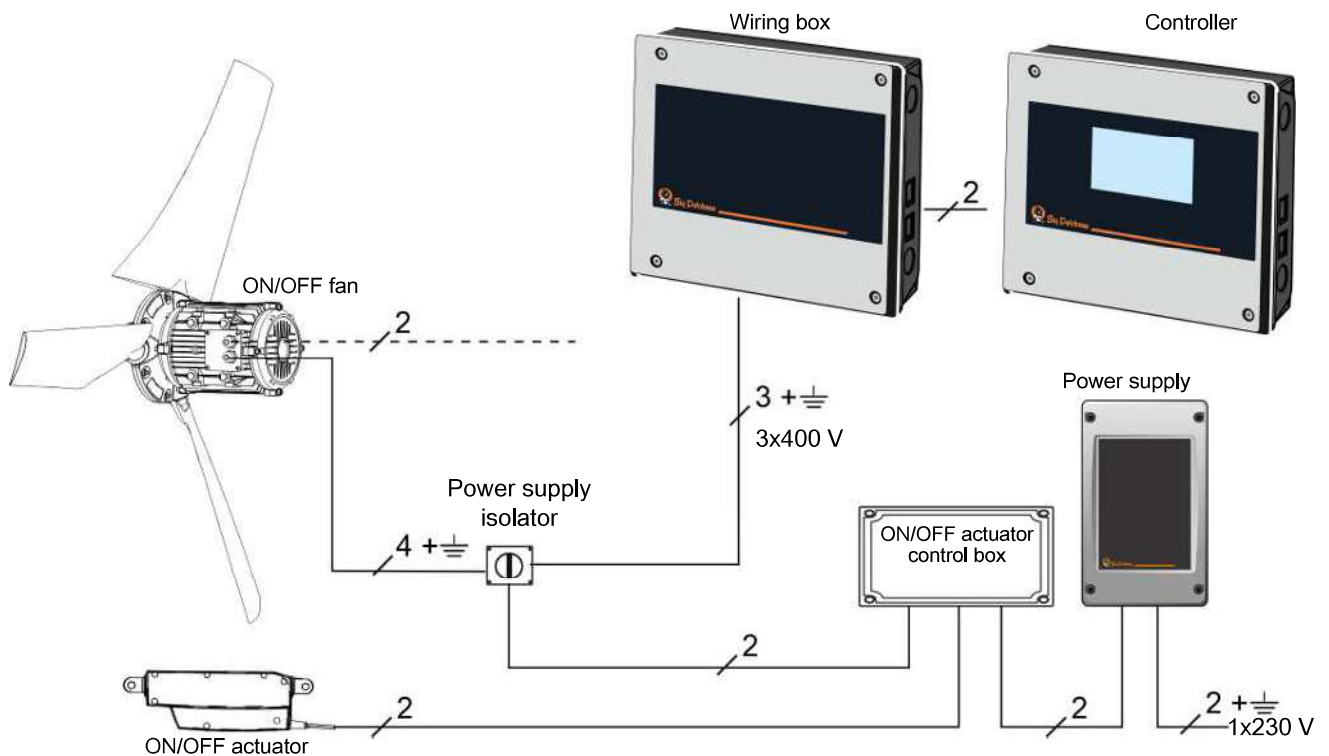


4.1.24.4 Circuit diagram

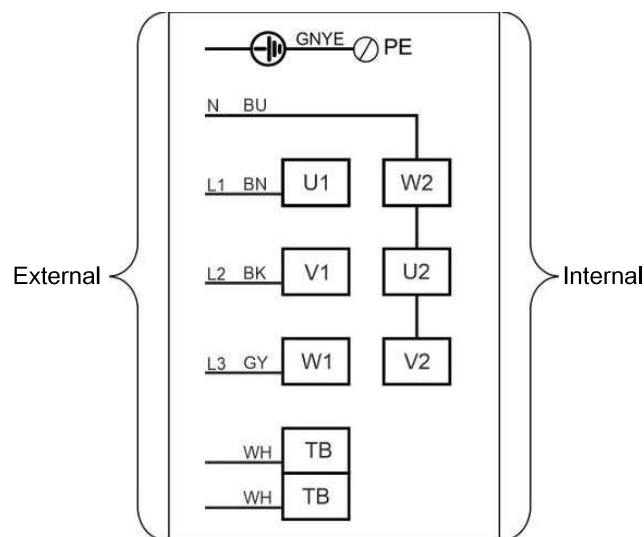
If using BD-Blue 130 ON/OFF 3x400 V with motor controlled shutter, e.g. for renovation tasks where existing installations are expected to be recycled, this must be solved by contacting Big Dutchman.

4.1.25 BD-Blue 130 EL ON/OFF 3x400 V with thermal cutout (60-25-4581)

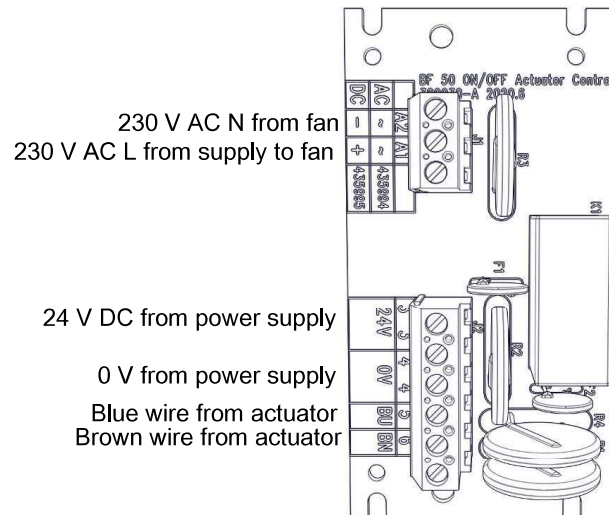
4.1.25.1 Cable plan



4.1.25.2 Terminals in ON/OFF 3x400 V fan with thermal cutout



4.1.25.3 ON/OFF actuator control box

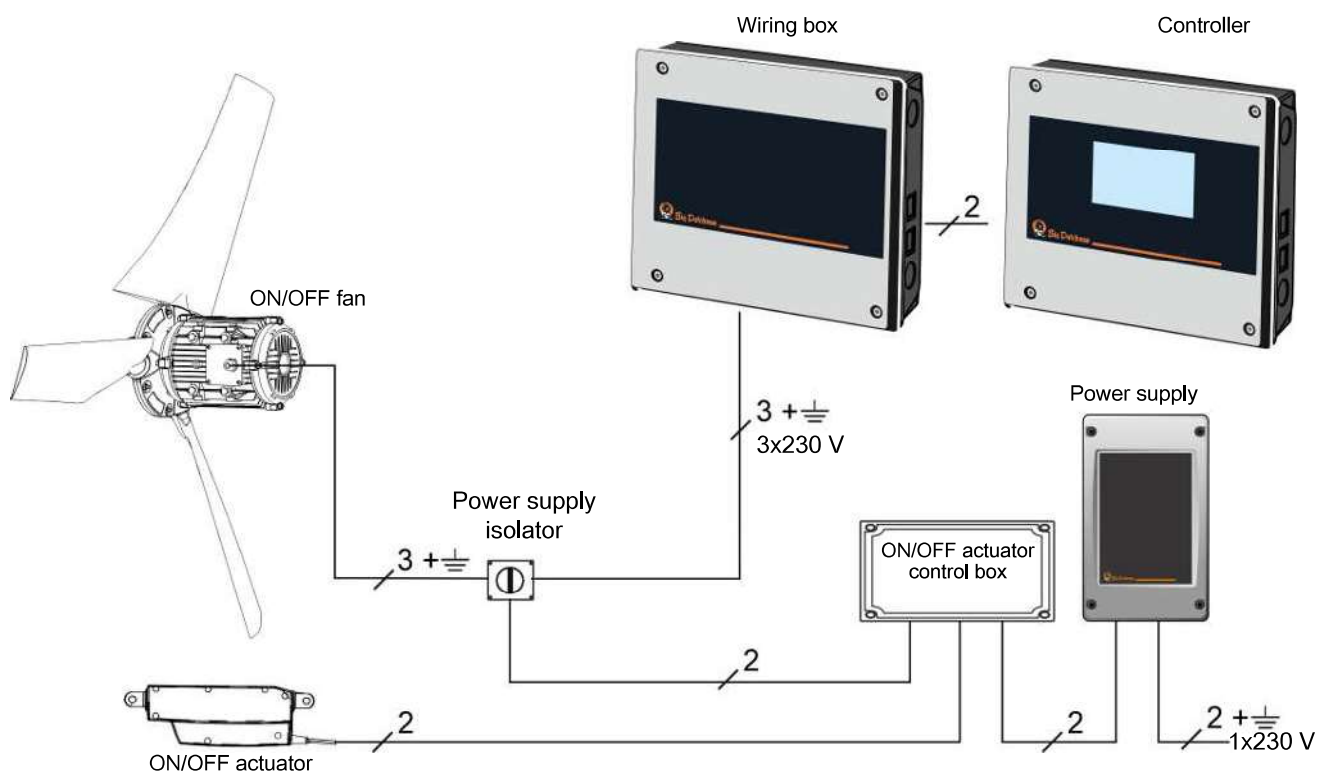


4.1.25.4 Circuit diagram

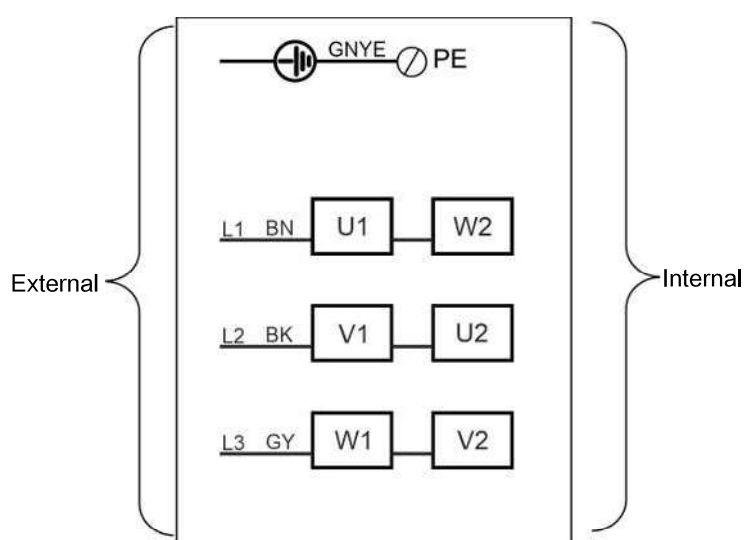
If using BD-Blue 130 ON/OFF 3x400 V with motor controlled shutter, e.g. for renovation tasks where existing installations are expected to be recycled, this must be solved by contacting Big Dutchman.

4.1.26 BD-Blue 130 EL ON/OFF 3x230 V (60-25-4579)

4.1.26.1 Cable plan



4.1.26.2 Terminals in ON/OFF 3x230 V fan



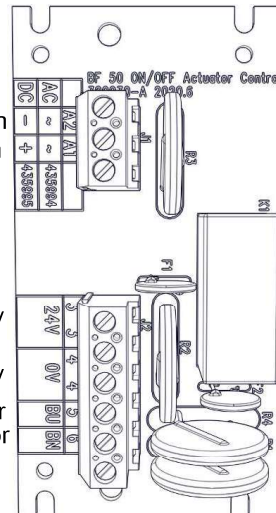
4.1.26.3 ON/OFF actuator control box

230 V AC N from fan
230 V AC L from supply to fan

24 V DC from power supply

0 V from power supply

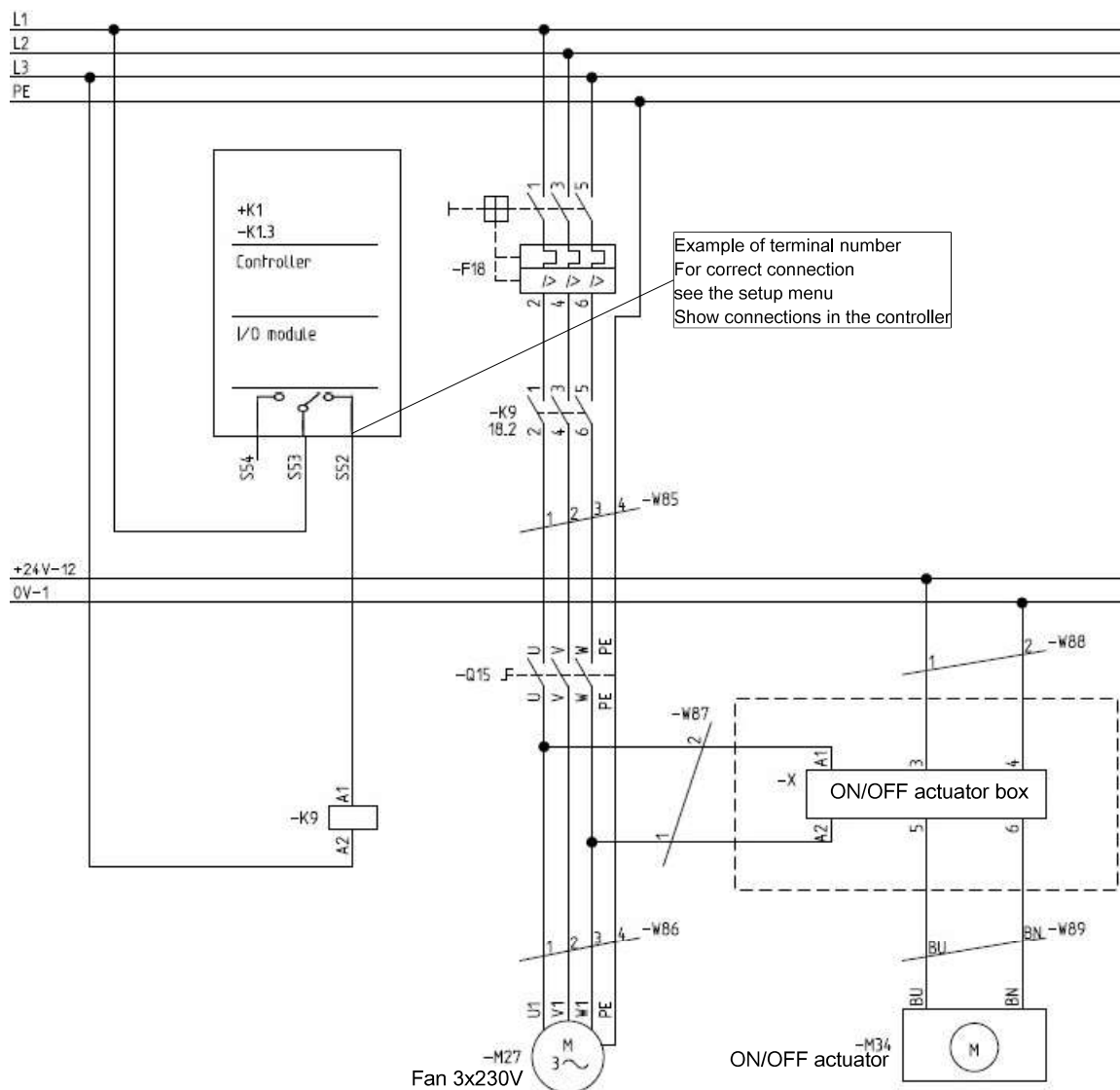
Blue wire from actuator
Brown wire from actuator



4.1.26.4 Circuit diagram

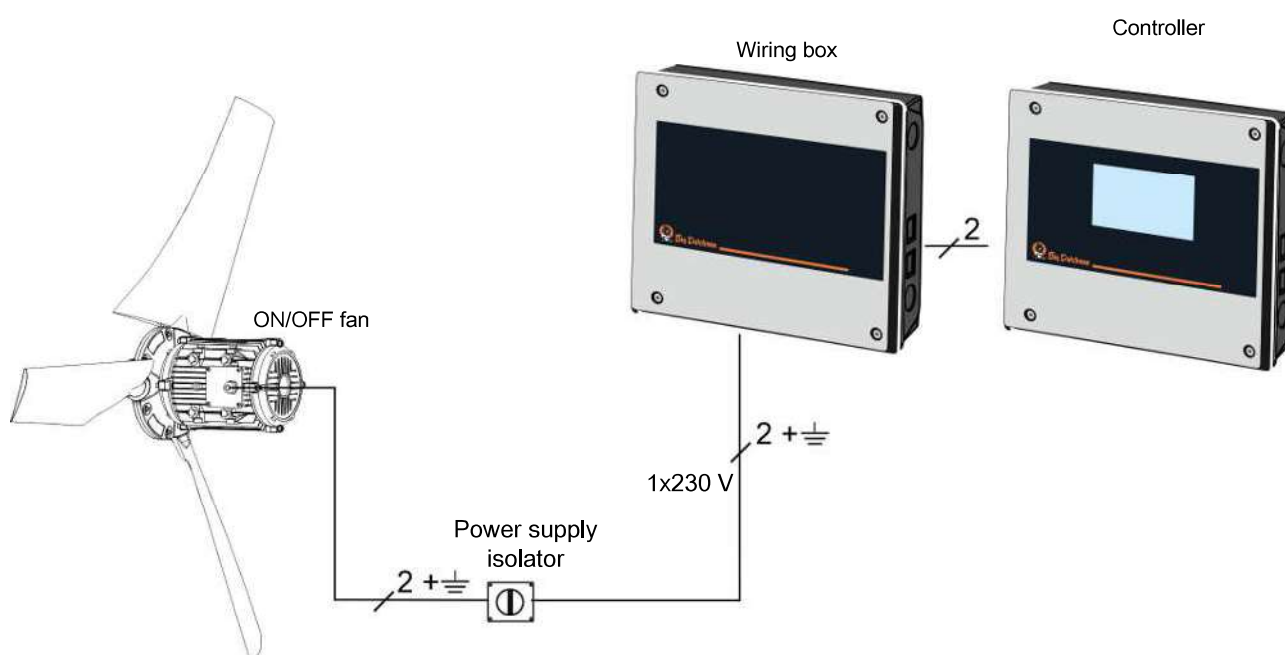
Power supply from emergency opening 0V-1 = Q1 terminal in controller.

Power supply from emergency opening 24V-12 = F6 terminal in emergency opening.

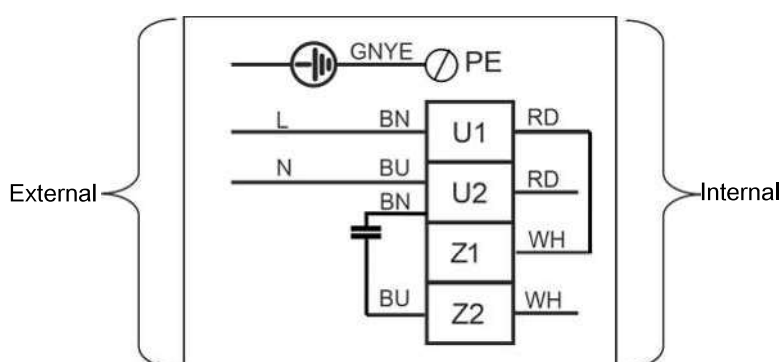


4.1.27 BD-Blue 130 AIR ON/OFF 1x230 V (60-25-4583/60-25-4584)

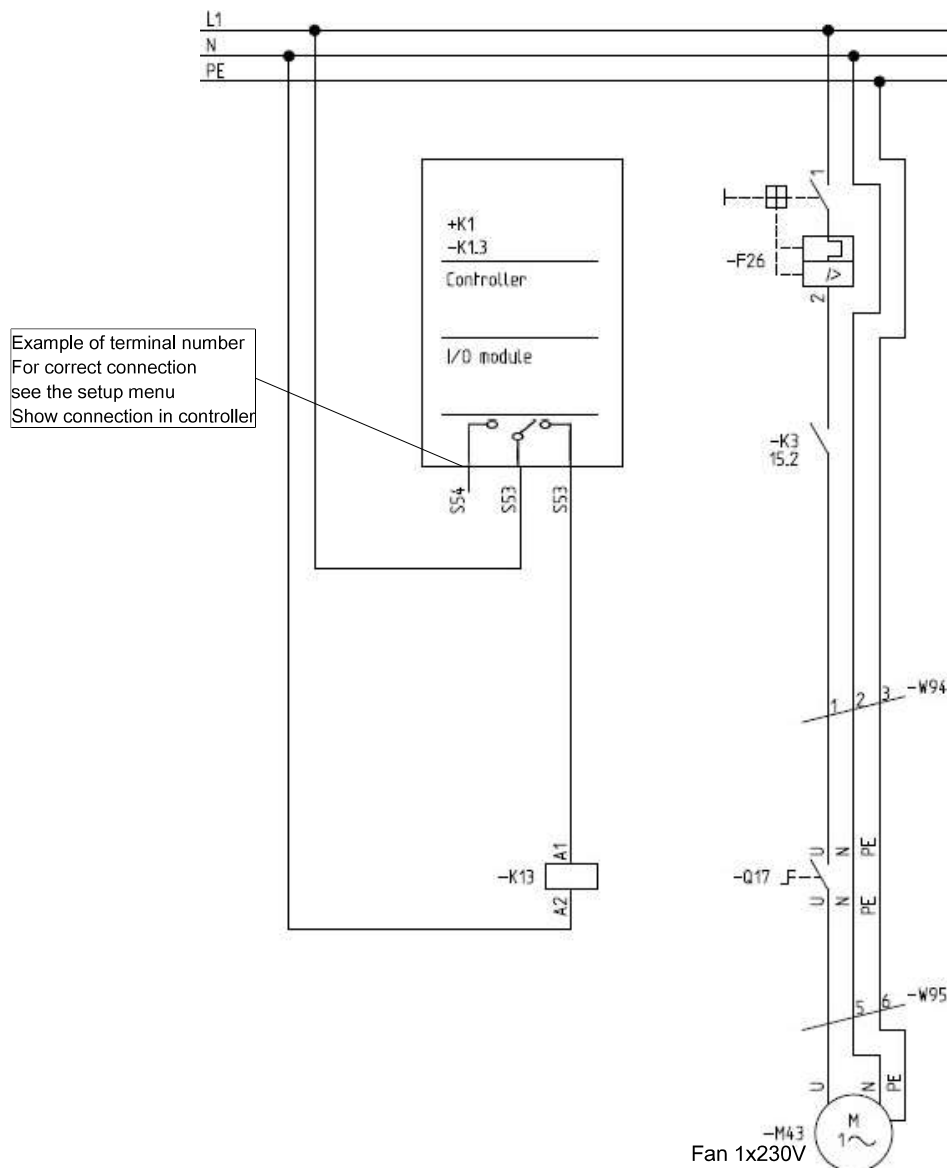
4.1.27.1 Cable plan



4.1.27.2 Terminals in ON/OFF 1 x 230 V fan

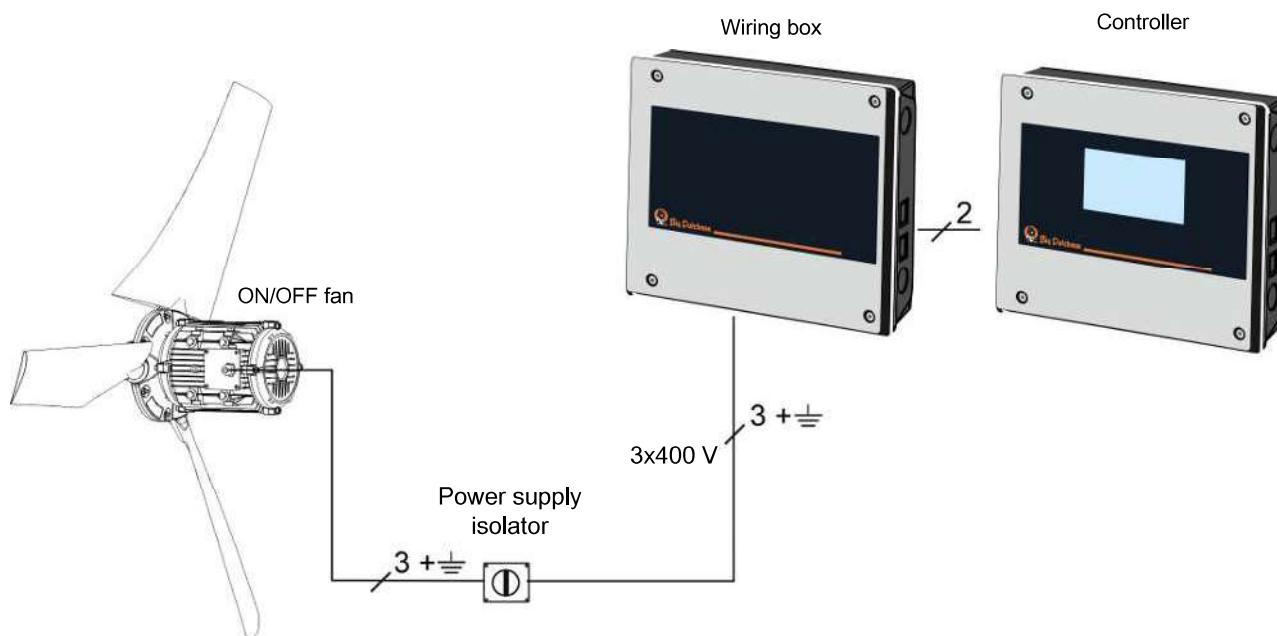


4.1.27.3 Circuit diagram

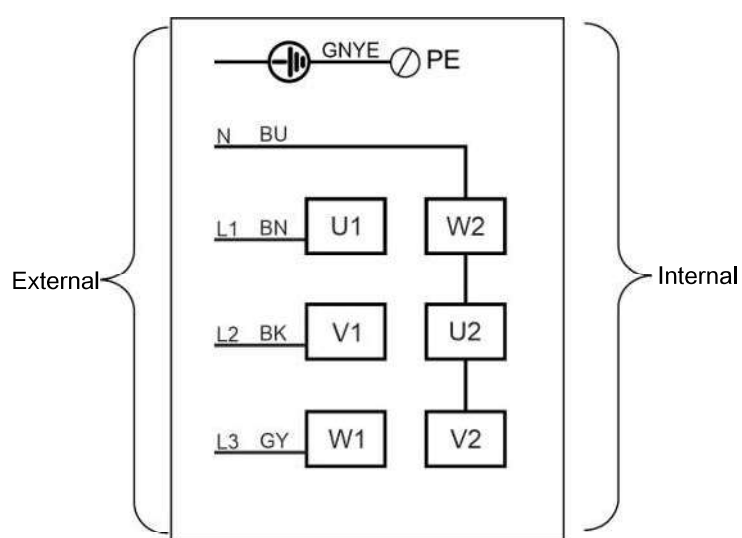


4.1.28 BD-Blue 130 AIR ON/OFF 3x400 V (60-25-4586/60-25-4587)

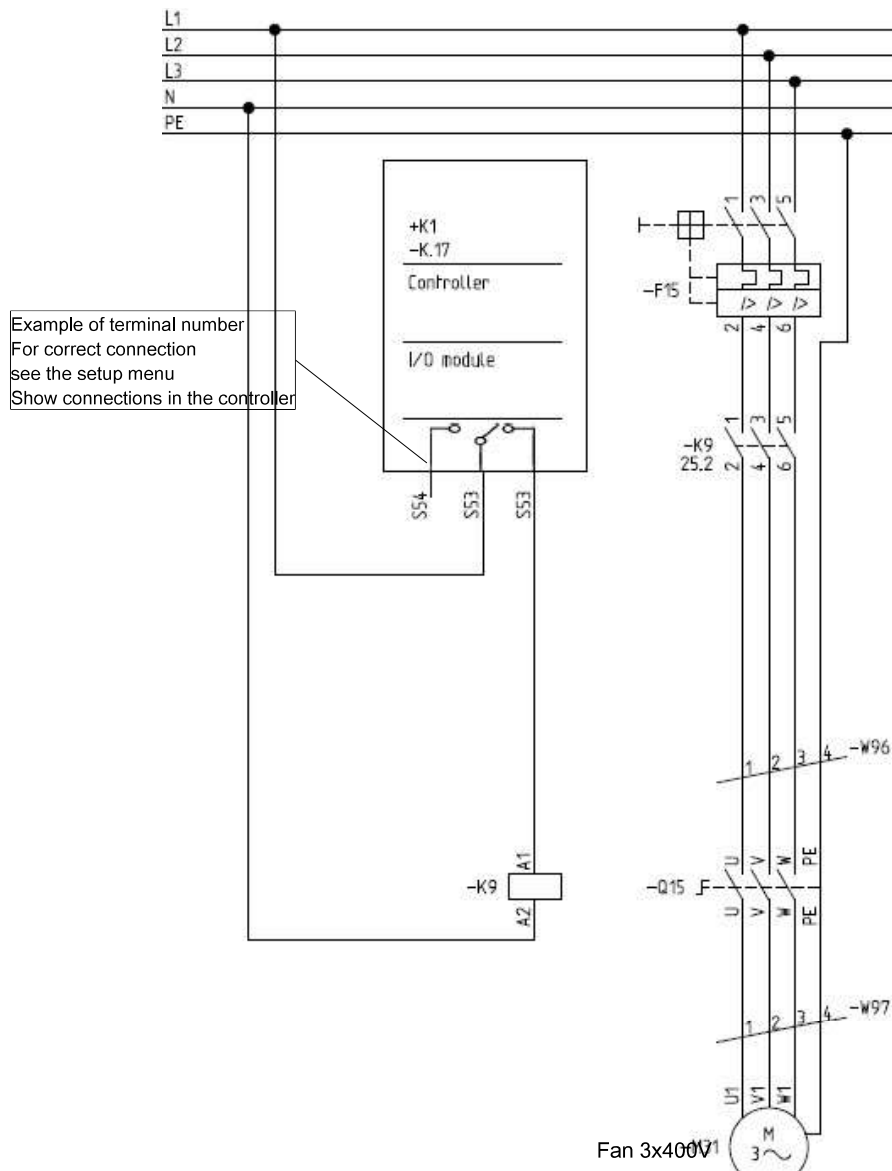
4.1.28.1 Cable plan



4.1.28.2 Terminals in ON/OFF 3x400 V fan

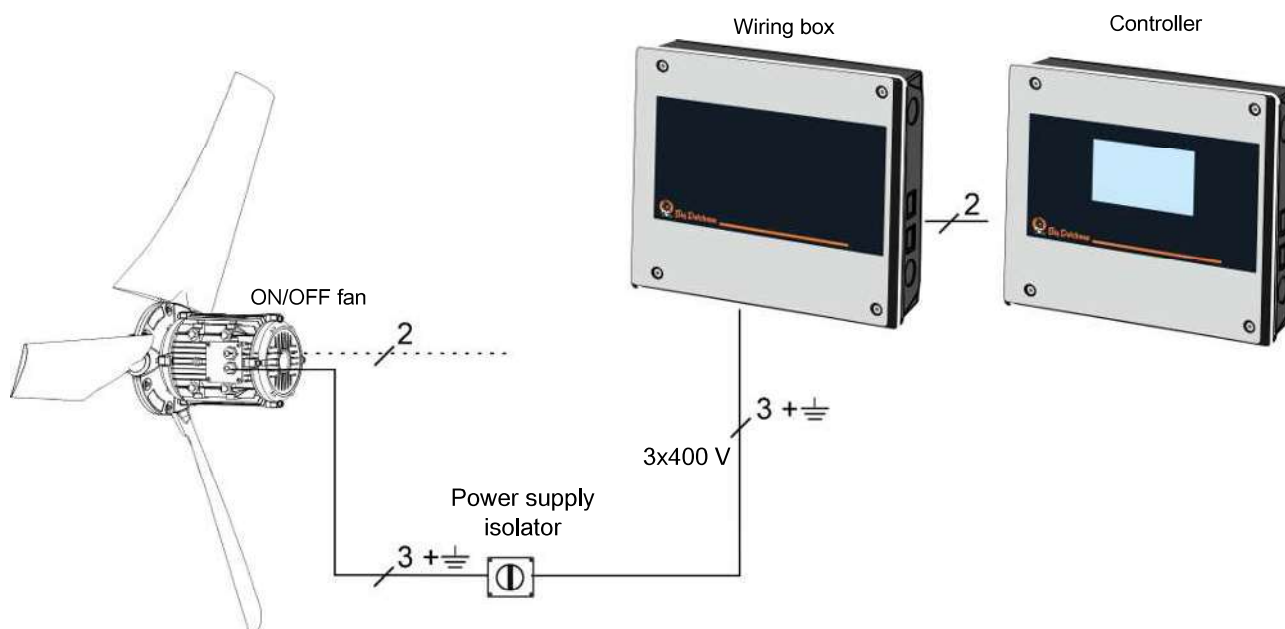


4.1.28.3 Circuit diagram

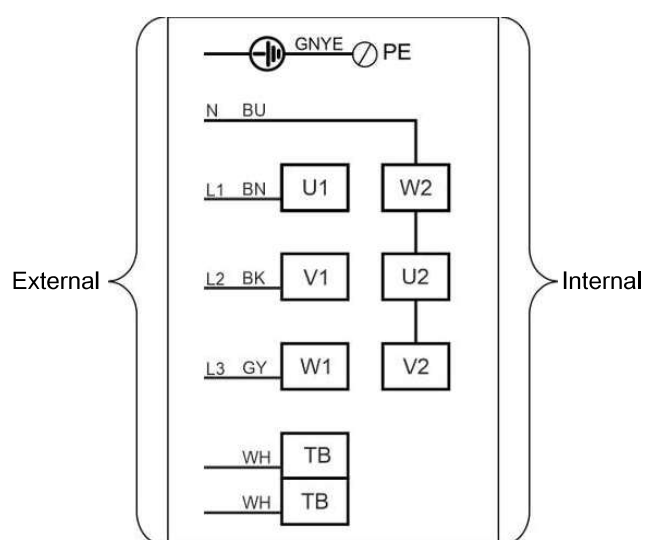


4.1.29 BD-Blue 130 AIR ON/OFF 3x400 V with thermal cutout (435441-02)

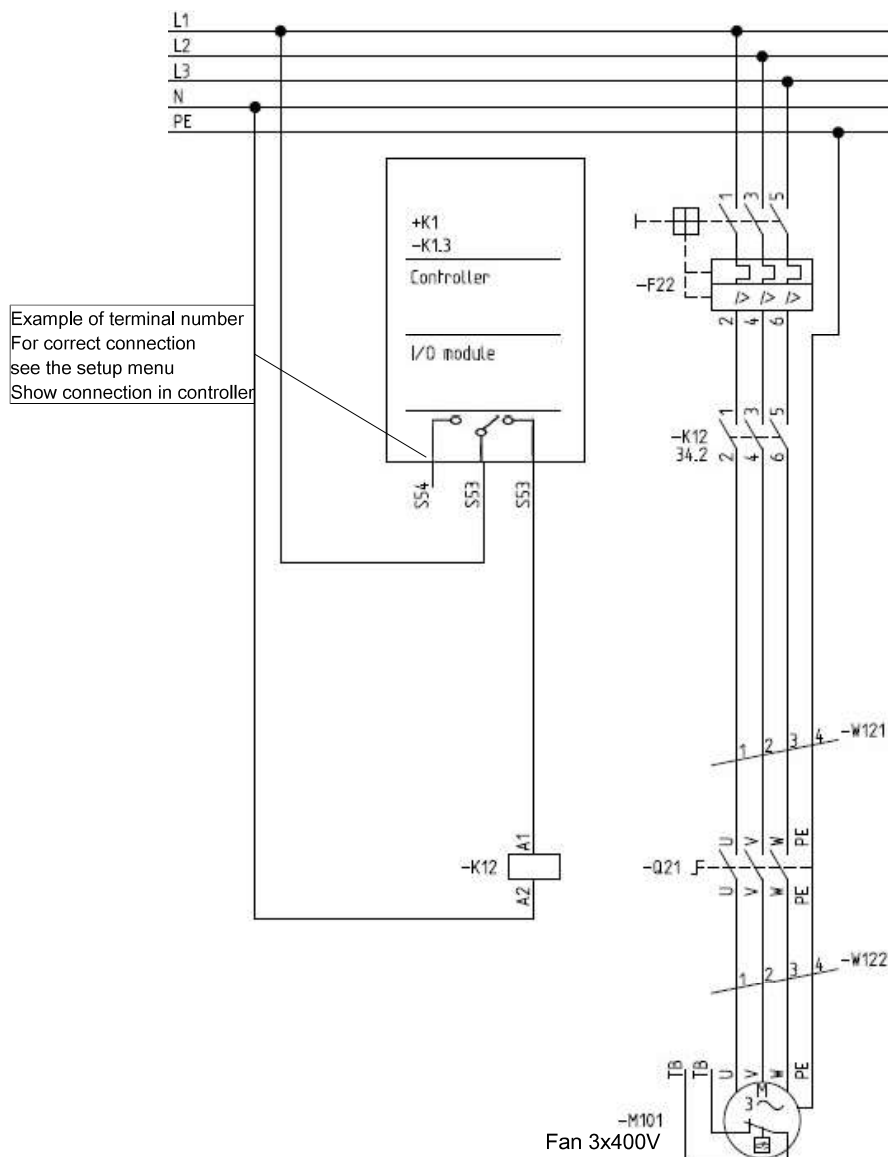
4.1.29.1 Cable plan



4.1.29.2 Terminals in ON/OFF 3x400 V fan with thermal cutout

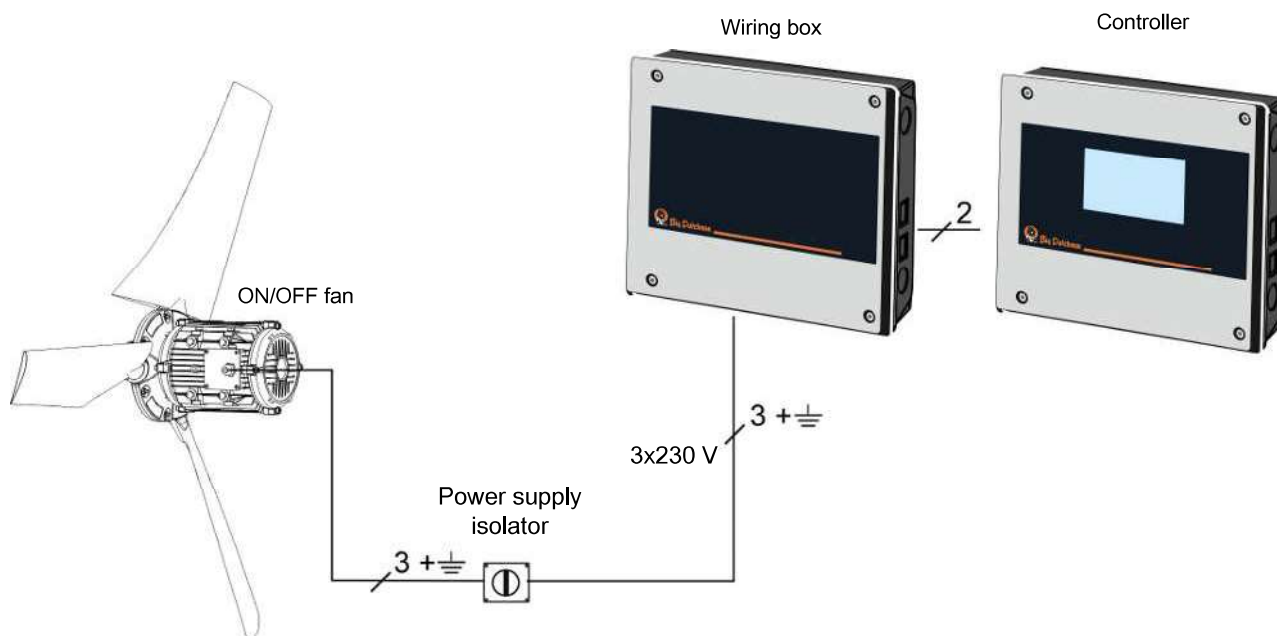


4.1.29.3 Circuit diagram

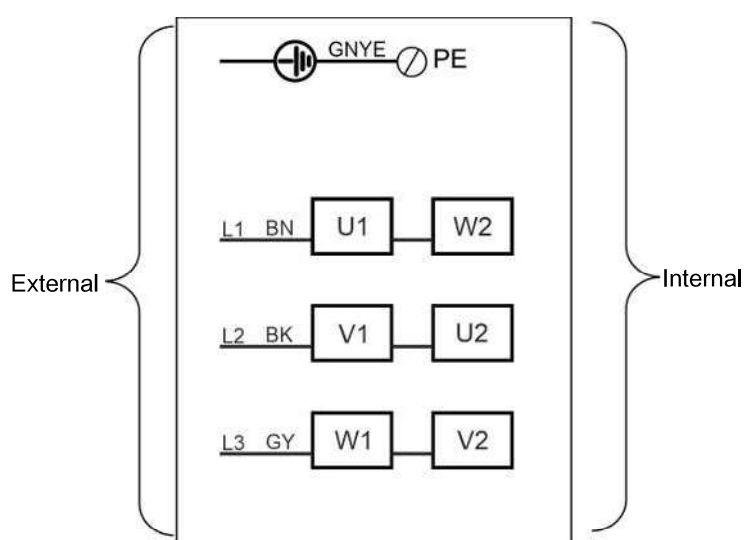


4.1.30 BD-Blue 130 AIR ON/OFF 3x230 V (60-25-4585)

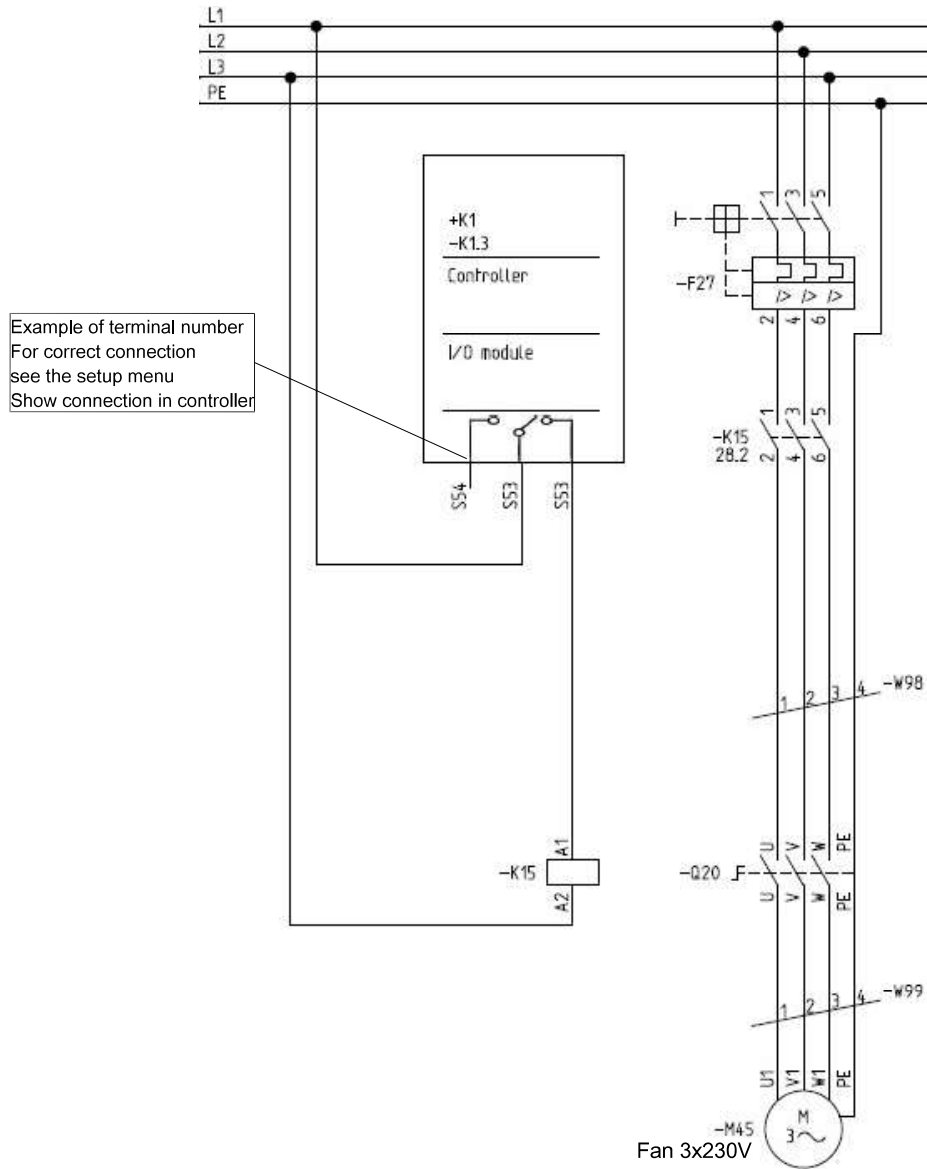
4.1.30.1 Cable plan



4.1.30.2 Terminals in ON/OFF 3x230 V fan



4.1.30.3 Circuit Diagram



5 Maintenance instructions

! Clean the plastic parts of the fan without using:

- lubricants
- solvents
- corrosive/caustic agents



Remember to shut off the fan at the isolator prior to maintenance and cleaning.

Check at least once a year that blades and suspension units are still intact. Call service in case of abnormal noise and vibration.

Only authorised personnel may carry out repairs.

5.1 Cleaning

5.1.1 Fan

Clean the fan at regular intervals to allow unobstructed air passage.

1. Clean the ventilation duct.

When washing the inside of the ducts, fan blades must stand still. Remember that fans do not stand high-pressure cleaning.

If the inside of the duct needs to be cleaned extra thoroughly Big Dutchman recommends washing from above.

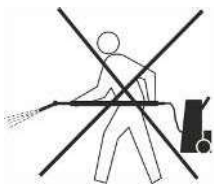
2. When washing the fan, the fan blades must turn around.

Remember that fans do not stand high-pressure cleaning.

3. It is recommended that the fan run at 100% for at least one hour after cleaning, in order to dry off any moisture in the fan. If the fan has a tailstock screw in the drain hole it can be removed in this hour.

5.1.2 Motor controller/frequency converter

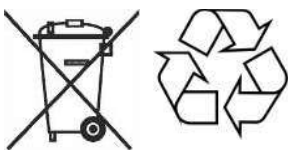
To ensure sufficient cooling, keep the cooling ribs on the controller dust-free, e.g., using compressed air.



Clean the product with a cloth that has been wrung out almost dry in water and avoid using:

- high-pressure cleaner
- solvents
- corrosive/caustic agents

5.2 Recycling/Disposal



Products suitable for recycling are marked with a pictogram.

It must be possible for customers to deliver the products to local collection sites/recycling stations in accordance with local instructions. The recycling station will then arrange for further transport to a certified plant for reuse, recovery and recycling.

6 Troubleshooting instructions



Remember to shut the fan off at the power supply isolator prior to troubleshooting.

Troubleshooting shutter system		
Fault symptom	Error	Solution
Shutter will not close/open	Shutter touches the ventilation duct (obstructed).	Remedy the damage.
	Linkage between flap and actuator faulty.	Replace defective parts.
	ON/OFF signal from controller / manual operation is lacking.	See section Cable plans and circuit diagrams [► 62].
Shutter is not operating	Lacking 24 V DC supply voltage.	Check 24 V DC supply voltage. Check assembly according to the connection and circuit diagram.
	Actuator not running.	Replace actuator.
Actuator stops during the open/close sequence	If the 24 V DC supply to the actuator goes below 12 V DC when the actuator is active, the actuator will go into safety stop and must then be reset by activating the 24 V DC supply voltage or ON/OFF signal from the controller.	24 V DC supply: - is increased by connecting more 24 V DC supplies. 24 V DC supply with long thin cables: - increase thickness of conductors in the cable. - increase the number of conductors in the cable. Move the 24 V DC supply closer to the fan motor.

Troubleshooting fan motor		
Fault symptom	Error	Solution
Abnormal noise coming from fan.	Faulty mounting.	Check in accordance with the document. Retighten if required.
	Bearing noise.	Replace the motor.
	Vibrating fan.	Check whether fan blades are defective, correctly assembled or dirty. Replace or clean.
	AC motor: Motor protection switches off.	Check the size of the protective motor switch see Technical data [► 98]. Replace motor protection, change to correct size. Check whether the fan motor is blocked. Remove the blocking.

Troubleshooting fan motor		
Fault symptom	Error	Solution
Fan motor is not running.		Too high negative pressure in the live-stock house, check the air inlets.
	AC motor: Control voltage to motor contactor.	Check signal to contactor.
	AC motor: Power supply to the motor.	Measure the voltage going to the motor.
	LPC motor: See Troubleshooting LPC motor controller.	-
Fan motor running and does not turn off.	AC motor: 24 V DC supply to the winch motor is lacking. (terminal H1).	Check 24 V DC supply voltage.

Troubleshooting LPC motor controller			
Fault symptom	Status LED	Error	Solution
Stopped after 5 restart attempts caused by the same error within 60 minutes	Emits red light*	Supply voltage too high.	Measure the supply voltage.
		Power consumption of the motor too high.	Check for motor errors.
		Phase errors; one or more phases interrupted (L1, L2, L3).	Measure the voltage between the phases.
		Blocked impeller.	Remove the blocking.
		Wrong direction of rotation.	Invert the rotation direction.
		Phase error on the motor supply (U, V, W).	Measure the voltage going to the motor.
		Internal communication error.	Replace LPC motor controller.
Reduced performance	Flashes red*	Supply voltage too low.	Measure the supply voltage.
		Internal temperature of the LPC motor controller too high (>95°C).	Check the assembly of LPC motor controller, see section Cabling to connection box and LPC motor controller [► 51] and Cabeling and placement of LPC motor controller [► 51].
		Motor current has reached its limit value.	Too high negative pressure in the livestock house. Check air inlets.
		Error in internal circuit of the LPC.	Replace LPC motor controller.
		Ripple voltage too high.	Measure the supply phases.
Fan motor is not running	Emits green light	Signal from climate controller (10V = stop terminal 5).	Check signal from the controller.
		Start/stop signal (24V = stop terminal 8).	Check signal from the winch motor.
	No light	Supply is lacking.	Check supply.
		Defective LPC motor controller.	Replace LPC motor controller.

* For LED indications, see section LED indication on the motor controller/frequency converter [► 56].

7 Technical data

Air output and efficiency in parenthesis are for wall fans with cone.

7.1 BD-Blue 130 LPC 1x230 V

		60-25-4566 BD-Blue 130-6 DMS 60-25-4569 BD-Blue 130-6 0-100%
Electrical		
Rated voltage	V AC	230 +/- 10%
Operating voltage	V AC	175 – 280 For supply voltages below the rated voltage range, a reduction of the fan's RPM may occur depending on the load and ambient temperature.
RCD		To be installed in accordance with applicable laws and standards. PFI 300 mA (type B) may be used in front of the supply voltage for LPC regulated fans.
Frequency	Hz	50 / 60
Leakage current to ground at 50 Hz	mA	Max. 3.0
Max. ballast fuse	A	16
Max. current consumption At 230 V AC supply	A	6.54
Max. input power (P1)	W	1502 (1462)
CosPhi [Φ]	Factor	0.99
Regulation ability		20 to 100% / 8 - 0 V
Motor protection		Built-in current limiter in LPC motor control. Use fuse in front of LPC motor control.
		-
Thermal cutout (PTO)		
Interface		
Inputs		
A1: Analog fan speed	V DC	10 – 0 (default)
D1: Start / Stop	V DC	0 / 24 with internal pull-up
D2: Polarity analog input 0-10 V / 10-0 V	V DC	0 / 24 with internal pull-up
LPC-2 relay module (optional)		
D3: Input reversing	V DC	0 - 24 with internal pull-up
Output alarm relay		1 A, 30 V DC, 24 V AC
Mechanical		
Cable length	m	0.7 m shielded
Impeller diameter	mm	1278
Number of fan blades	pcs.	3
Fan blade pitch	°	40
Fan output		

		60-25-4566 BD-Blue 130-6 DMS 60-25-4569 BD-Blue 130-6 0-100%
Revolutions per minute	RPM	680
Air output at 0 Pa	m ³ /h	43800 (48500)
Air output at -10 Pa	m ³ /h	42200 (46300)
Air output at -20 Pa	m ³ /h	40000 (44100)
Air output at -30 Pa	m ³ /h	37800 (41600)
Air output at -40 Pa	m ³ /h	35600 (39100)
Air output at -50 Pa	m ³ /h	33400 (36500)
Air output at -60 Pa	m ³ /h	30800 (33500)
Air output at -70 Pa	m ³ /h	27600 (30600)
Air output at -80 Pa	m ³ /h	23600 (27100)
Power consumption at -10 Pa	W	1484 (1395)
Specific output at -10 Pa	m ³ /kWh	28400 (33200)
Specific energy at -10 Pa	Watt/1000 m ³ /h	35 (30)
Testing body		SKOV A/S
Environment		
Temperature, operation	°C (°F)	÷ 40 to + 40 (÷ 40 to 104)
Start temperature	°C (°F)	÷ 40 to + 50 (÷ 40 to 122)
Storage temperature	°C (°F)	÷ 40 to + 70 (÷ 40 to 158)
Ambient humidity, operation	% RH	10 - 95
Protection class	IP	Motor controller: IP 65 Fan motor: IP 65
Fan noise, outside (2 m, 45 degrees)	dB (A)	71
Shipment		
Shipping weight	g	75000

7.1.1 ErP/Ecodesign BD-Blue 130 LPC 1x230 V

Fan type		BD-Blue 130-6 DMS	BD-Blue 130-6 0-100%
Ecodesign		ErP 2015 (N40)	
Efficiency classification	N	57.9	
Efficiency (η)	%	52.4	
Measurement setup		A	
Fan efficiency		Static	
VSD required		Yes	
Year of production		2020	
Name of manufacturer		SKOV A/S	
Item number		435406 (60-25-4566)	435381 (60-25-4569)
Motor power input	kW	1.348	
Flow rate	m ³ /s	7.29	
Optimum pressure	Pa	90	
Revolutions per minute	RPM	680	
Pressure conditions		1	
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to their local collection points/recycling centers in accordance with local instructions	
Environmental impact		-	

7.2 BD-Blue 130 LPC 3x400 V

		60-25-4562 BD-Blue 130-7 DMS / 60-25-4560 BD-Blue 130-7 0-100%	60-25-4568 BD-Blue 130-6 DMS / 60-25-4571 BD-Blue 130-6 0-100%
Electrical			
Rated voltage	V AC	400 +10% / -8%	400 +/- 10%
Operating voltage	V AC	280 – 485 For supply voltages below the rated voltage range, a reduction of the fan's RPM may occur depending on the load and ambient temperature.	
RCD		To be installed in accordance with applicable laws and standards. PFI 300 mA (type B) may be used in front of the supply voltage for LPC regulated fans.	
Frequency	Hz	50 / 60	
Leakage current to ground at 50 Hz	mA	Max. 3.0	
Max. ballast fuse	A	16	
Max. current consumption At 400 V AC supply	A	3.12	2.45
Max. input power (P1)	W	1921 (1865)	1441 (1428)
CosPhi [Φ]	Factor	0.94	
Regulation ability		20 to 100% / 8 - 0 V	
Motor protection		Built-in current limiter in LPC motor control. Use fuse in front of LPC motor control.	
Thermal cutout (PTO)		-	
Interface			
Inputs			
A1: Analog fan speed	V DC	10 – 0 (default)	
D1: Start / Stop	V DC	0 / 24 with internal pull-up	
D2: Polarity analog input 0-10 V / 10-0 V	V DC	0 / 24 with internal pull-up	
LPC-2 relay module (optional)			
D3: Input reversing	V DC	0 - 24 with internal pull-up	
Output alarm relay		1 A, 30 V DC, 24 V AC	
Mechanical			
Cable length	m	0.7 m shielded	
Impeller diameter	mm	1278	
Number of fan blades	pcs.	3	
Fan blade pitch	°	40	40
Fan output			
Revolutions per minute	RPM	750	680
Air output at 0 Pa	m³/h	48900 (53800)	44100 (48600)
Air output at -10 Pa	m³/h	46900 (52100)	42200 (46400)
Air output at -20 Pa	m³/h	44900 (49100)	40200 (43900)

		60-25-4562 BD-Blue 130-7 DMS / 60-25-4560 BD-Blue 130-7 0-100%	60-25-4568 BD-Blue 130-6 DMS / 60-25-4571 BD-Blue 130-6 0-100%
Air output at -30 Pa	m³/h	43100 (46900)	38000 (41600)
Air output at -40 Pa	m³/h	41100 (44900)	35500 (39500)
Air output at -50 Pa	m³/h	39200 (42800)	33300 (36400)
Air output at -60 Pa	m³/h	36600 (40600)	30600 (33700)
Air output at -70 Pa	m³/h	34200 (37800)	27500 (30800)
Air output at -80 Pa	m³/h	31600 (34700)	24000 (27400)
Air output at -90 Pa	m³/h	28900 (31600)	-
Air output at -100 Pa	m³/h	25000 (28200)	-
Power consumption at -10 Pa	W	1907 (1758)	1434 (1360)
Specific output at -10 Pa	m³/kWh	24600 (29600)	29400 (34100)
Specific energy at -10 Pa	Watt/1000 m³/h	41 (34)	34 (29)
Testing body		SKOV A/S	
Environment			
Temperature, operation	°C (°F)	÷ 40 to + 40 (÷ 40 to 104)	
Start temperature	°C (°F)	÷ 40 to + 50 (÷ 40 to 122)	
Storage temperature	°C (°F)	÷ 40 to + 70 (÷ 40 to 158)	
Ambient humidity, operation	% RH	10 - 95	
Protection class	IP	Motor controller: IP 65 Fan motor: IP 65	
Fan noise, outside (2 m, 45 degrees)	dB (A)	74	71
Shipment			
Shipping weight	g	75000	

7.2.1 ErP/Ecodesign BF 50 LPC 3x400 V

Fan type		BD-Blue 130-7 DMS / BD-Blue 130-7 0-100%	BD-Blue 130-6 DMS / BD-Blue 130-6 0-100%
Ecodesign		ErP 2015 (N40)	
Efficiency classification	N	59.4	60.3
Efficiency (η)	%	54.6	54.7
Measurement setup		A	
Fan efficiency		Static	
VSD required		Yes	
Year of production		2020	
Name of manufacturer		SKOV A/S	
Item number		435405 / 435409 (60-25-4562 / 60-25-4560)	435408 / 435382 (60-25-4568 / 60-25-4571)
Motor power input	kW	1.748	1.292
Flow rate	m ³ /s	8.08	7.28
Optimum pressure	Pa	110	90
Revolutions per minute	RPM	750	680
Pressure conditions		1	
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to their local collection points/recycling centers in accordance with local instructions	
Environmental impact		-	

7.3 BD-Blue 130 LPC 3x230 V

		60-25-4567 BD-Blue 130-6 DMS 60-25-4570 BD-Blue 130-6 0-100%
Electrical		
Rated voltage	V AC	200 - 230 +/- 10%
Operating voltage	V AC	175 – 280 For supply voltages below the rated voltage range, a reduction of the fan's RPM may occur depending on the load and ambient temperature.
RCD		To be installed in accordance with applicable laws and standards. PFI 300 mA (type B) may be used in front of the supply voltage for LPC regulated fans.
Frequency	Hz	50 / 60
Leakage current to ground at 50 Hz	mA	Max. 3.0
Max. ballast fuse	A	16
Max. current consumption At 230 V AC supply	A	3.88
Max. current consumption At 200 V AC supply	A	4.49
Max. input power (P1)	W	1409 (1432)
CosPhi [Φ]	Factor	0.94
Regulation ability		20 to 100% / 8 - 0 V
Motor protection		Built-in current limiter in LPC motor control. Use fuse in front of LPC motor control.
		-
Thermal cutout (PTO)		
Interface		
Inputs		
A1: Analog fan speed	V DC	10 – 0 (default)
D1: Start / Stop	V DC	0 / 24 with internal pull-up
D2: Polarity analog input 0-10 V / 10-0 V	V DC	0 / 24 with internal pull-up
LPC-2 relay module (optional)		
D3: Input reversing	V DC	0 - 24 with internal pull-up
Output alarm relay		1 A, 30 V DC, 24 V AC
Mechanical		
Cable length	m	0.7 m shielded
Impeller diameter	mm	1278
Number of fan blades	pcs.	3
Fan blade pitch	°	40
Fan output		
Revolutions per minute	RPM	680
Air output at 0 Pa	m³/h	44000 (48700)

		60-25-4567 BD-Blue 130-6 DMS 60-25-4570 BD-Blue 130-6 0-100%
Air output at -10 Pa	m ³ /h	42000 (46300)
Air output at -20 Pa	m ³ /h	40200 (44400)
Air output at -30 Pa	m ³ /h	37900 (41600)
Air output at -40 Pa	m ³ /h	35400 (39000)
Air output at -50 Pa	m ³ /h	32800 (36600)
Air output at -60 Pa	m ³ /h	30300 (33400)
Air output at -70 Pa	m ³ /h	27100 (30600)
Air output at -80 Pa	m ³ /h	23700 (26800)
Power consumption at -10 Pa	W	1393 (1365)
Specific output at -10 Pa	m ³ /kWh	30200 (33900)
Specific energy at -10 Pa	Watt/1000 m ³ /h	33 (29)
Testing body		SKOV A/S
Environment		
Temperature, operation	°C (°F)	÷ 40 to + 40 (÷ 40 to 104)
Start temperature	°C (°F)	÷ 40 to + 50 (÷ 40 to 122)
Storage temperature	°C (°F)	÷ 40 to + 70 (÷ 40 to 158)
Ambient humidity, operation	% RH	10 - 95
Protection class	IP	Motor controller: IP 65 Fan motor: IP 65
Fan noise, outside (2 m, 45 degrees)	dB (A)	71
Shipment		
Shipping weight	g	75000

7.3.1 ErP/Ecodesign BD-Blue 130 LPC 3x230 V

Fan type		BD-Blue 130-6 DMS	BD-Blue 130-6 0-100%
Ecodesign		ErP 2015 (N40)	
Efficiency classification	N	59.9	
Efficiency (η)	%	54.3	
Measurement setup		A	
Fan efficiency		Static	
VSD required		Yes	
Year of production		2020	
Name of manufacturer		SKOV A/S	
Item number		435407 (60-25-4567)	435384 (60-25-4570)
Motor power input	kW	1.316	
Flow rate	m ³ /s	7.39	
Optimum pressure	Pa	90	
Revolutions per minute	RPM	680	
Pressure conditions		1	
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to their local collection points/recycling centers in accordance with local instructions	
Environmental impact		-	

7.4 BD-Blue 130 ON/OFF EL 1x230 V

		60-25-4577	60-25-4578
		BD-Blue 130 ON/OFF mot 1x230 V	BD-Blue 130 ON/OFF mot 1x230 V
Electrical			
Rated voltage	V AC	230 +/-10%	
Operating voltage	V AC	207 – 253	
Frequency	Hz	50	60
Max. power consumption At 230 V AC supply	A	7.5	7.1
Max. input power (P1)	W	1480 (1506)	1489 (1504)
Max. power (P2) shaft	W	1100	1220
Efficiency motor [η]	%	70.8	75.5
CosPhi [Φ]	Factor	0.94	0.99
Capacitor	uF / V	40 / 450	40 / 450
Motor protection thermal cutout (PTO)		-	
Mechanical			
Cable length	m	0.7	
Impeller diameter	mm	1278	
Number of fan blades	pcs.	3	
Fan blade pitch	°	37	31
Fan output			
Revolutions (rated cur- rent) per minute	RPM	700	840
Air output at 0 Pa	m³/h	41400 (45900)	40400 (43100)
Air output at -10 Pa	m³/h	39500 (43400)	38700 (41100)
Air output at -20 Pa	m³/h	37100 (40900)	36900 (39200)
Air output at -30 Pa	m³/h	34700 (38400)	35000 (37300)
Air output at -40 Pa	m³/h	32300 (35800)	33100 (35400)
Air output at -50 Pa	m³/h	30100 (33100)	31200 (33400)
Air output at -60 Pa	m³/h	27700 (30100)	29200 (31400)
Air output at -70 Pa	m³/h	24900 (26800)	27100 (29200)
Air output at -80 Pa	m³/h	21500 (23000)	25000 (26900)
Air output at -90 Pa	m³/h	-	22800 (24500)
Air output at -100 Pa	m³/h	-	20500 (22000)
Power consumption at -10 Pa	W	1459 (1416)	1443 (1413)
Specific output at -10 Pa	m³/kWh	27100 (30700)	26800 (29100)
Specific energy at -10 Pa	Watt/100 0 m³/h	37 (33)	37 (34)
Testing body		SKOV A/S	
Environment			
Temperature, operation	°C (°F)	÷ 40 to + 40 (÷ 40 to 104)	
Start temperature	°C (°F)	÷ 40 to + 50 (÷ 40 to 122)	

		60-25-4577	60-25-4578
		BD-Blue 130 ON/OFF mot 1x230 V	BD-Blue 130 ON/OFF mot 1x230 V
Storage temperature	°C (°F)	÷ 40 to + 70 (÷ 40 to 158)	
Ambient humidity, operation	% RH	10 – 95	
Protection class	IP	IP 65	
Fan noise, outside (2 m, 45 degrees)	dB (A)	71	76
Shipment			
Shipping weight	g	75000	

7.4.1 ErP/Ecodesign BD-Blue 130 ON/OFF EL 1x230 V

Fan type		BD-Blue 130 ON/OFF mot 1x230 V	BD-Blue 130 ON/OFF mot 1x230 V
Ecodesign		ErP 2015 (N40)	
Efficiency classification	N	46.6	50.2
Efficiency (η)	%	44.4	48.3
Measurement setup		A	
Fan efficiency		Static	
VSD required		No	
Year of manufacture		2020	
Name of manufacturer		SKOV A/S	
Item number		435385 (60-25-4577)	435387 (60-25-4578)
Motor power input	kW	1.413	1.452
Flow rate	m ³ /s	6.80	6.51
Optimum pressure	Pa	86	100
Revolutions per minute	RPM	710	840
Pressure conditions		1	
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to their local collection points/recycling centers in accordance with local instructions	
Environmental impact		-	

7.5 BD-Blue 130 ON/OFF EL 3x400 V

		60-25-4580	60-25-4581
		BD-Blue 130 ON/OFF mot 3x400 V	BD-Blue 130 ON/OFF mot 3x400 V w/thermal cutout
Electrical			
Rated voltage	V AC	400 +/-10%	
Operating voltage	V AC	360 – 440	
Frequency	Hz	50	
Max. power consumption At 400 V AC supply	A	3.3	
Max. input power (P1)	W	1534 (1523)	
Max. power (P2) shaft	W	1200	
Efficiency motor [η]	%	78.5	
CosPhi [Φ]	Factor	0.71	
Motor protection thermal cutout (PTO)		-	Thermik S01 120.05 in separate ca- ble
Mechanical			
Cable length	m	0.7	
Impeller diameter	mm	1278	
Number of fan blades	pcs.	3	
Fan blade pitch	°	39	
Fan output			
Revolutions (rated cur- rent) per minute	RPM	680	
Air output at 0 Pa	m³/h	43500 (48400)	
Air output at -10 Pa	m³/h	41500 (46400)	
Air output at -20 Pa	m³/h	39100 (43600)	
Air output at -30 Pa	m³/h	36600 (40700)	
Air output at -40 Pa	m³/h	34300 (38000)	
Air output at -50 Pa	m³/h	31900 (35300)	
Air output at -60 Pa	m³/h	29400 (32300)	
Air output at -70 Pa	m³/h	26300 (28800)	
Air output at -80 Pa	m³/h	22500 (24400)	
Power consumption at -10 Pa	W	1534 (1461)	
Specific output at -10 Pa	m³/kWh	27100 (31800)	
Specific energy at -10 Pa	Watt/100 0 m³/h	37 (32)	
Testing body		SKOV A/S	
Environment			
Temperature, operation	°C (°F)	÷ 40 to + 40 (÷ 40 to 104)	
Start temperature	°C (°F)	÷ 40 to + 50 (÷ 40 to 122)	
Storage temperature	°C (°F)	÷ 40 to + 70 (÷ 40 to 158)	
Ambient humidity, opera- tion	% RH	10 – 95	

		60-25-4580 BD-Blue 130 ON/OFF mot 3x400 V	60-25-4581 BD-Blue 130 ON/OFF mot 3x400 V w/thermal cutout
Protection class	IP	IP 65	
Fan noise, outside (2 m, 45 degrees)	dB (A)	72	
Shipment			
Shipping weight	g	75000	

7.5.1 ErP/Ecodesign BD-Blue 130 ON/OFF EL 3x400 V

Fan type		BD-Blue 130 ON/OFF mot 3x400 V	BD-Blue 130 ON/OFF mot 3x400 V w/thermal cutout
Ecodesign		ErP 2015 (N40)	
Efficiency classification	N	48.9	
Efficiency (η)	%	47.0	
Measurement setup		A	
Fan efficiency		Static	
VSD required		No	
Year of production		2020	
Name of manufacturer		SKOV A/S	
Item number		435388 (60-25-4580)	435404 (60-25-4581)
Motor power input	kW	1.478	
Flow rate	m ³ /s	8.12	
Optimum pressure	Pa	80	
Revolutions per minute	RPM	710	
Pressure conditions		1	
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to their local collection points/recycling centers in accordance with local instructions	
Environmental impact		-	

7.6 BD-Blue 130 ON/OFF EL 3x230 V/3x200 V

		60-25-4579	
		Fan BD-Blue 130 ON/OFF mot 230-3-60 5.6A 42400m3/h	Fan BD-Blue 130 ON/OFF mot 200-3-60 5.6A 42400m3/h
Electrical			
Rated voltage	V AC	230 +/-10%	200 +10/-5%
Operating voltage	V AC	207 – 253	190 – 220
Frequency	Hz	60	
Max. power consumption At 230 V AC supply	A	5.6	
Max. power consumption At 200 V AC supply	A	5.6	
Max. input power (P1)	W	1547 (1533)	1470 (1448)
Max. power (P2) shaft	W	1280	
Efficiency motor [η]	%	78.5	
CosPhi [Φ]	Factor	0.73	
Capacitor	uF / V	-	
Motor protection thermal cutout (PTO)		-	
Mechanical			
Cable length	m	0.7	
Impeller diameter	mm	1278	
Number of fan blades	pcs.	3	
Fan blade pitch	°	33	
Fan output			
Revolutions (rated cur- rent) per minute	RPM	800	
Air output at 0 Pa	m³/h	42400 (46000)	39900 (42400)
Air output at -10 Pa	m³/h	40500 (44000)	38100 (39800)
Air output at -20 Pa	m³/h	38600 (42000)	36300 (37300)
Air output at -30 Pa	m³/h	36600 (39900)	34300 (34900)
Air output at -40 Pa	m³/h	34500 (37600)	32300 (32600)
Air output at -50 Pa	m³/h	32400 (35300)	30200 (30200)
Air output at -60 Pa	m³/h	30200 (32800)	27900 (27900)
Air output at -70 Pa	m³/h	28000 (30200)	25600 (25500)
Air output at -80 Pa	m³/h	25600 (27500)	23200 (22900)
Air output at -90 Pa	m³/h	23100 (24700)	20600 (20300)
Power consumption at -10 Pa	W	1495 (1427)	1428 (1371)
Specific output at -10 Pa	m³/kWh	27100 (30800)	26700 (29000)
Specific energy at -10 Pa	Watt/100 0 m³/h	37 (32)	37 (34)
Testing body		SKOV A/S	
Environment			

		60-25-4579	
		Fan BD-Blue 130 ON/OFF mot 230-3-60 5.6A 42400m3/h	Fan BD-Blue 130 ON/OFF mot 200-3-60 5.6A 42400m3/h
Temperature, operation	°C (°F)	÷ 40 to + 40 (÷ 40 to 104)	
Start temperature	°C (°F)	÷ 40 to + 50 (÷ 40 to 122)	
Storage temperature	°C (°F)	÷ 40 to + 70 (÷ 40 to 158)	
Ambient humidity, operation	% RH	10 – 95	
Protection class	IP	IP 65	
Fan noise, outside (2 m, 45 degrees)	dB (A)	75	
Shipment			
Shipping weight	g	75000	

7.6.1 ErP/Ecodesign BD-Blue 130 ON/OFF EL 3x230 V

Fan type		BD-Blue 130 ON/OFF mot 3x230 V
Ecodesign		ErP 2015 (N58)
Efficiency classification	N	51.1
Efficiency (η)	%	49.3
Measurement setup		A
Fan efficiency		Static
VSD required		No
Year of manufacture		2020
Name of manufacturer		SKOV A/S
Item number		435391 (60-25-4579)
Motor power input	kW	1.481
Flow rate	m ³ /s	6.79
Optimum pressure	Pa	100
Revolutions per minute	RPM	710
Pressure conditions		1
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to their local collection points/recycling centers in accordance with local instructions
Environmental impact		-

7.7 BD-Blue 130 ON/OFF AIR 1x230 V

		60-25-4583	60-25-4584
		BD-Blue 130 ON/OFF 1x230 V	BD-Blue 130 ON/OFF 1x230 V
Electrical			
Rated voltage	V AC	230 +/-10%	
Operating voltage	V AC	207 – 253	
Frequency	Hz	50	60
Max. power consumption At 230 V AC supply	A	7.5	7.1
Max. input power (P1)	W	1480 (1450)	1418 (1407)
Max. power (P2) shaft	W	1100	1220
Efficiency motor [η]	%	70.8	75.5
CosPhi [Φ]	Factor	0.94	0.99
Capacitor	uF / V	40 / 450	40 / 450
Motor protection thermal cutout (PTO)		-	
Mechanical			
Cable length	m	0.7	
Impeller diameter	mm	1278	
Number of fan blades	pcs.	3	
Fan blade pitch	°	37	31
Fan output			
Revolutions (rated cur- rent) per minute	RPM	700	840
Air output at 0 Pa	m³/h	41700 (44600)	39700 (40700)
Air output at -10 Pa	m³/h	40200 (42600)	38000 (39100)
Air output at -20 Pa	m³/h	38200 (40400)	36400 (37400)
Air output at -30 Pa	m³/h	35600 (38200)	34700 (35600)
Air output at -40 Pa	m³/h	33600 (36300)	32900 (33800)
Air output at -50 Pa	m³/h	30900 (33000)	30900 (31700)
Air output at -60 Pa	m³/h	29100 (30200)	28900 (29700)
Air output at -70 Pa	m³/h	25100 (27600)	26700 (27300)
Air output at -80 Pa	m³/h	20800 (23200)	24100 (24900)
Air output at -90 Pa	m³/h	-	21200 (22200)
Air output at -100 Pa	m³/h	-	18700 (19200)
Power consumption at -10 Pa	W	1459 (1375)	1373 (1338)
Specific output at -10 Pa	m³/kWh	27600 (31000)	27700 (29200)
Specific energy at -10 Pa	Watt/100 0 m³/h	35 (32)	36 (34)
Testing body		SKOV A/S	
Environment			
Temperature, operation	°C (°F)	÷ 40 to + 40 (÷ 40 to 104)	
Start temperature	°C (°F)	÷ 40 to + 50 (÷ 40 to 122)	

		60-25-4583 BD-Blue 130 ON/OFF 1x230 V	60-25-4584 BD-Blue 130 ON/OFF 1x230 V
Storage temperature	°C (°F)	÷ 40 to + 70 (÷ 40 to 158)	
Ambient humidity, operation	% RH	10 – 95	
Protection class	IP	IP 65	
Fan noise, outside (2 m, 45 degrees)	dB (A)	74	78
Air shutter inside		74	76
Air shutter outside			
Shipment			
Shipping weight	g	72000	

7.7.1 ErP/Ecodesign BD-Blue 130 ON/OFF AIR 1x230 V

Fan type		BD-Blue 130 ON/OFF 1x230 V	BD-Blue 130 ON/OFF 1x230 V
Ecodesign		ErP 2015 (N40)	
Efficiency classification	N	46.6	50.2
Efficiency (η)	%	44.4	48.3
Measurement setup		A	
Fan efficiency		Static	
VSD required		No	
Year of manufacture		2020	
Name of manufacturer		SKOV A/S	
Item number		435400 (60-25-4583)	435401 (60-25-4584)
Motor power input	kW	1.413	1.452
Flow rate	m³/s	6.80	6.51
Optimum pressure	Pa	86	100
Revolutions per minute	RPM	710	840
Pressure conditions		1	
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to their local collection points/recycling centers in accordance with local instructions	
Environmental impact		-	

7.8 BD-Blue 130 ON/OFF AIR 3x400 V

		60-25-4586 BD-Blue 130 ON/ OFF 3x400 V	435441-02 BD-Blue 130 ON/ OFF 3x400 V w/ther- mal cutout	60-25-4587 BD-Blue 130 ON/ OFF 3x400 V
Electrical				
Rated voltage	V AC	400 +/-10%		
Operating voltage	V AC	360 – 440		
Frequency	Hz	50	60	
Max. power consumption At 400 V AC supply	A	3.3	3.3	
Max. input power (P1)	W	1583 (1571)	1572 (1567)	
Max. power (P2) shaft	W	1200	1270	
Efficiency motor [η]	%	78.5	78.5	
CosPhi [Φ]	Factor	0.71	0.74	
Capacitor	uF / V	-	-	
Motor protection thermal cutout (PTO)		-	Thermik S01 120.05 in sep- arate cable	-
Mechanical				
Cable length	m	0.7		
Impeller diameter	mm	1278		
Number of fan blades	pcs.	3		
Fan blade pitch	°	39	33	
Fan output				
Revolutions (rated current) per minute	RPM	680	790	
Air output at 0 Pa	m³/h	45100 (48400)	43200 (45900)	
Air output at -10 Pa	m³/h	43500 (46200)	41700 (44000)	
Air output at -20 Pa	m³/h	41300 (44600)	39800 (42000)	
Air output at -30 Pa	m³/h	38900 (42200)	37800 (40000)	
Air output at -40 Pa	m³/h	36300 (39000)	35700 (37900)	
Air output at -50 Pa	m³/h	33500 (35700)	33600 (35700)	
Air output at -60 Pa	m³/h	30300 (32700)	31400 (33300)	
Air output at -70 Pa	m³/h	26000 (30000)	29100 (30900)	
Air output at -80 Pa	m³/h	20100 (25700)	26800 (28200)	
Air output at -90 Pa	m³/h	-	24300 (25300)	
Air output at -100 Pa	m³/h	-	21400 (22200)	
Power consumption at -10 Pa	W	1574 (1529)	1536 (1470)	
Specific output at -10 Pa	m³/kWh	27600 (30200)	27100 (29900)	
Specific energy at -10 Pa	Watt/1000 m³/h	36 (33)	37 (33)	
Testing body		SKOV A/S		
Environment				
Temperature, operation	°C (°F)	÷ 40 to + 40 (÷ 40 to 104)		

		60-25-4586 BD-Blue 130 ON/ OFF 3x400 V	435441-02 BD-Blue 130 ON/ OFF 3x400 V w/ther- mal cutout	60-25-4587 BD-Blue 130 ON/ OFF 3x400 V
Start temperature	°C (°F)	÷ 40 to + 50 (÷ 40 to 122)		
Storage temperature	°C (°F)	÷ 40 to + 70 (÷ 40 to 158)		
Ambient humidity, operation	% RH	10 – 95		
Protection class	IP	IP 65		
Fan noise, outside (2 m, 45 degrees)	dB (A)	75		77
Air shutter inside		72		76
Air shutter outside				
Shipment				
Weight	g	72000		
Shipping weight	g	72000		

7.8.1 ErP/Ecodesign BD-Blue 130 ON/OFF AIR 3x400 V

Fan type		BD-Blue 130 ON/OFF 3x400 V	BD-Blue 130 ON/OFF 3x400 V w/thermal cutout	BD-Blue 130 ON/OFF 3x400 V
Ecodesign		ErP 2015 (N40)		
Efficiency classifica- tion	N	48.9		50.4
Efficiency (η)	%	47.0		48.6
Measurement setup		A		
Fan efficiency		Static		
VSD required		No		
Year of manufacture		2020		
Name of manufacturer		SKOV A/S		
Item number		435402 (60-25-4586)	435441 (435441-02)	435410 (60-25-4587)
Motor power input	kW	1.478		1.536
Flow rate	m ³ /s	8.12		6.91
Optimum pressure	Pa	80		100
Revolutions per minute	RPM	710		840
Pressure conditions		1		
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to their local collection points/recycling centers in accordance with local instructions		
Environmental impact		-		

7.9 BD-Blue 130 ON/OFF AIR 3x230 V/3x200 V

		60-25-4585	
		Fan BD-Blue 130 ON/OFF 230-3-60 5.6A 43300m3/h	Fan BD-Blue 130 ON/OFF 200-3-60 5.6A 43300m3/h
Electrical			
Rated voltage	V AC	230 +/-10%	200 +10/-5%
Operating voltage	V AC	207 – 253	190 – 220
Frequency	Hz	60	
Max. power consumption At 230 V AC supply	A	5.6	
Max. power consumption At 200 V AC supply	A	5.6	
Max. input power (P1)	W	1569 (1549)	1406 (1481)
Max. power (P2) shaft	W	1280	
Efficiency motor [η]	%	78.5	
CosPhi [Φ]	Factor	0.73	
Capacitor	uF / V	-	
Motor protection thermal cutout (PTO)		-	
Mechanical			
Cable length	m	0.7	
Impeller diameter	mm	1278	
Number of fan blades	pcs.	3	
Fan blade pitch	°	33	
Fan output			
Revolutions (rated cur- rent) per minute	RPM	800	
Air output at 0 Pa	m³/h	43300 (46000)	39300 (41100)
Air output at -10 Pa	m³/h	41300 (44200)	37500 (39000)
Air output at -20 Pa	m³/h	39400 (42200)	35600 (36900)
Air output at -30 Pa	m³/h	37500 (40100)	33700 (34900)
Air output at -40 Pa	m³/h	35600 (37900)	31700 (32800)
Air output at -50 Pa	m³/h	33600 (35700)	29600 (30700)
Air output at -60 Pa	m³/h	31400 (33200)	27400 (28400)
Air output at -70 Pa	m³/h	29200 (30500)	25100 (25900)
Air output at -80 Pa	m³/h	26700 (27400)	22700 (23200)
Air output at -90 Pa	m³/h	24000 (23900)	20200 (20400)
Power consumption at -10 Pa	W	1521 (1467)	1368 (1459)
Specific output at -10 Pa	m³/kWh	27200 (30100)	27400 (26700)
Specific energy at -10 Pa	Watt/100 0 m³/h	37 (33)	37 (37)
Testing body		SKOV A/S	
Environment			

		60-25-4585	
		Fan BD-Blue 130 ON/OFF 230-3-60 5.6A 43300m3/h	Fan BD-Blue 130 ON/OFF 200-3-60 5.6A 43300m3/h
Temperature, operation	°C (°F)	÷ 40 to + 40 (÷ 40 to 104)	
Start temperature	°C (°F)	÷ 40 to + 50 (÷ 40 to 122)	
Storage temperature	°C (°F)	÷ 40 to + 70 (÷ 40 to 158)	
Ambient humidity, operation	% RH	10 – 95	
Protection class	IP	IP 65	
Fan noise, outside (2 m, 45 degrees)	dB (A)	79	
Air shutter inside		76	
Air shutter outside			
Shipment			
Shipping weight	g	72000	

7.9.1 ErP/Ecodesign BD-Blue 130 ON/OFF AIR 3x230 V

Fan type		BD-Blue 130 ON/OFF 3x230 V
Ecodesign		ErP 2015 (N40)
Efficiency classification	N	51.1
Efficiency (η)	%	49.3
Measurement setup		A
Fan efficiency		Static
VSD required		No
Year of manufacture		2020
Name of manufacturer		SKOV A/S
Item number		435403 (60-25-4585)
Motor power input	kW	1.481
Flow rate	m ³ /s	6.79
Optimum pressure	Pa	100
Revolutions per minute	RPM	840
Pressure conditions		1
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to their local collection points/recycling centers in accordance with local instructions
Environmental impact		-

7.10 Actuators

		524116 LPC actuator time- controlled	524118 LPC actuator stepless	524117 ON/OFF actuator
Electrical				
Rated voltage	V DC	24	24	24
Operating voltage	V DC	16 - 28	16 - 28	16 – 28
Max. current consumption at 24 V DC power supply	A	0.8	0.8	1.0
Number of actuators on power supply 24V 2.1/4.2A	pcs.	5	5	4
Number of actuators on a 378 medium 24V, 4.2A	pcs.	5	5	4
Number of actuators on a 378 large 24V, 8A	pcs.	10	10	8
Mechanical				
Cable length	m	0.9	0.9	0.9
Running time, unloaded	sec.	45 open / 22 close	45	12
Running time max. load	sec.	60 open / 30 close	60	15
Torque	N	300	300	400
Environment				
Temperature, operation	°C	- 40 to + 40		
Start temperature	°C	- 40 to + 50		
Storage temperature	°C	- 40 to + 70		
Ambient humidity, operation	% RH	10 - 95		
Protection class	IP	IP 65		
Shipment				
Shipping weight	g	2000	2000	2000

7.11 Metal and plastic parts

Mechanical		
Material plastic		
BD-Blue 130 box		PP T20
BD-Blue 130 top and bottom panel		PP T20
BD-Blue 130 side panel		PP T20
BD-Blue 130 cone		PP T20
BD-Blue 130 center pillar		PP GF30
BD-Blue 130 inside safety net		PP T20
BD-Blue 130 shutter parts		HIPS
Metal parts		
BD-Blue 130 outside safety net		Stainless steel A2
BD-Blue 130 back hub		Aluminium
BD-Blue 130 ball joint link		Stainless steel A2
Colors		
Gray		RAL 7035
Black		RAL 9005
Environment		
Temperature, operation	°C	÷ 40 to + 40
Storage temperature	°C	÷ 40 to + 70 - and protected against direct sunlight
Ambient humidity, operation	% RH	10 - 95

7.12 Light traps

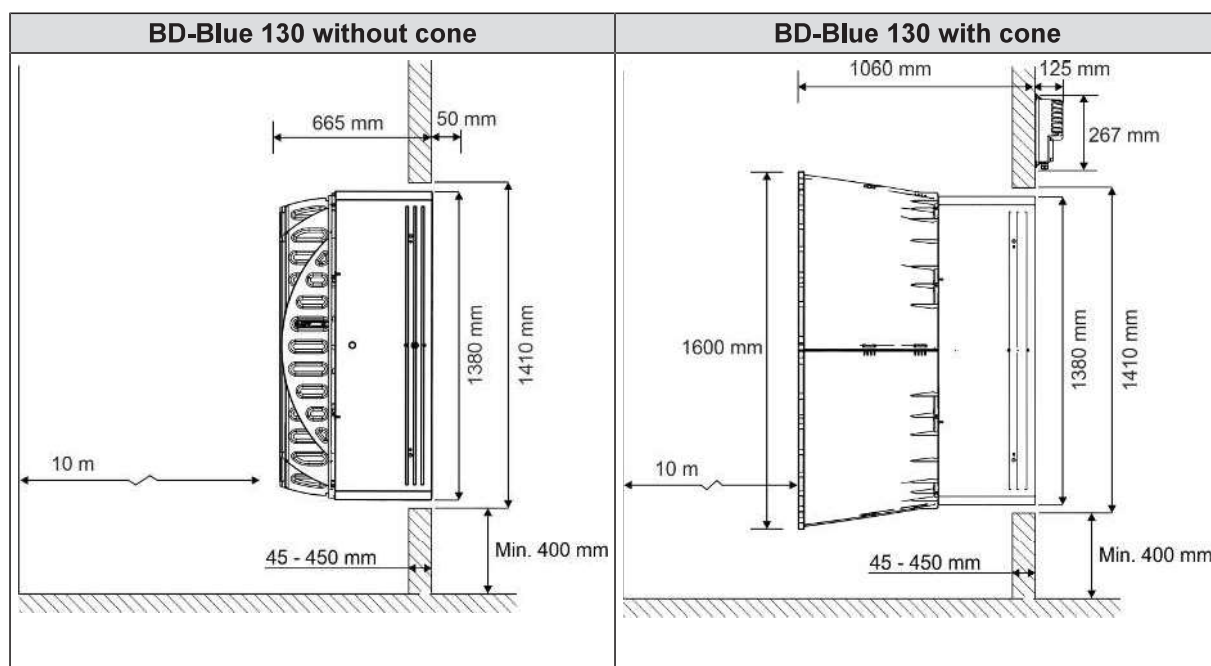
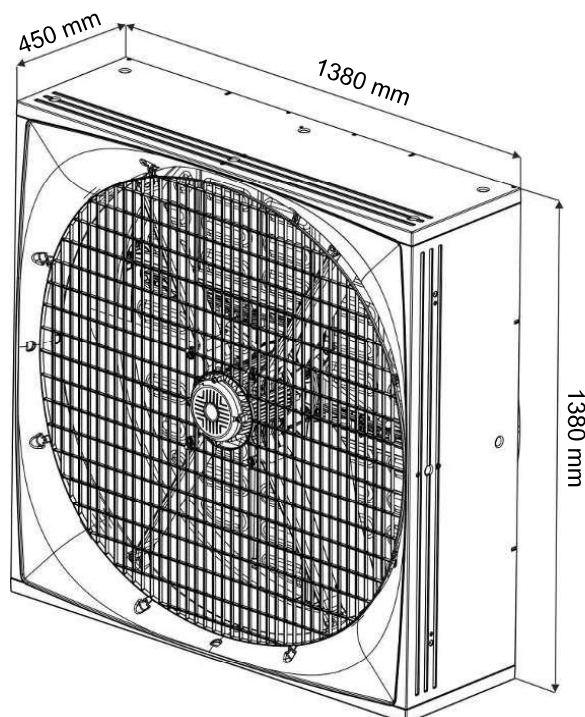
		50" light trap brown out	50" light trap black out
Mechanical			
Material		2	
Color		RAL 9005	
Fan output			
With cone		The light trap reduces the air output of the fan by approx 18 % at 0-70 Pa pressure difference.	The light trap reduces the air output of the fan by approx 35 % at 0-70 Pa pressure difference.
Without cone		The light trap reduces the air output of the fan by approx 15 % at 0-70 Pa pressure difference.	The light trap reduces the air output of the fan by approx 31 % at 0-70 Pa pressure difference.
Environment			
Temperature, operation	°C (°F)	÷ 40 to + 40 (÷ 40 to 104)	
Start temperature	°C (°F)	÷ 40 to + 50 (÷ 40 to 122)	
Storage temperature	°C (°F)	÷ 40 to + 70 (÷ 40 to 158) - and protected against direct sunlight	
Ambient humidity, operation	% RH	10 - 95	
Light reduction factor		175,000:1	1,300,000:1
Shipment			
Weight	g	26500	34000
Shipping weight	g	27500	35000

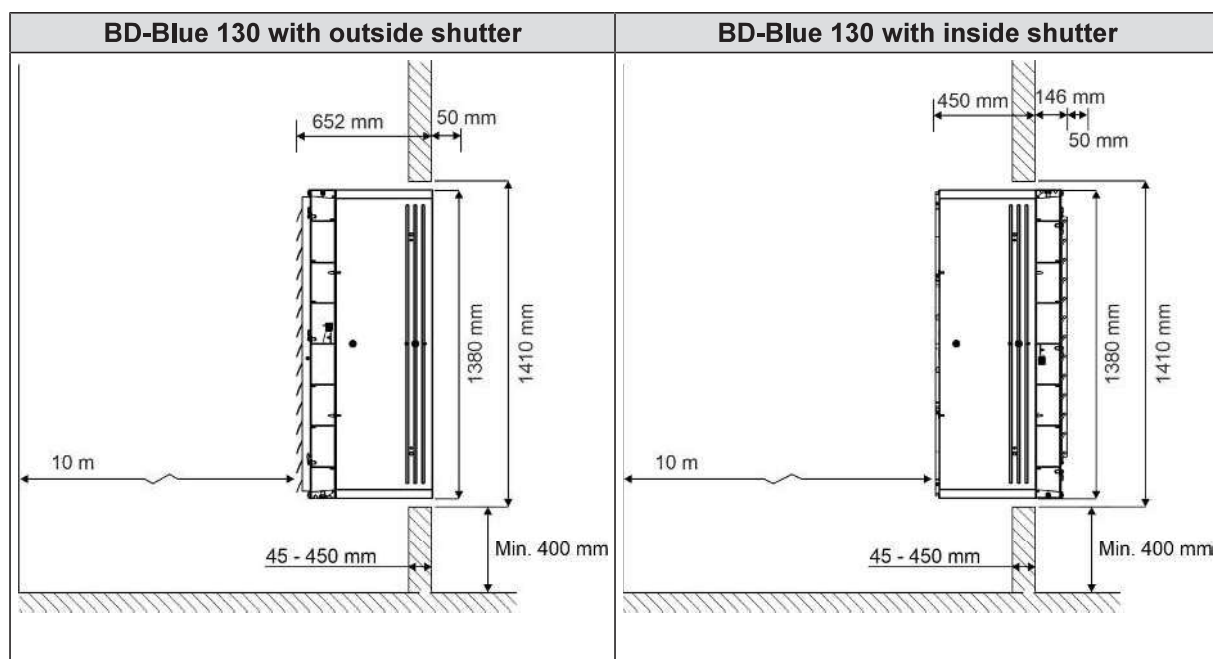
7.13 Number of wall fans in a container

Number of wall fans in a container		Motor controlled shutter	Air controlled shutter
20' DC	BD-Blue 130 without cone	21	15
	BD-Blue 130 with cone	16	10
40' HC	BD-Blue 130 without cone	56	49
	BD-Blue 130 with cone	47	42

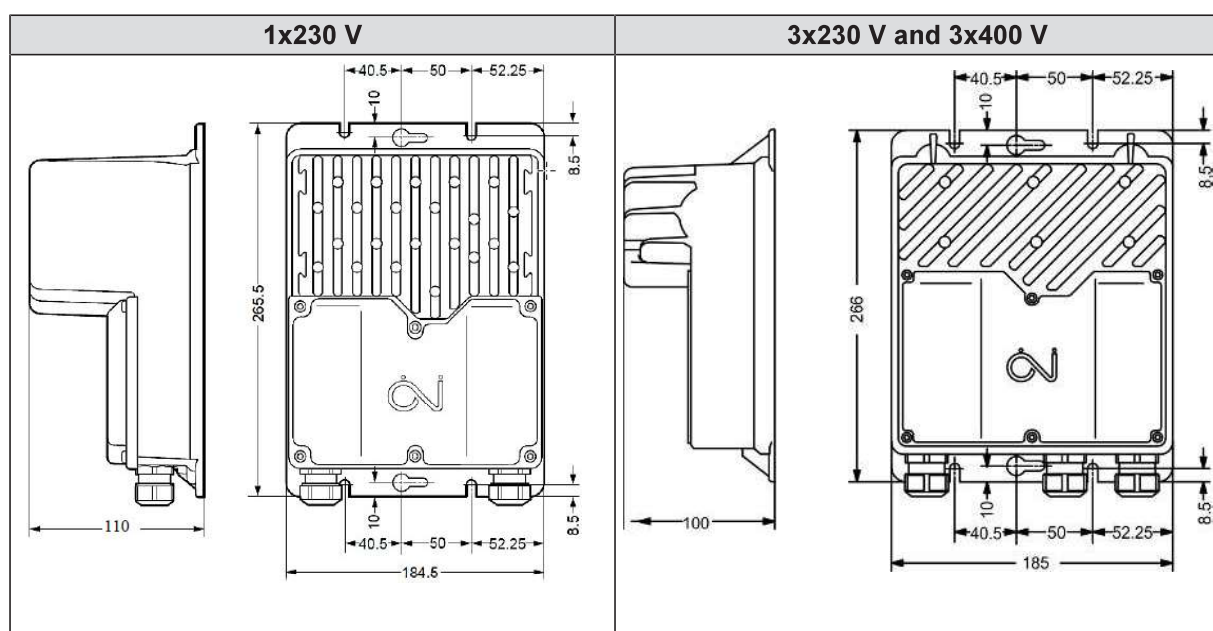
8 Dimensioned sketch

8.1 BD-Blue 130

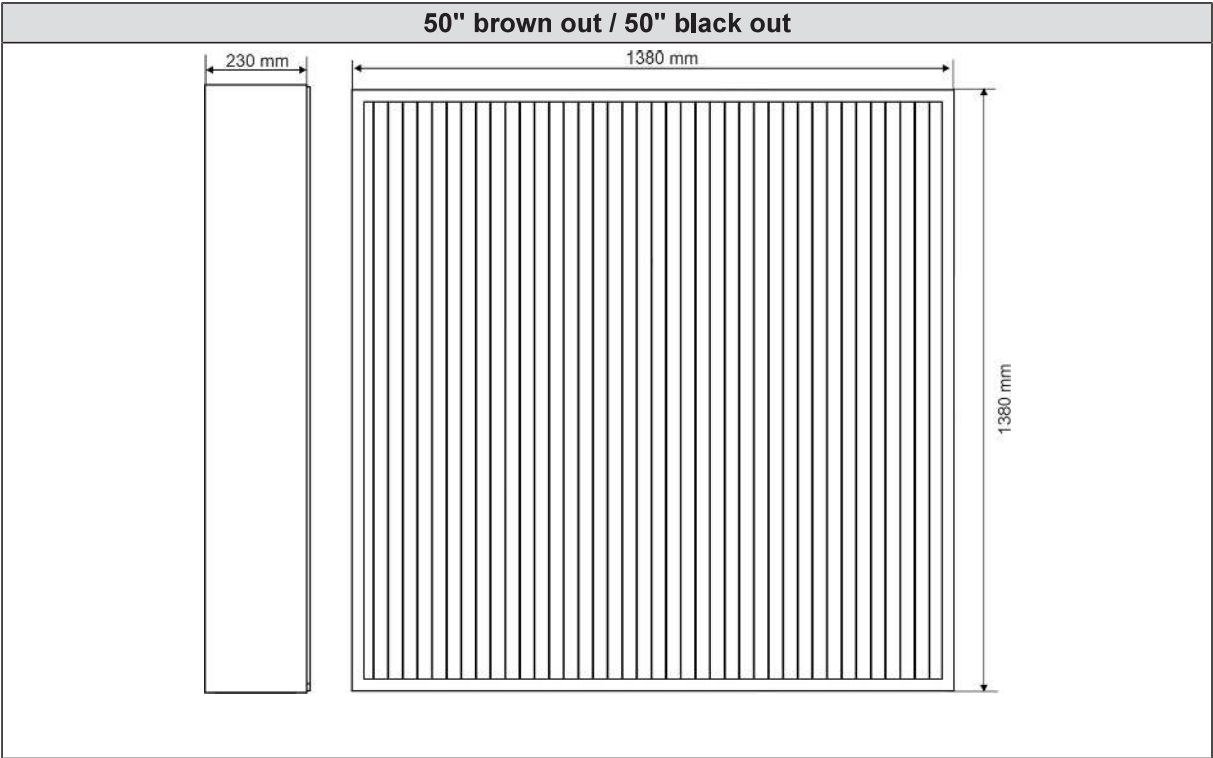




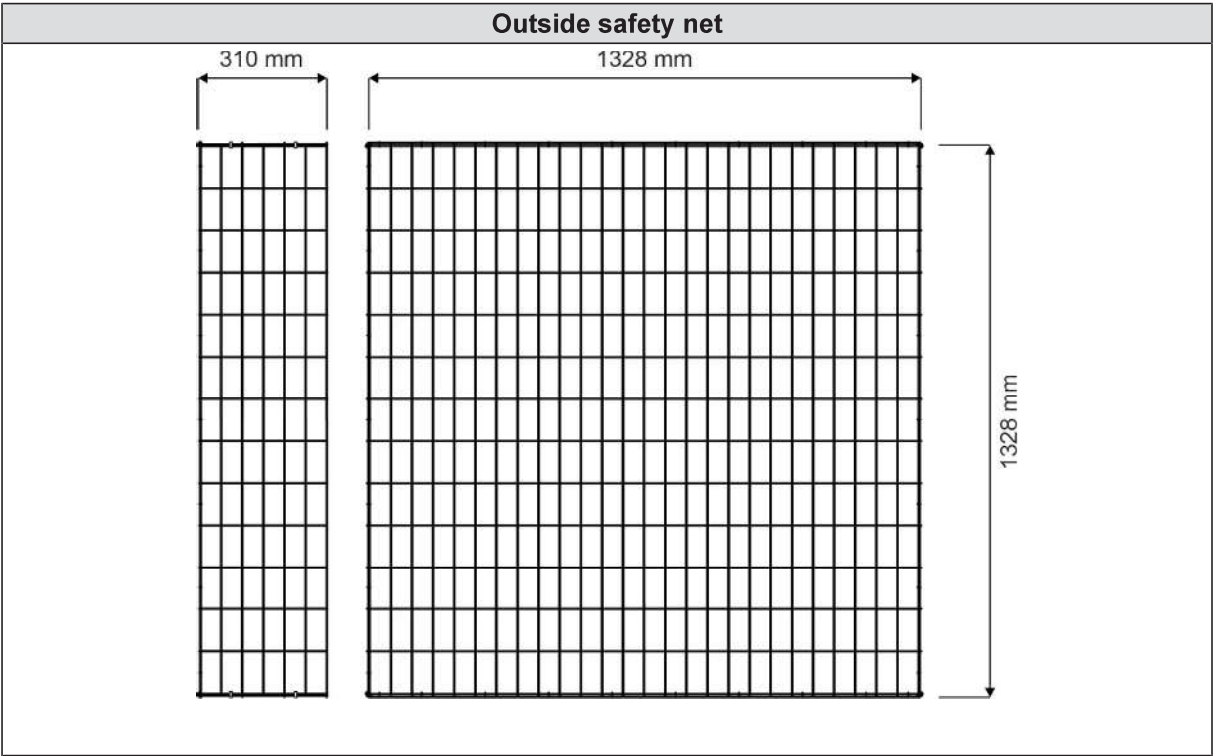
8.2 LPC motor controller



8.3 Light trap



8.4 Outside safety net



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