



# RAPTOR SPA

## Installation & Maintenance

## Installation Instructions

**WARNING** – Insulation Resistance Testing. Before performing insulation resistance testing, it is crucial to disconnect all EC products from the circuit. Failure to do this can damage the sensitive electronics within these products and is not covered by warranty.

### 1.0 General

- 1.1 It is important these Installation and Maintenance Instructions are fully adhered to.
- 1.2 Full details of the unit supplied are shown on the product nameplate. If in doubt about any detail contact Elta-UK Ltd or its agents for clarification.
- 1.3 All electrical installation must be carried out by suitably qualified and competent personnel in accordance with all current statutory requirements.
- 1.4 These instructions cover only the Elta-UK Ltd product and do not include the supply or installation of any safety equipment that may be required e.g. adequate guarding or protection from rotating parts and proper electrical isolation.
- 1.5 Any declarations made by Elta-UK Ltd about product installation and safety, are dependant on the fan equipment being used within installations which themselves meet the requirements of the relevant Standards and Directives of your region.
- 1.6 The fan is designed for use in an ambient temperature of -20°C up to a maximum of +70°C (refer to the relevant table) and up to 95% relative humidity. The fan is not suitable for corrosive or explosive atmospheres.
- 1.7 The installer should provide easy access to the fan to facilitate future maintenance.
- 1.8 The installer should ensure the fan is adequately supported.
- 1.9 This product 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 use of the product by a person responsible for their safety. Children should be supervised to ensure that they do not play with the product.
- 1.10 At end-of-life, the unit must be disposed of in an environmentally friendly manner by suitably qualified and competent personnel in accordance with the requirements of applicable Standards and Directive

### 2.0 Installation

**WARNING** – The fan must be isolated from the power supply during installation and maintenance. The fan must be earthed in accordance with the local regulations.

- 2.1 Upon receipt, the fan equipment should be visually inspected to check for any damage. Ensure that the impeller is free to rotate.
- 2.2 If there are any queries concerning the fan equipment, Elta-UK Ltd should be contacted prior to the installation.
- 2.3 The fan must be securely mounted in the desired position to suit the application. The fan can be mounted at any angle.
- 2.4 Check the details on the motor rating plate to ensure that the correct power supply (voltage, frequency and phase) is available. An incorrect power supply will lead to permanent damage to the fan motor.
- 2.5 Refer to the appropriate wiring diagram. Ensure that all earth connections are made.
- 2.6 Means for electrical disconnection must be incorporated in the wiring installation in accordance with the relevant wiring and electrical regulations.
- 2.7 Precaution must be taken to locate the exhaust discharge terminal so as to avoid the backflow of gases into the room from the open flue of gas or other fuel burning appliances.

### 3.0 Start up

- 3.1 Before power is supplied to the unit, check that the wiring is correct as per the fan connection diagram.
- 3.2 At initial start-up, check that impeller rotation and airflow direction is correct.
- 3.3 Check that the motor amperage drawn does not exceed the nameplate rating.

### 4.0 Fan Maintenance

- 4.1 Inspection of the fan at least once every 12 months is recommended to ensure that the motor, fan blades, and supporting guards, are clean. Any build up of dust and deposits on the blades or guards should be removed using a non-abrasive cleaner.
- 4.2 All fastenings should be checked for tightness. In addition, all rotating items should be checked.
- 4.3 Bearings are of the 'sealed for life' type and will not need a detailed inspection.

**WARNING** - The EC fan has internal electronic overload protection and the AC fan is fitted with an auto-reset thermal cut-out which switches the fan off in the event of a fault condition.

Once the motor cools down the fan may start unexpectedly.

Only a suitably qualified and competent person may carry out maintenance after the electrical supply has been isolated.

### 5.0 Guarantee

Elta-UK Ltd will, free of charge, within a period of 1 year from the date of dispatch from their works, repair or at its option replace any goods which are proved to have defects as a result of defective materials or workmanship. The goods MUST be returned to Elta-UK Ltd carriage paid for examination.

### 6.0 Recycling

- 6.1 Elta use components, when possible, that are suitable for recycling at the end of the product's life, components can be segregated as stated below and processed in accordance with local regulations. Metallic items can be segregated and recycled; Electrical and Electronic equipment such as motors, cables and control devices can be segregated for WEEE recycling; Cardboard, wood, packaging, and plastic components can be widely recycled. Items not listed should be segregated in accordance with local authority zero waste hierarchy recommendations.

# RAPTOR SPA

## Wiring Diagrams

Please use the table(s) below to match up the product code and the wiring diagram number.



### Single Phase 220V to 240V /50Hz

Page No.	Product Code	Wiring Diagram No.
4	<a href="#">SPA250/2-1AC</a>	152-177
4	<a href="#">SPA250/4-1AC</a>	152-177
4	<a href="#">SPA315/4-1AC</a>	152-177
4	<a href="#">SPA350/4-1AC</a>	152-177
5	<a href="#">SPA400/4-1AC</a>	152-104B
5	<a href="#">SPA450/4-1AC</a>	152-104B
5	<a href="#">SPA450/6-1AC</a>	152-104B
5	<a href="#">SPA500/4-1AC</a>	152-104B
5	<a href="#">SPA500/6-1AC</a>	152-104B
5	<a href="#">SPA560/4-1AC</a>	152-104B
5	<a href="#">SPA560/6-1AC</a>	152-104B
5	<a href="#">SPA630/6-1AC</a>	152-104B



### Single Phase 220V - 277V / 50Hz or 60Hz

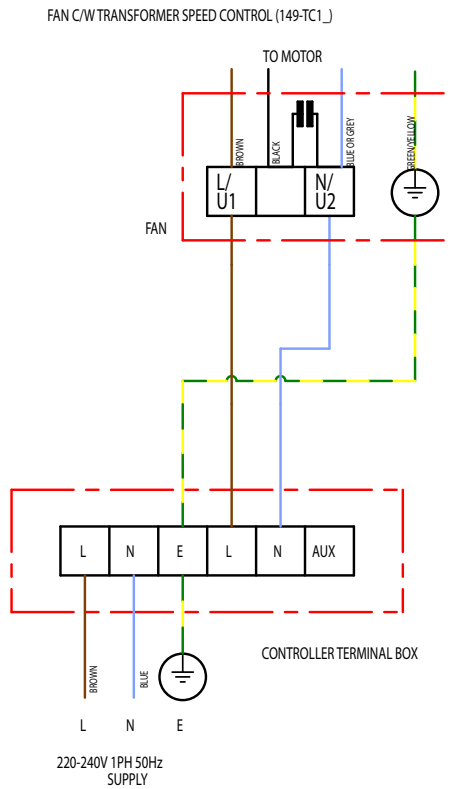
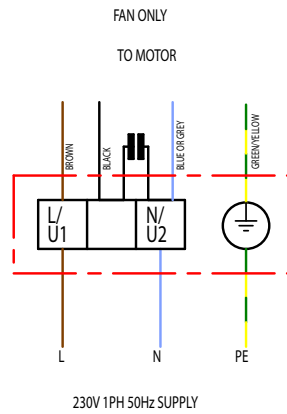
Page No.	Product Code	Wiring Diagram No.
7	<a href="#">SPA350/4-1EC</a>	152-00044
8	<a href="#">SPA400/4-1EC</a>	152-00298951
7	<a href="#">SPA450/4-1EC</a>	152-00044
9	<a href="#">SPA500/4-1EC</a>	152-MOEA03K1
9	<a href="#">SPA630/4-1EC</a>	152-MOEA03K1
9	<a href="#">SPA710/6-1EC</a>	152-MOEA03K1

### Three Phase 380V - 415V / 50Hz

Page No.	Product Code	Wiring Diagram No.
6	<a href="#">SPA400/46-3AC</a>	152-108
6	<a href="#">SPA450/46-3AC</a>	152-108
6	<a href="#">SPA500/46-3AC</a>	152-108
6	<a href="#">SPA560/46-3AC</a>	152-108
6	<a href="#">SPA630/46-3AC</a>	152-108
6	<a href="#">SPA630/68-3AC</a>	152-108
6	<a href="#">SPA710/46-3AC</a>	152-108
6	<a href="#">SPA710/68-3AC</a>	152-108

### Three Phase 380V to 480V 50Hz or 60Hz

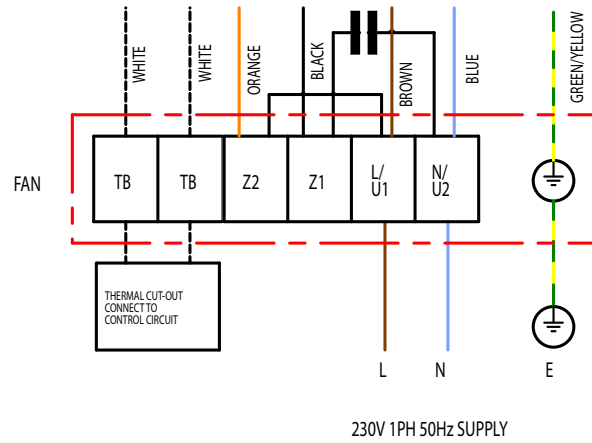
Page No.	Product Code	Wiring Diagram No.
10	<a href="#">SPA500/4-3EC</a>	152-MOEA03K3
10	<a href="#">SPA630/4-3EC</a>	152-MOEA03K3
10	<a href="#">SPA710/6-3EC</a>	152-MOEA03K3



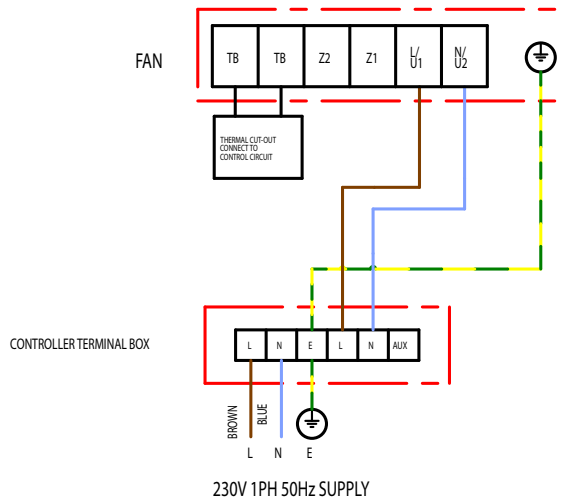
All wiring and control equipment must comply to the latest IEE regulations, in particular part 552-01-02/03.  
MK-152-177 Issue C: 03.11.2017  
Check the individual product accessories table for fan controller compatibility.

# 152-104B

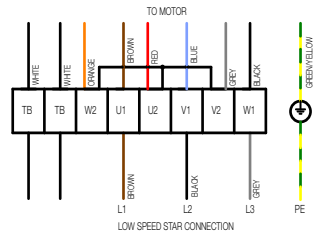
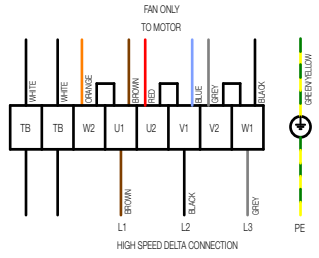
## Wiring Diagrams



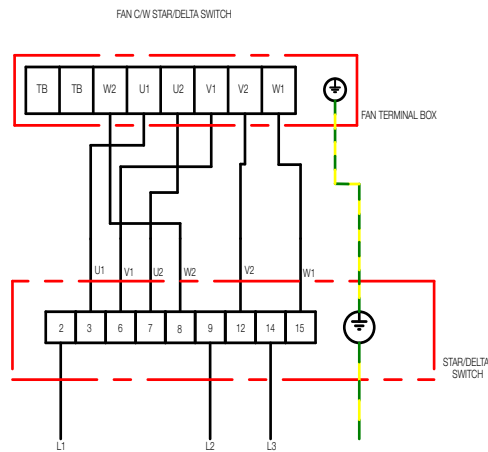
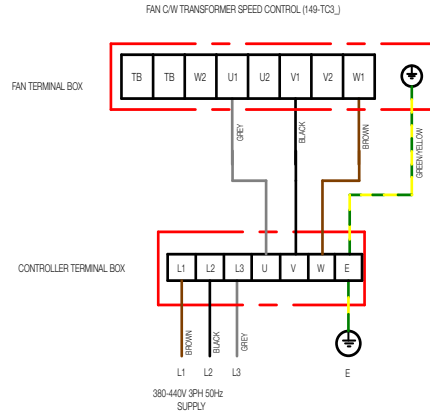
FAN C/W TRANSFORMER SPEED CONTROL (149-TC1\_)



All wiring and control equipment must comply to the latest IEE regulations, in particular part 552-01-02/03.  
 MK-152-104B Issue C: 03.11.2017  
 Check the individual product accessories table for fan controller compatibility.



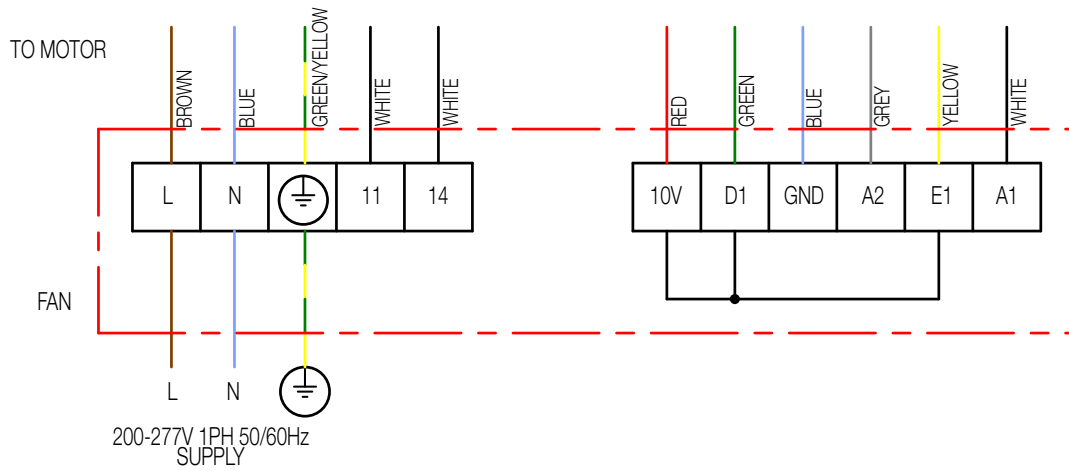
TO REVERSE ROTATION SWAP ANY TWO INCOMING SUPPLY CABLES



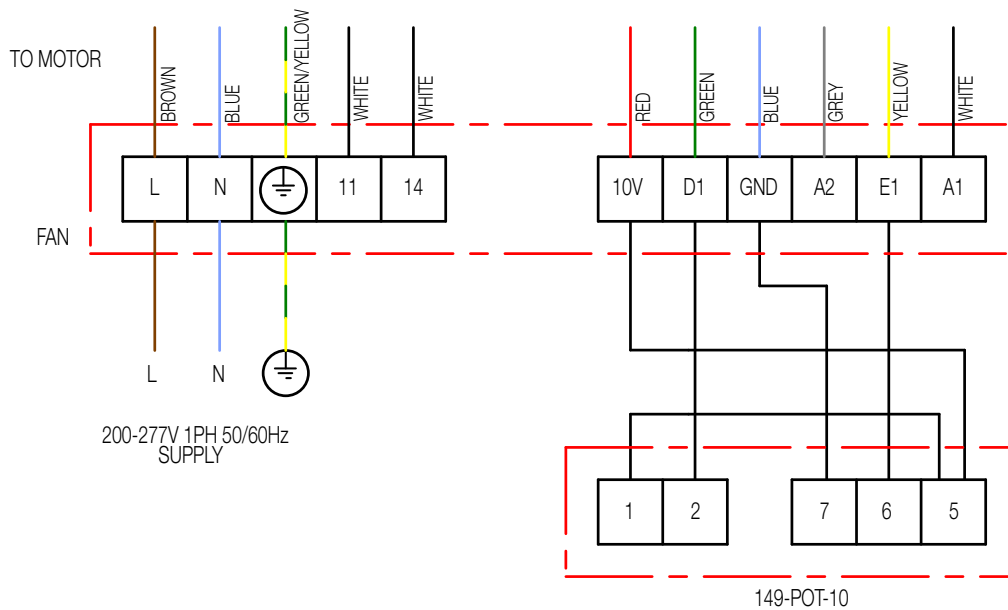
All wiring and control equipment must comply to the latest IEE regulations, in particular part 552-01-02/03.  
 MK-152-108 Issue D: 11.07.2013  
 Check the individual product accessories table for fan controller compatibility.

## Wiring Diagrams

FAN ONLY



FAN C/W POTENTIOMETER SPEED CONTROL (149-POT-10)



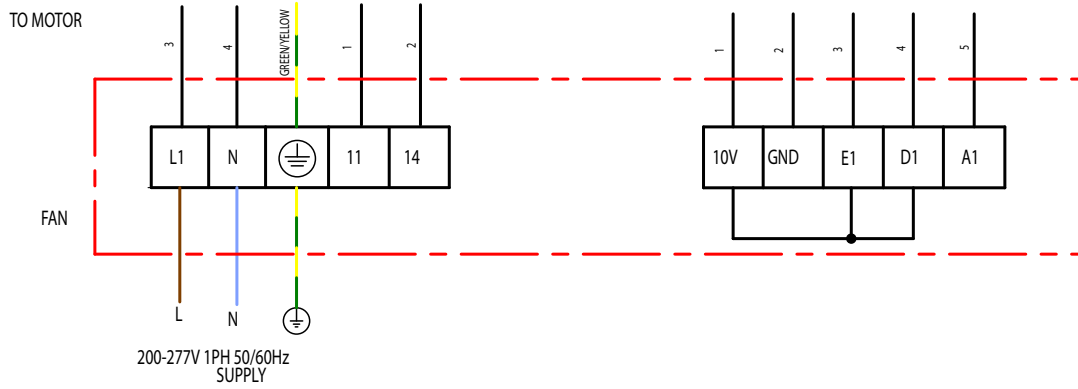
All wiring and control equipment must comply to the latest IEE regulations, in particular part 552-01-02/03.

MK-152-00044 Issue C: 11.07.2013

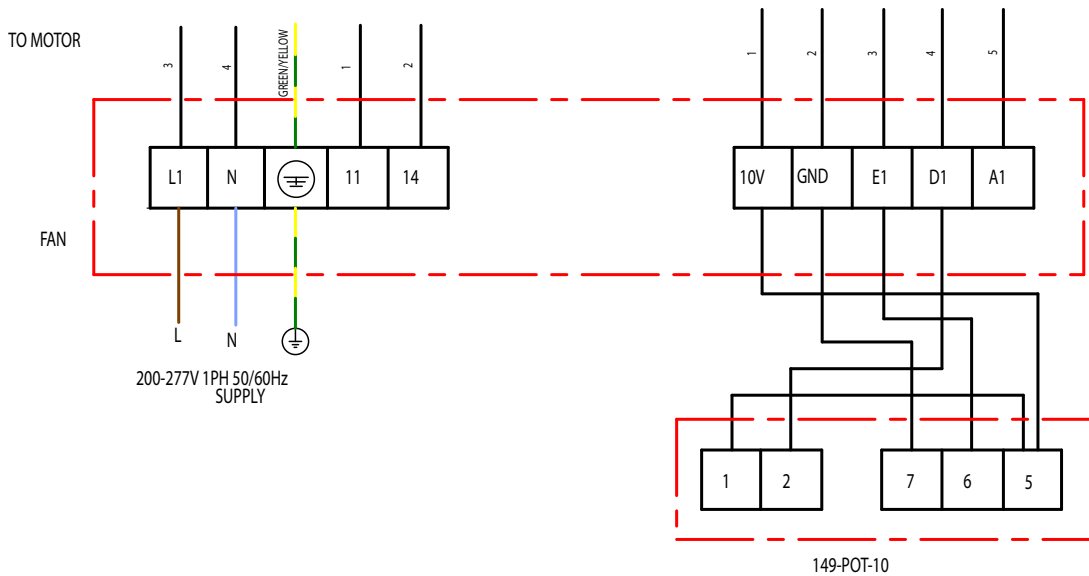
Check the individual product accessories table for fan controller compatibility.

## Wiring Diagrams

FAN ONLY



FAN C/W POTENTIOMETER SPEED CONTROL (149-POT-10)



All wiring and control equipment must comply to the latest IEE regulations, in particular part 552-01-02/03.  
 MK-152-00298951 Issue A: 05.03.2014  
 Check the individual product accessories table for fan controller compatibility.

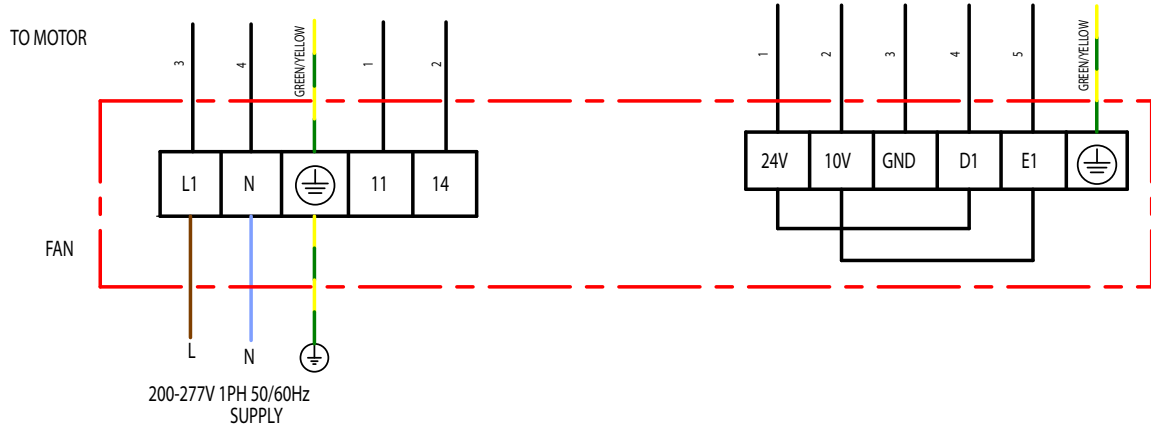


# 152-MOEA03K1

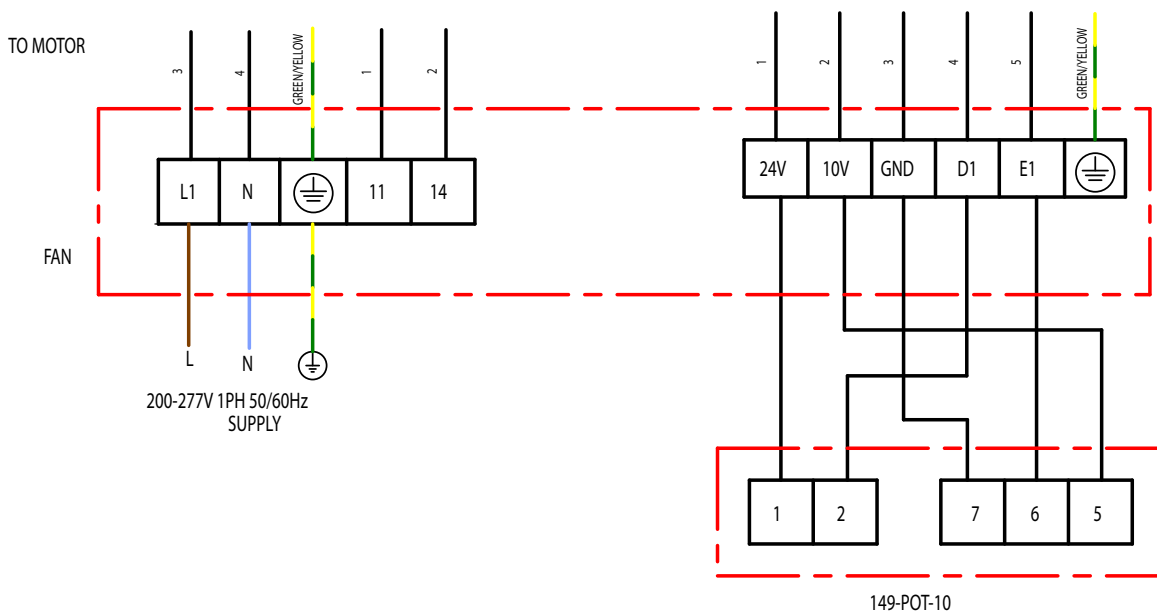


## Wiring Diagrams

FAN ONLY



FAN C/W POTENTIOMETER SPEED CONTROL (149-POT-10)

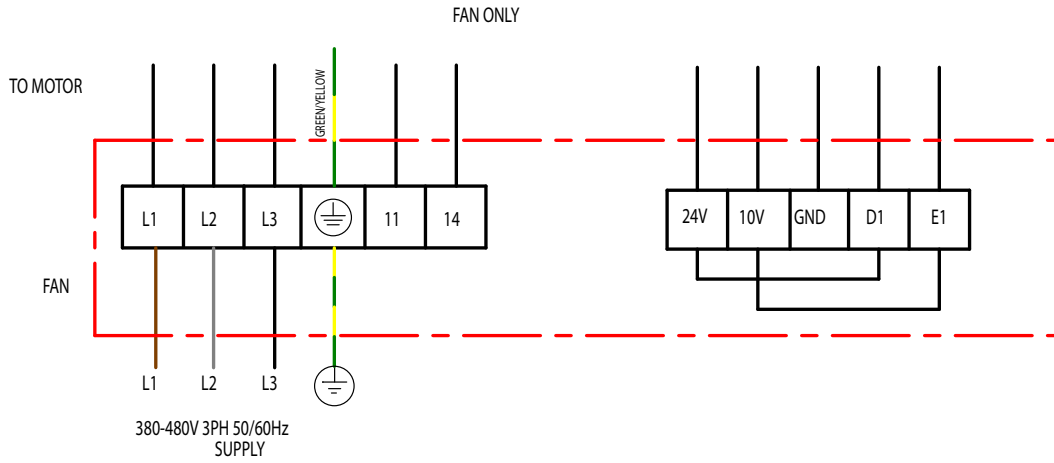


All wiring and control equipment must comply to the latest IEE regulations, in particular part 552-01-02/03.  
 152-MOEA03K1 Issue D: 25.06.2013  
 Check the individual product accessories table for fan controller compatibility.

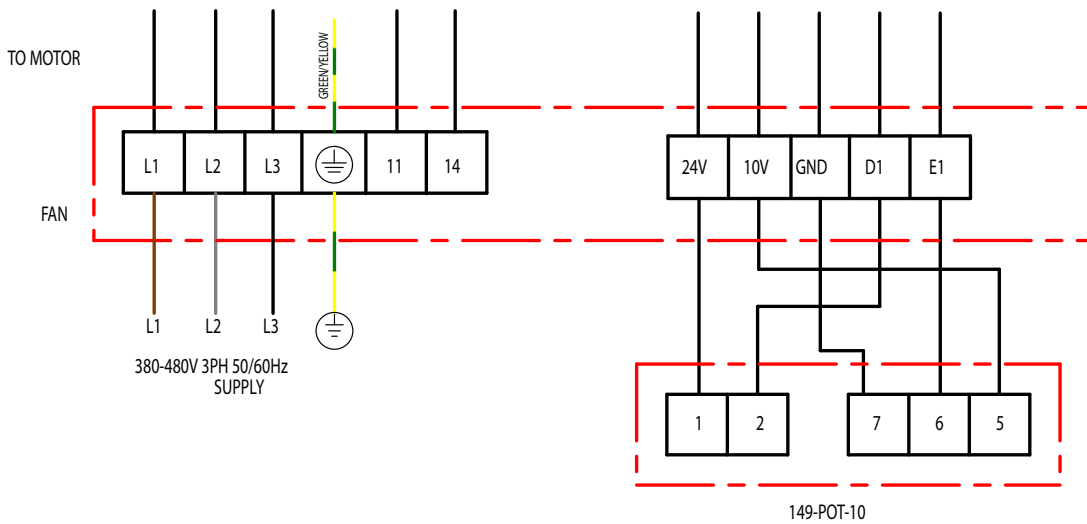
# 152-MOEA03K3



## Wiring Diagrams



FAN C/W POTENTIOMETER SPEED CONTROL (149-POT-10)



All wiring and control equipment must comply to the latest IEE regulations, in particular part 552-01-02/03.  
 152-MOEA03K3 Issue E; 31.03.2021  
 Check the individual product accessories table for fan controller compatibility.



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535-IOM0021-03-2023 Issue F

