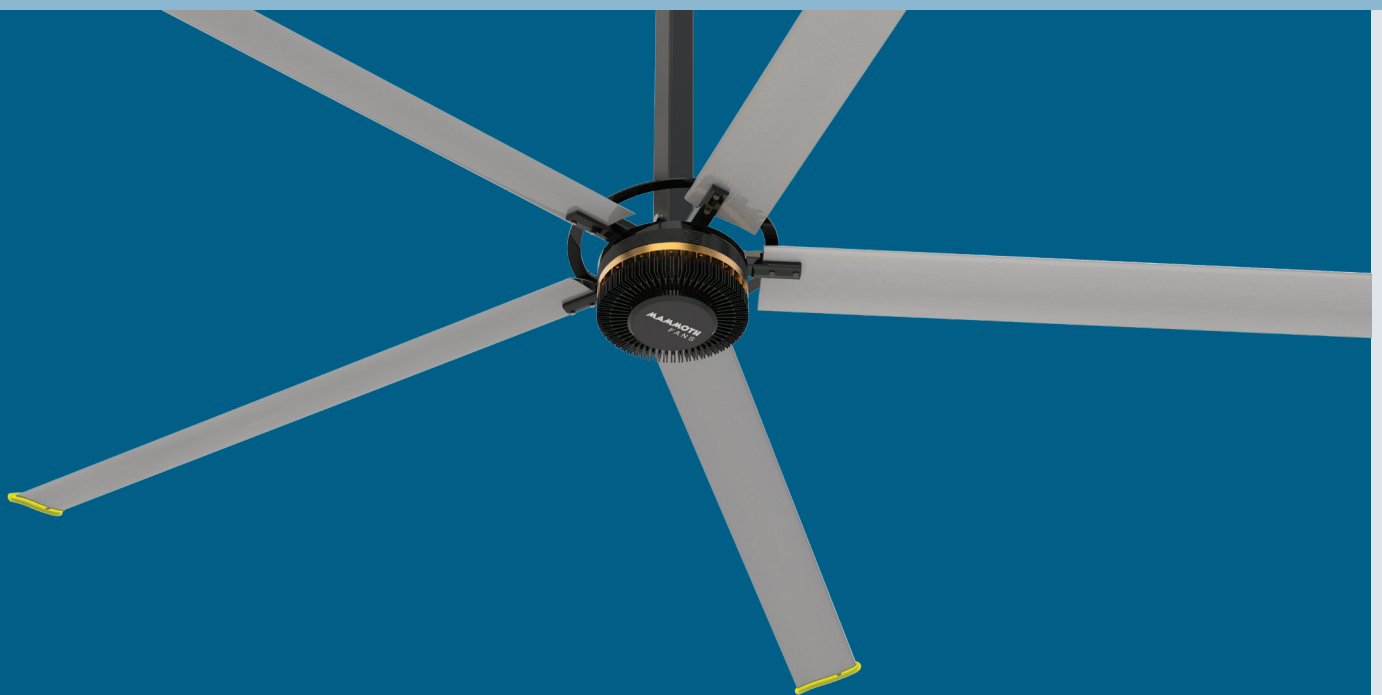


INDUSTRIAL SERIES

INSTALLATION • OPERATION • MAINTENANCE • WARRANTY INFORMATION



INSTRUCTION MANUAL

SKU 211400 & 211401

CAUTION

READ INSTRUCTIONS CAREFULLY FOR SAFE
INSTALLATION AND FAN OPERATION.

CONGRATULATIONS ON YOUR PURCHASE

Congratulations on your purchase of a Mammoth Fan. The Mammoth fan range features world class Permanent Magnetic Synchronous (PMSM) technology and precision-led aeronautical design in Mammoth Proportions.

With energy efficiency, design and ultimate performance in mind, Mammoth Fans have developed the latest in High Volume Low Speed (HVLS) ceiling fans for large residential, commercial and industrial spaces to suit Australian conditions.

Whether it is large outdoor alfresco spaces, industrial warehouses, agricultural buildings, gymnasiums, halls or public spaces, Mammoth Fans has the perfect solution for your project. With market leading features of supreme efficiency, low noise and minimal maintenance, easy installation and advice backed by a 5 year warranty, Mammoth Fans are here to keep you cool.

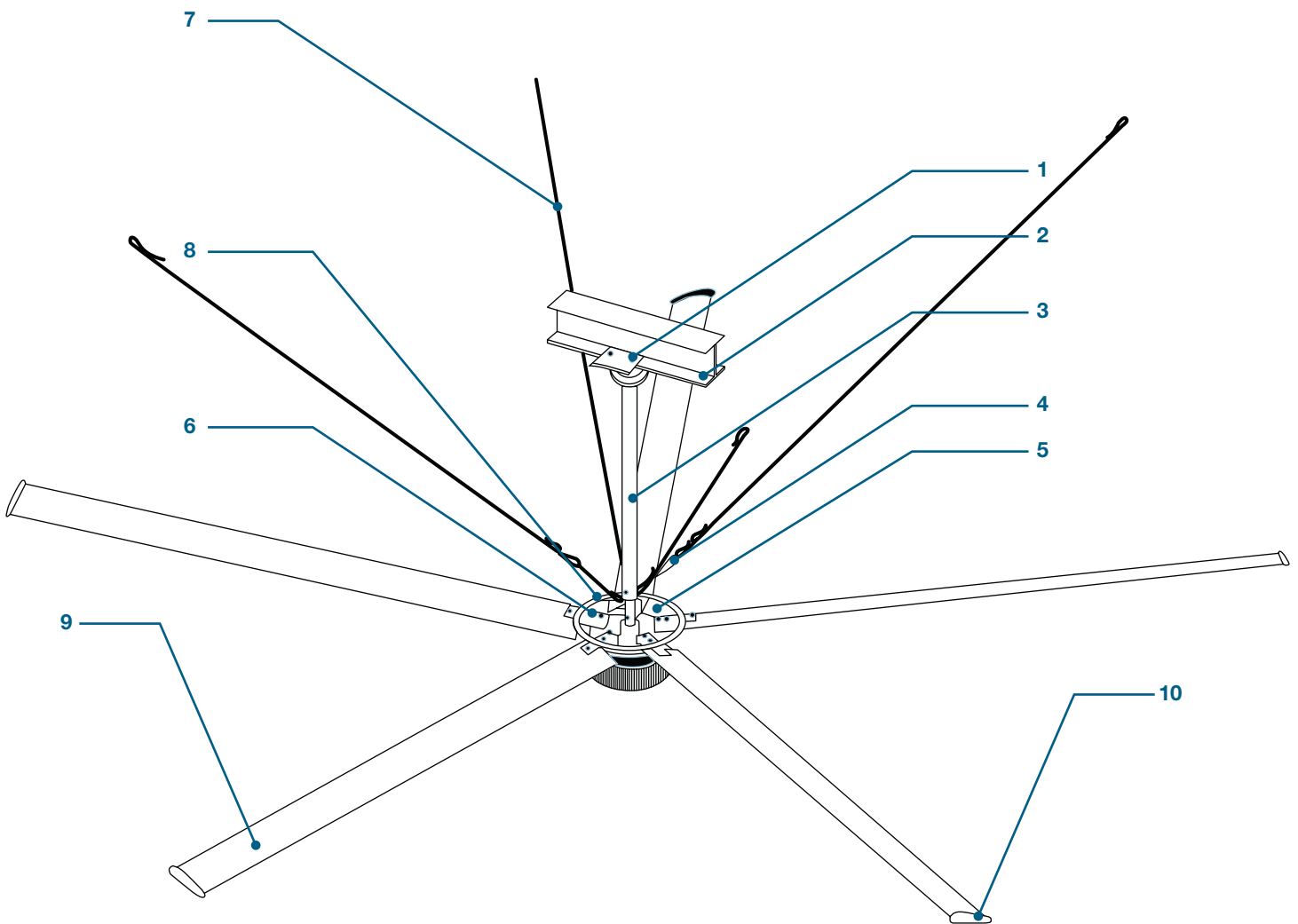
The Mammoth fan you have purchased is a sophisticated electrical device, all care must be taken to ensure the fan is kept clean and not mistreated as issues arising will not be covered under the warranty.

SAFETY PRECAUTIONS

1. Always ensure the power is OFF before performing installation, maintenance, cleaning or making any adjustment to the fan.
2. Must be assembled and installed by a licensed electrician.
3. All wiring and installation of the fan must adhere to the latest local and national wiring rules. eg. AS/NZS 3000 Electrical installations.
4. The appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.
5. Children should be supervised to ensure that they do not play with the appliance.
6. An all-pole disconnection switch must be incorporated into the fixed wiring, in accordance with local wiring rules.
7. The structure to which the fan is to be mounted must be capable of supporting **2 times** the weight of the product and its own structural loading. Check with a structural engineer if unsure.
8. Please do not alter the structure of the install site without prior advice of a structural engineer.
9. The fan should be mounted so that the blades are at least 3.5m above the floor.
10. This fan is suitable for covered alfresco use.
11. The Mammoth Fan must be installed with the electrical control box supplied.
12. During installation, adjustment and cleaning ensure the blades are not bent as this will drastically impact the performance of the fan
13. Please make sure the fan's input voltage and supply voltage are the same before cut-in the power.
14. Please do not open the electrical control box without first isolating the power as electrical shock may occur.
15. Please do not operate the fan if you notice any damage or noises to/from the fan
16. The control box is a sophisticated controller designed specifically for the Mammoth Fans.
No modifications to the controller are permitted and failure to follow this advice could cause injury or death.
- 17. Within the electrical control box is a high-voltage storage capacitor. When you operate the fan, please wait for 3 minutes to let the voltage discharge to prevent electric shock.**
18. Ensure sufficient clearance around the fan and NO obstructions before starting up the fan. Failure to do so will cause significant damage and will not be covered under the warranty.
19. Ensure not to cut off the power to the fan while it is in operation. Please stop the fan first then isolate the power.

PARTS LIST

1. General parts



1. Clamp plate

2. I-beam steel structure

3. Extension tube

4. Turnbuckle and clamps

5. PMSM Motor

6. Connector

7. Steel wire

8. Blade retainer

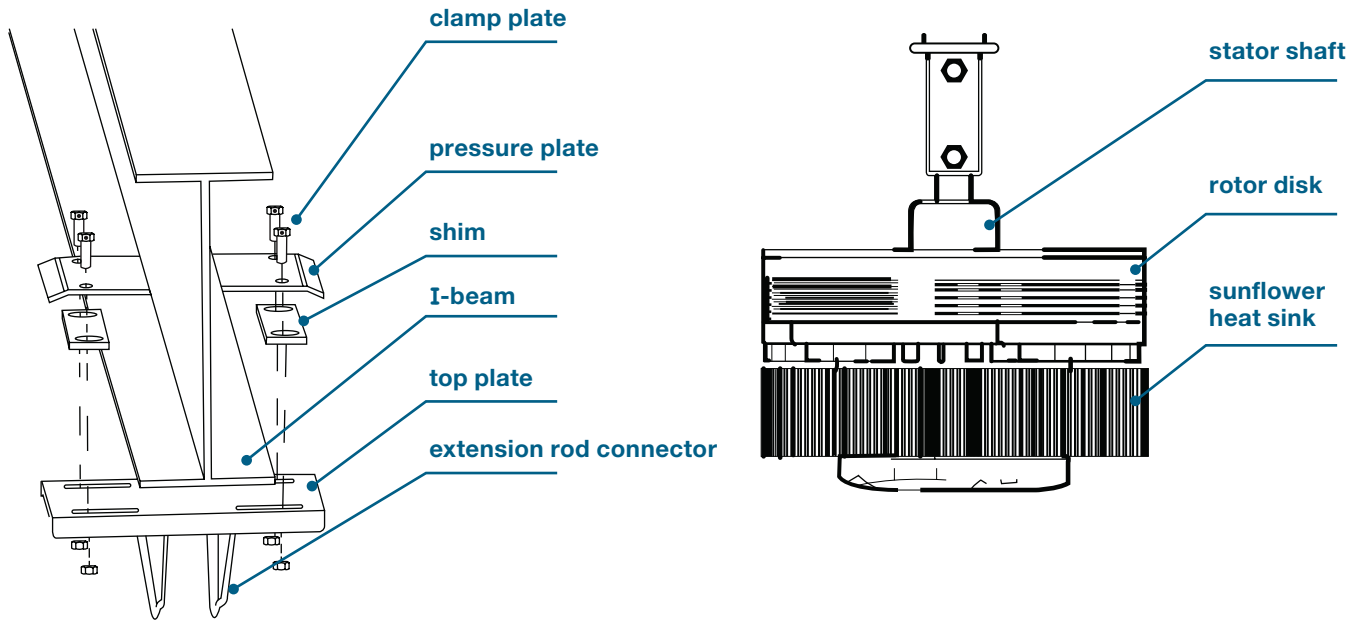
9. Fan blade

10. Winglet



PARTS LIST

2. Standard component parts



3. Control unit



PARTS LIST

4. Packing list



Motor crate



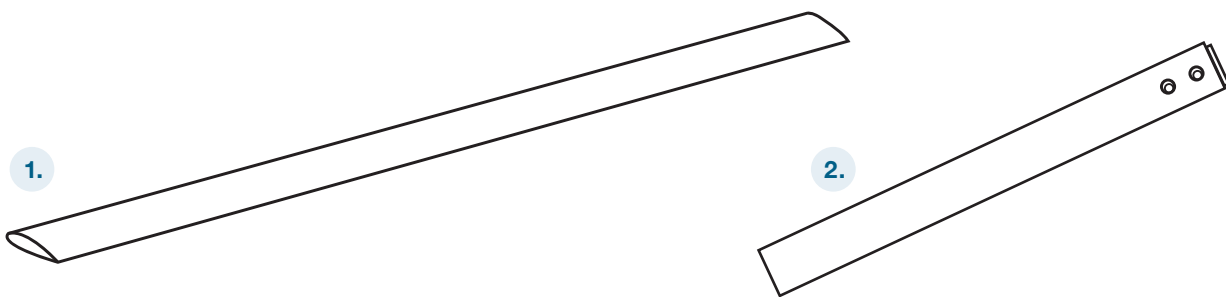
PACKING SPECIFICATION

CASE NO	DIMENSIONS (LxWxHmm)	Volume (m ³)	Gross weight (kg)	Remark
1	940 x 580 x 640	0.35	160	Main body crate

NO.	DESCRIPTION	NO.	DESCRIPTION
1	PMSM motor system	8	O Ring
2	Control Box	9	Steel Wire
3	Top Plate	10	Fastener
4	Shim	11	Cable
5	Clamp Plate	12	Winglet
6	Blade retainer		
7	Turnbuckle		



PARTS LIST



PACKING SPECIFICATION

CASE NO	DIMENSIONS (LxWxHmm)	Volume (m ³)	Gross weight (kg)	Remark
2	3650 x 420 x 400	0.61	130	Fan blade carton

PACKING DETAILS

NO.	DESCRIPTION
1	Fan Blade
2	Extension Tube

5.Required Installation tools



ADJUSTABLE WRENCH



SOCKET WRENCH



LASER DISTANCE MEASURE



LEVEL



ALLEN KEYS



MULTIMETER



WIRE-CUTTER



SCREW GLUE



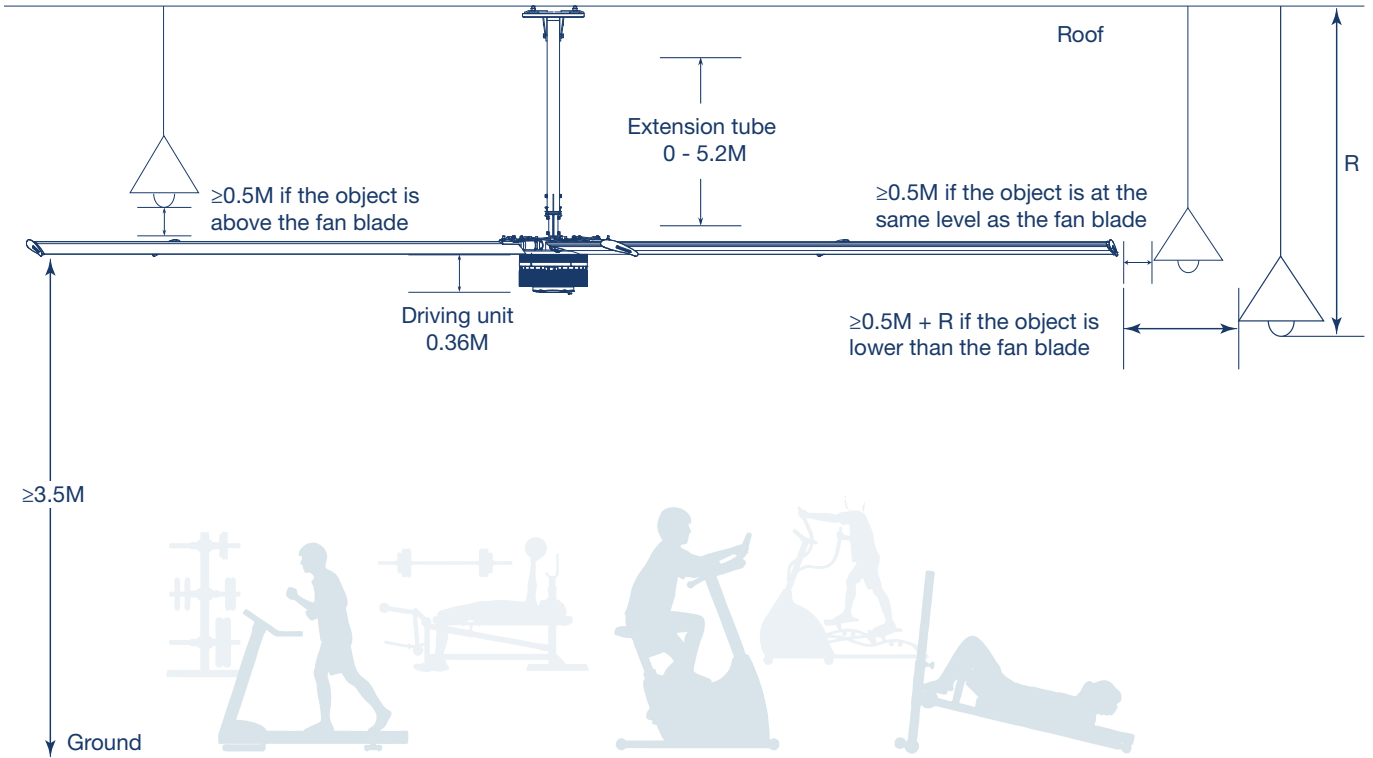
INSTALLATION REQUIREMENT

1. Roof installation requirement

The Mammoth Fan must be installed in a location so that the blades have enough space between them and the nearest objects or walls (Refer to the below diagram for detail spacing requirement).

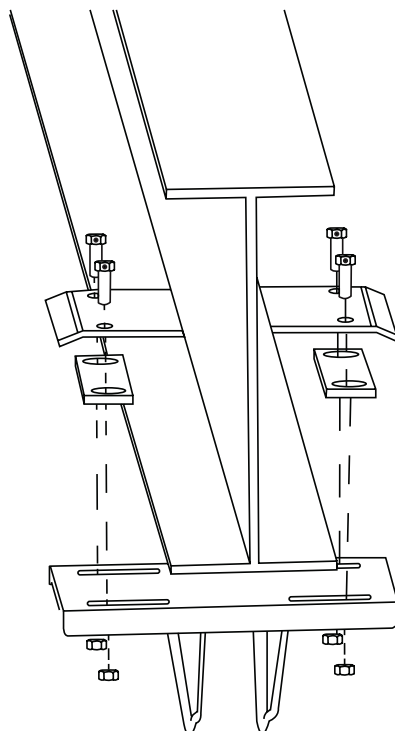
Secure the hanging bracket to the ceiling joist or structure with bolts & nuts provided. Ensure there are 3 – 4 threads left on the bolt after tightening the nut.

The structure to which the fan is to be mounted must be capable of supporting 2 times the weight of the product and its own structural loading. Check with a structural engineer if unsure.

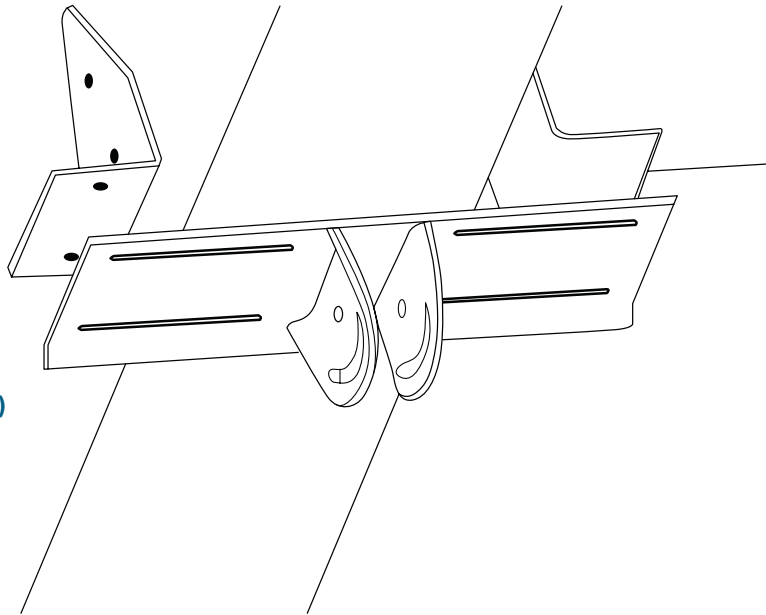


NOTE: be cautious of items like light fittings which may swing into the path of the spinning fan, ensure appropriate clearance is maintained.

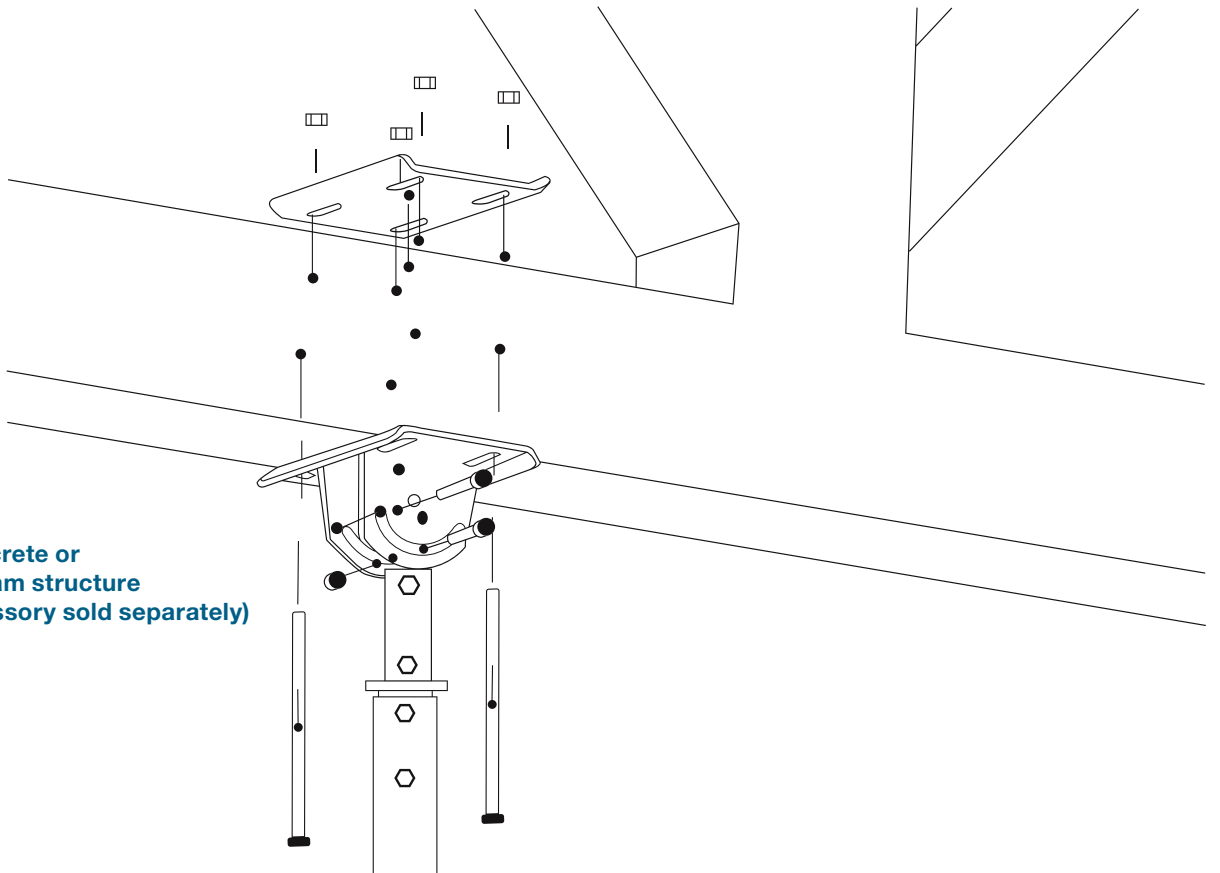
2. I-Beam Steel structure (Included as standard)



3. Concrete structure
(This accessory sold separately)



4. Steel, concrete or Timber beam structure
(This accessory sold separately)



FAN INSTALLATION

1. PREPARATION

Carefully unload and position the fan on the ground in a location that won't be impacted by ladders, scissor lifts or personnel.

2. PLAN

Carefully plan and consider the following information

1. Installation point
2. Installation height
3. Whether there are obstacles (such as, light, cable, fire protection, cameras, forklift access etc.)
4. The position of the control box
5. The input power and design of your electrical layout
6. Traction steel wire position

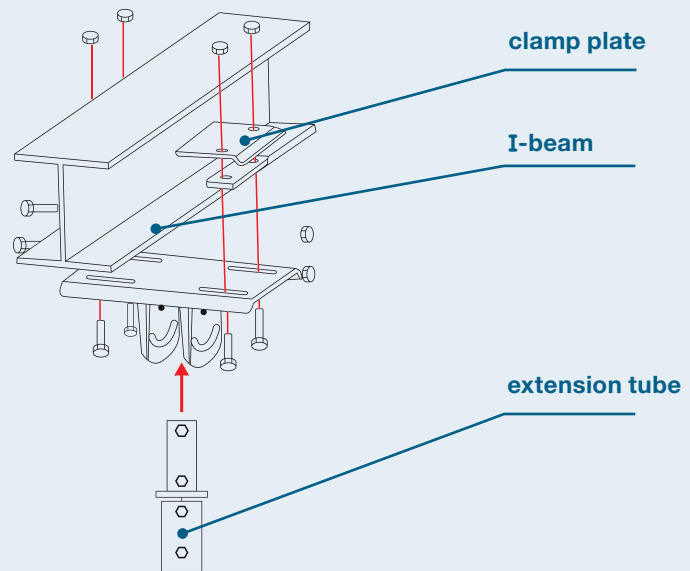
3. SAFETY

Ensure power is isolated to the area that you are working. Ensure safe practices are followed in regards to working at heights and lifting heavy equipment. Follow appropriate guidelines and regulations in your region.

4. TOP PLATE

Fastening the top plate to the H beam, ensuring a tight connection between the beam and the plate. Screw glue (Loctite or similar) should be used.

5. EXTENSION TUBE

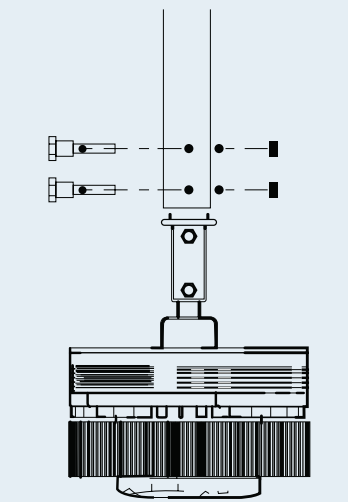


6. POWER CABLE

Ensure you have sufficient length of the cable coming from the extension tube.

7. MAIN BODY

Ensure bolts are horizontal before tightening the main body to the extension tube.



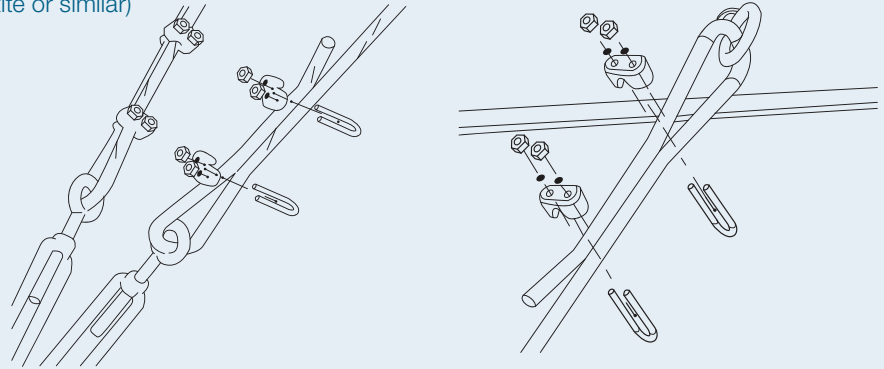
8. WIRING

Make the appropriate electrical connection to the fan body, ensure neat and tight connections are completed.

FAN INSTALLATION

9. STEEL WIRING

Important – support wires should be evenly spaced in 4 opposing directions to evenly distribute any stress and movement. Wire clamps should be secure and glued with screw glue (Loctite or similar)

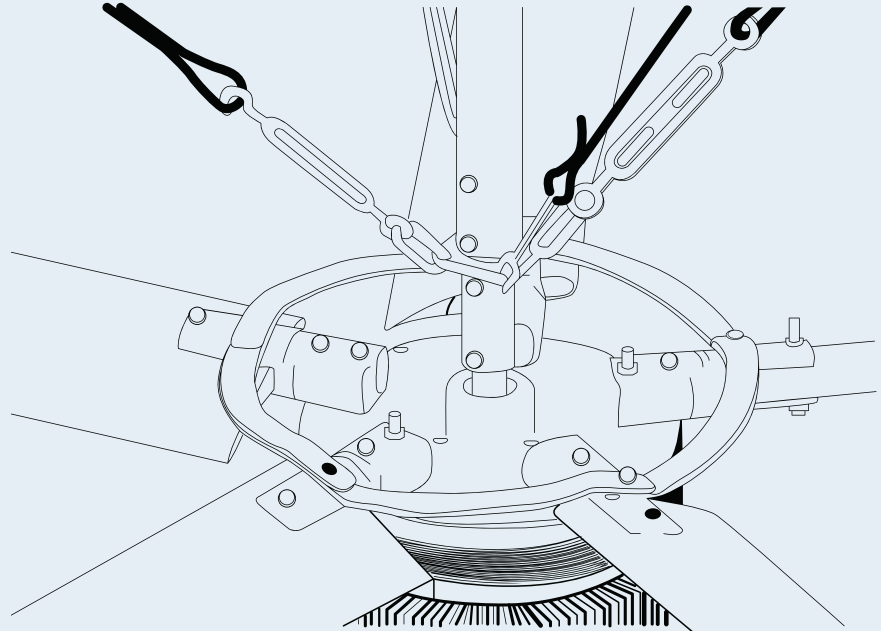


10. POWER CABLE

Wiring should be to local regulations

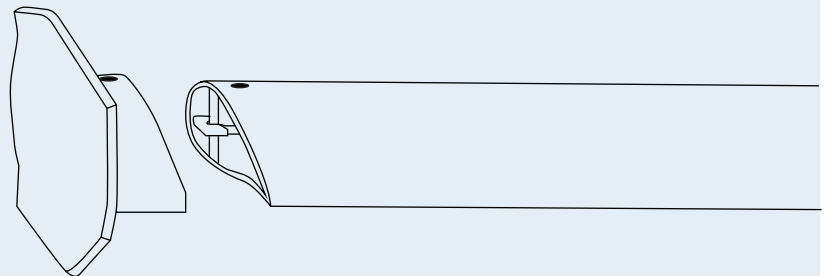
11. FAN BLADES

Fan blades should be mounted one after the other in opposites to each other, two people will be required to effectively mount and tighten the fan blades and safety support screws. This procedure must be done while the fan motor is mounted on the ceiling. Trying to complete this on the floor then mounting the fan will cause damage to the blades.



12. FAN BLADE TIP INSTALLATION

Fan Blade Tip



13. CONTROL SYSTEM

The height from floor to the bottom of the control box should be around 1.2 meters and in a safe and practical position

14. WIRING

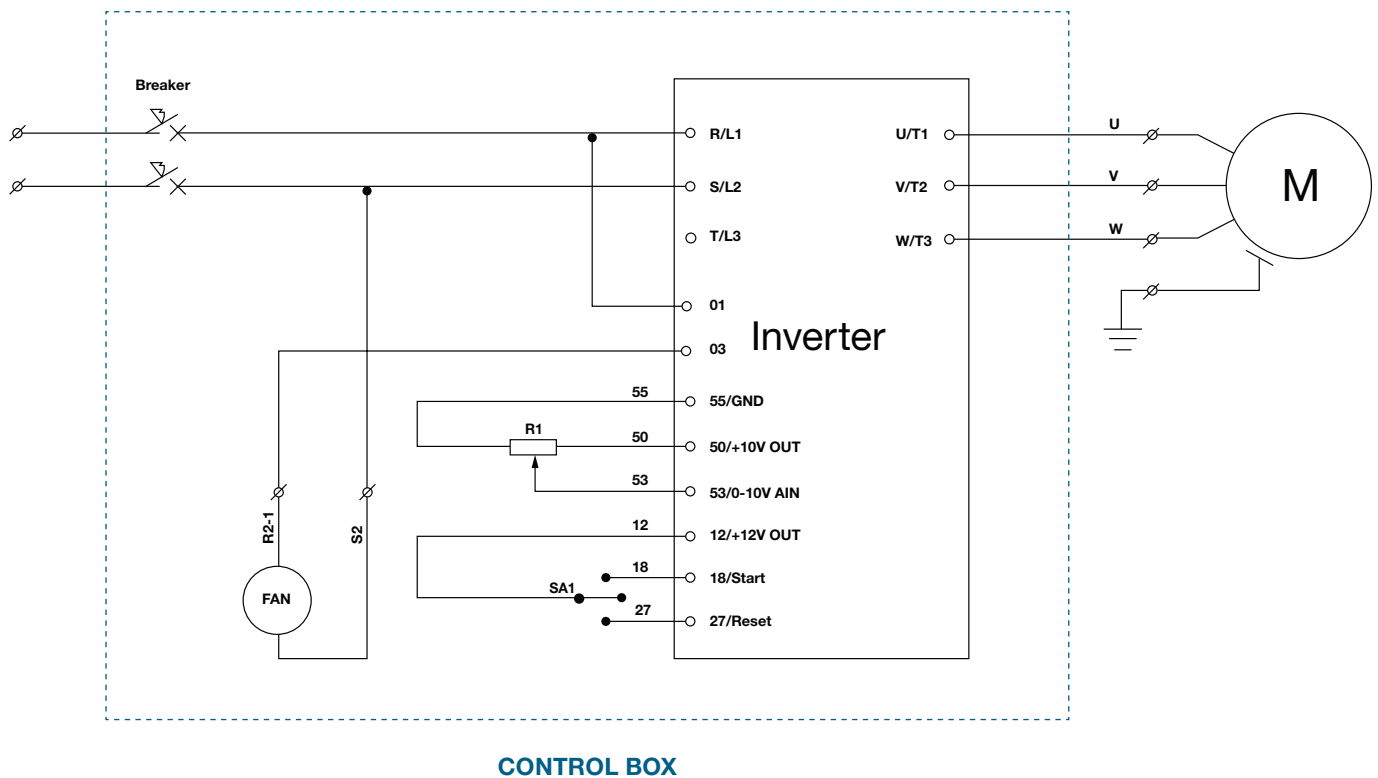
Distinguish the input and output, also make sure the ground wire is in place, wire to local wiring standards.



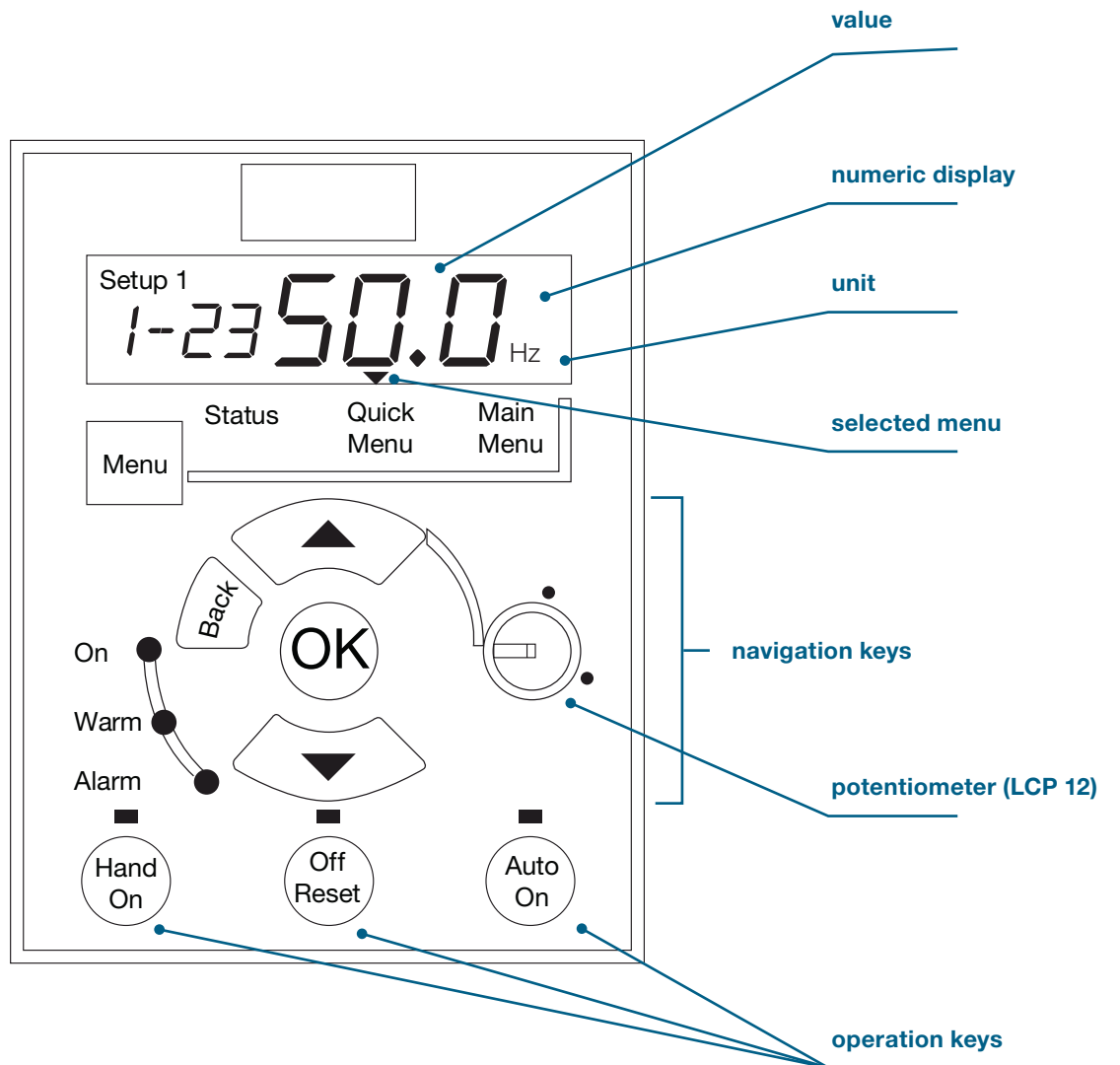
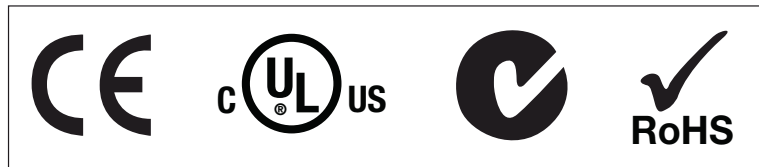
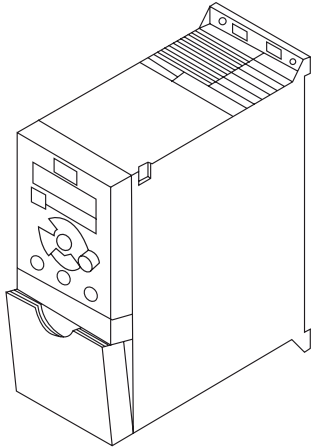
FAN INSTALLATION

15. DEBUGGING	Each Mammoth fan is tested prior to leaving the factory, if there seems to be a problem double check all electrical connections, and contact the Mammoth support team.
16. COMMISSIONING	Use a spirit level and ensure blades are level before switching on. Run the fan for 15mins and observe, is it spinning in the correct direction (anti-clockwise for summer), listen for any abnormal noise, ensure there is no movement in the support cables. Check the current is within the rated range.
17. HANDOVER	Ensure the customer is instructed on how to operate and isolate the fan

CIRCUIT DIAGRAM



SPECIFICATION OF PARAMETERS FOR CONTROL SYSTEM



OPERATING INSTRUCTION

Function switch on control box this feature sets the device to reset – stop – run operating process is as follows

1. Ensure there are no obstructions or potential danger before switching the fan on
2. Turn the speed dial to the minimum setting
3. Turn the control dial from Stop to Run position
4. After the fan starts rotating, adjust the speed control to your desired level.

Shutdown Process

1. Turn the control dial from Run to Stop



WARNING

Please read the instruction manual before operation.

Ensure the fan is clear of all obstructions before operation. If the fan is unbalanced or noisy, immediately shut down and contact Mammoth Support.

Ensure the power is isolated before any maintenance work is carried out on the fan or controller.

To ensure a long and stable service life of this product regular maintenance and cleaning is required, please refer to the product maintenance manual.

NOTE: Always start the fan on low speed.

Speed controller

Switch

CLEANING & MAINTENANCE

Cleaning & maintenance

1. Please ensure the power to the Mammoth fan is isolated before completing any cleaning and maintenance work. Also ensure you follow all local regulations in regards to safe working at heights practices. Periodic cleaning of your ceiling fan is the only maintenance required. Use a soft brush or lint free cloth to avoid scratching the paint finish.
2. A damp cloth can be used to wipe down the blades, however ensure not to allow excess water to enter any wiring connections, this could damage the fan and cause a safety issue.
3. Ensure that the fitting does not come in contact with any organic solvents or cleaners.
4. The motor has a permanently lubricated ball bearing which does not require maintenance or re-oiling.

TECHNICAL INFORMATION

SKU#	211400	211401
Model No.	HVLS-D6AAA73	HVLS-D6AAA55
Diameter	7.3m	5.5m
Rated voltage	220-240V~ 50Hz	220-240V~ 50Hz
Rated power	1800W	1800W
Full load current	8A	8A
Max. Speed	57RPM	70RPM
Air volume at max. speed	14800m ³ /min	13350m ³ /min
Climate class	T – Tropical	T – Tropical
Weight	135kg	113kg



TROUBLESHOOTING

Common causes for malfunctioning operation

1. The external power supply of the control box is not within the range appropriate for the controller
2. Ensure there is power to the controller box, turn speed dial to Minimum setting (SLOW), Turn the control dial to Run. If this doesn't work return the control dial to reset, then return dial to Stop, and finally to Run.
3. If on start up you notice any unusual sounds coming from the fan or the controller immediately return the control dial to Stop and contact the Mammoth Support team.
4. Equipment damage due to the improper use is not covered by the warranty. Mammoth Fans will not be responsible for personal injuries and equipment damages for failure to comply with the contents of this manual.

Explanation of the error codes on control unit:

NO.	Description	Warning	Alarm	Trip Lock	Error	Cause of Problem
2	Live zero error	X	X			Signal on terminal 53 or 60 is less than 50% of value set in 6-10 Terminal 53 Low Voltage, 6-12 Terminal 53 Low Current and 6-22 Terminal 54 Low Current.
4	Mains phase loss ¹⁾	X	X	X		Missing phase on supply side, or too high voltage imbalance. Check supply voltage.
7	DC over voltage ¹⁾	X	X			Intermediate circuit voltage exceeds limit.
8	DC under voltage ¹⁾	X	X			Intermediate circuit voltage drops below "voltage warning low" limit.
9	Inverter overloaded	X	X			More than 100% load for too long.
10	Motor ETR over temperature	X	X			Motor is too hot due to more than 100% load for too long.
11	Motor thermistor over temperature	X	X			Thermistor or thermistor connection is disconnected.
12	Torque limit	X				Torque exceeds value set in either par. 4-16 or 4-17.
13	Over current	X	X	X		Inverter peak current limit is exceeded.
14	Earth fault	X	X	X		Discharge from output phases to ground.
16	Short circuit		X	X		Short-circuit in motor or on motor terminals.
17	Control word timeout	X	X			No communication to frequency converter.
25	Brake resistor short-circuited		X	X		Brake resistor is short-circuited, thus brake function is disconnected.
27	Brake chopper short-circuited		X	X		Brake transistor is short-circuited, thus brake function is disconnected.
28	Brake check		X			Brake resistor is not connected/working.
29	Power board over temp	X	X	X		Heat-sink cut-out temperature has been reached.
30	Motor phase U missing		X	X		Motor phase U is missing. Check the phase.

TROUBLESHOOTING

NO.	Description	Warning	Alarm	Trip Lock	Error	Cause of Problem
31	Motor phase V missing		X	X		Motor phase V is missing. Check the phase.
32	Motor phase W missing		X	X		Motor phase W is missing. Check the phase.
38	Internal fault		X	X		Contact local Danfoss supplier.
44	Earth fault		X	X		Discharge from output phases to ground.
47	Control voltage fault		X	X		24 V DC may be overloaded.
51	AMA check U_{nom} and I_{nom}		X			Wrong setting for motor voltage and/or motor current.
52	AMA low I_{nom}		X			Motor current is too low. Check settings.
59	Current limit	X				VLT overload.
63	Mechanical Brake Low		X			Actual motor current has not exceeded "release brake" current within "start delay" time window.
80	Drive Initialised to Default Value		X			All parameter settings are initialized to default settings.
84	The connection between drive and LCP is lost				X	No communication between LCP and frequency converter.
85	Button disabled				X	See parameter group 0-4' LCP
86	Copy fail				X	An error occurred while copying from frequency converter to LCP or vice versa.
87	LCP data invalid				X	Occurs when copying from LCP if the LCP contains erroneous data - or if no data was uploaded to the LCP.
88	LCP data not compatible				X	Occurs when copying from LCP if the data are moved between frequency converters with major differences in software versions.
89	Parameter read only				X	Occurs when trying to write to a read-only parameter.
90	Parameter database busy				X	LCP and RS485 connection are trying to update parameters simultaneously.
91	Parameter value is not valid in this mode				X	Occurs when trying to write an illegal value to a parameter.
92	Parameter value exceeds the min/max limits				X	Occurs when trying to set a value outside the range.
nw run	Not While RUNNING				X	Parameter can only be changed when the motor is stopped.
Err.	A wrong password was entered				X	Occurs when using a wrong password for changing a password-protected parameter.

¹⁾ These faults may be caused by mains distortions. Installing Danfoss Line Filter may rectify this problem.



WARRANTY

WARRANTY HOTLINE- 1800 602 243

THIS WARRANTY IS VALID IN AUSTRALIA ONLY

In the event of service being required, please call the **Mammoth Fan Support Hotline on 1800 602 243** between **9am & 5pm (EST) Monday to Friday**.

Please make sure you have all the Mammoth Fan details filled out at the end of the manual before making the call.

Every Mammoth fan is thoroughly inspected and tested before being released for sale. In addition to any warranty rights or conditions under statutory regulations, Mammoth Fans warrant all of its ceiling fans against defective workmanship and faulty materials for 5 years from the date of purchase. Mammoth Fans undertake, at its option, to repair or replace, free of charge, each product or part thereof on condition that;

- 1. The fan or relevant part has not been subjected to misuse, neglect, or been involved in an accident.**
- 2. The repairs are not required as a result of normal wear and tear.**
- 3. The product was installed by a licensed electrical contractor and to the guidelines outline in the manual.**
- 4. A copy of the original receipt of purchase is presented.**

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Mammoth Fans cannot be held responsible for any repair other than those carried out by it or one of its Authorised Service Agents. Please keep this warranty information in a safe place. This information must be produced in the event of service being required.

Distributed by:

Beacon Lighting

140 Fulton Drive,
Derrimut, Victoria, 3026,
Australia

Ph **1300 289 808**

Email: warranty@beaconlighting.com.au

WARRANTY

Mammoth Fan WARRANTY INFORMATION

Mammoth Fan Support Hotline - 1800 602 243

Complete and retain this form for your personal records and warranty purposes.

NAME _____

ADDRESS _____

_____ POSTCODE _____

MODEL NUMBER _____

(PO# + DATE CODE Sticker here)

PO NUMBER or DATECODE _____

DATE OF PURCHASE _____

INSTALLING LICENSED ELECTRICIAN _____

LICENCE No. _____

ATTACH PROOF OF PURCHASE HERE

**THIS COMPLETED DETAIL PAGE SHOULD BE FILLED IN AND
EMAILED TO THE MAMMOTH SUPPORT WARRANTY TEAM PRIOR TO ANY
WARRANTY SERVICE BEING COMPLETE. APPROVAL FROM MAMMOTH
FANS MUST BE OBTAINED BEFORE WORK IS COMMENCED.**



