

HXP EC

Installation and Maintenance Instructions.

THESE INSTRUCTIONS MUST BE READ FULLY BEFORE COMMENCING INSTALLATION.

Owner / installer: The life of this apparatus and its efficiency will be increased if its use and maintenance is carried out in accordance with these instructions and current statutory requirements. The installation and initial adjustments should be carried out by a qualified and competent technician. Hydor Limited should be consulted before substituting or fitting parts from another manufacturer. It is the responsibility of the installer to verify that the installation is in accordance with all current statutory requirements and the owner is given the current User's Manual.

Any modifications to the fan or its installation, even the smallest modification, change or elimination of security components or pieces that influence the efficiency or loss of ventilation, will result in the CE Certification and Hydor's warranty being cancelled.



Danger: This product contains motors with permanent magnets. People that have pacemakers or implantable cardioverter defibrillators (ICDs) fitted should not handle these motors. The permanent magnets can also cause disturbance or damage to other electric equipment and components during service.

Please take note of the following symbols used within this document:



Warning: Hazards associated with electric current and high voltages



Important: Important information

Hydor's policy is one of continual improvement and the right to change a specification at any time without notice is reserved. Whilst every care has been taken to ensure that the contents of this document are correct at time of publication, Hydor shall be under no liability whatsoever in respect of such contents.

Hydor cannot guarantee the operation of any equipment unless all documented instructions are complied with, without variation.

Hydor is a registered trademark of EG Agri Ltd and is a member of Elta Group. All other trademarks, trade names or company names referenced herein are the property of their respective owners.

1. 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 Hydor 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 Hydor 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 Hydor about product installation and safety, are dependent 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, speed controlled operating temperatures of -20°C and +50°C and up to 95% relative humidity. EC fans are designed for ambient temperatures up to +60°C. 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 Directives.

2. 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, Hydor 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. 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.
- 3.4 Minimum interval between consecutive starts: 5 minutes.
- 3.5 Maximum 1 connection from power supply cycle per 5 minutes.

4. Fan Maintenance

- 4.1 Inspection of the fan at least once every 3 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 including electrical 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: This fan is fitted with an auto-reset thermal contact which switches the fan off in the event of a fault condition. Once the motor cools down the fan may start unexpectedly.



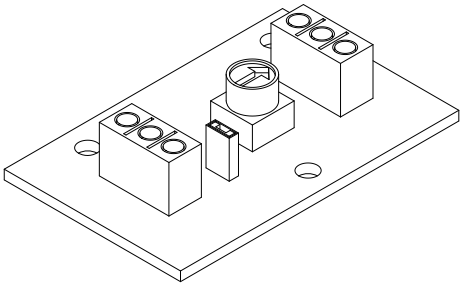
Only a suitably qualified and competent person may carry out maintenance after the electrical supply has been isolated.

5. Guarantee

Hydor will, free of charge, within a period of 3 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 Hydor carriage paid for examination.

Level/Speed	Control Voltage (V)
10	10 (Ω)
9	9 (Ω)
8	8 (Ω)
7	7 (Ω)
6	6 (Ω)
5	5 (Ω)
4	4 (Ω)
3	3 (Ω)
2	1.5 (Ω)
1	500 (Ω)
0	1 (Ω)

149-CD-POT



Please note: This is an estimated adjustment guide

The 149-CD-POT is a commissioning device designed to be used with our EC range of fans.

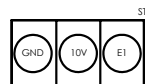
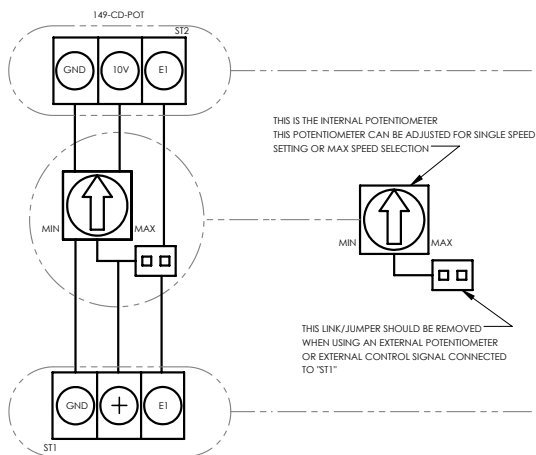
The device will allow the for the installer to set the maximum operating speed of the fan that it is connected to.

The installer or commissioning engineer can adjust the fan speed using the potentiometer built onto the 149-CD-POT board.

This potentiometer can either be used for single speed adjustment or to set a maximum speed for the fan to operate at when an external control source is used.

If external speed control is required, the jumper connection next to the potentiometer on the board would need to be removed, the installer can then connect to ST1 (using the diagram provided).

When an external speed control is fitted, the maximum speed setting available to the external control is limited by the potentiometer setting of the commissioning device.



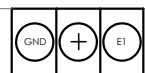
THE ABOVE DIAGRAM SHOWS 'ST2'.

'ST2' CONNECTIONS ARE FACTORY FITTED.

- **GND** = COMMON
- **10V** = 10VDC INPUT
- **E1** = 0-10VDC OUTPUT

YOU CAN DETERMINE THE CURRENT VDC OUTPUT BY DISCONNECTING POWER TO THE UNIT, SETTING A MULTIMETER TO OHMS (Ω) AND PLACING THE TEST PROBES BETWEEN GND AND E1

PLEASE USE THE ESTIMATED ADJUSTMENT GUIDE FOR REFERENCE



ST1 THE ABOVE DIAGRAM SHOWS 'ST1'.

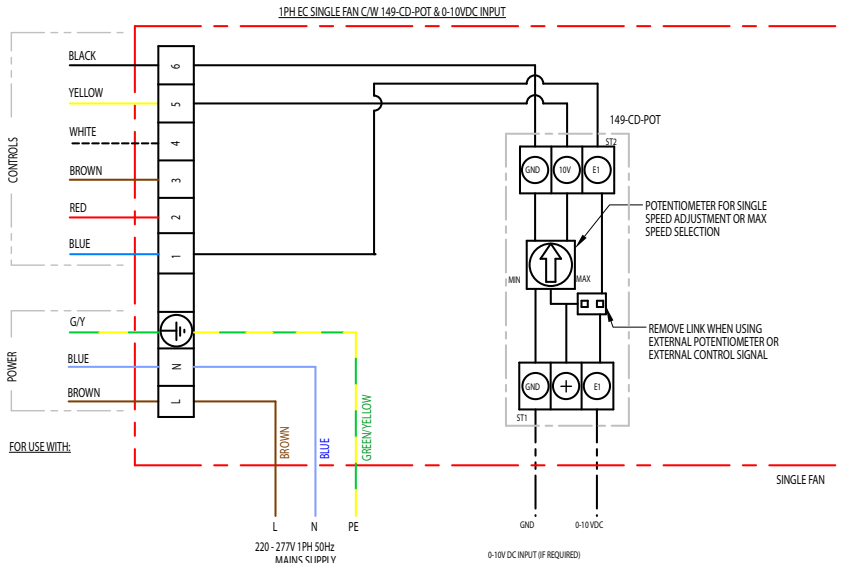
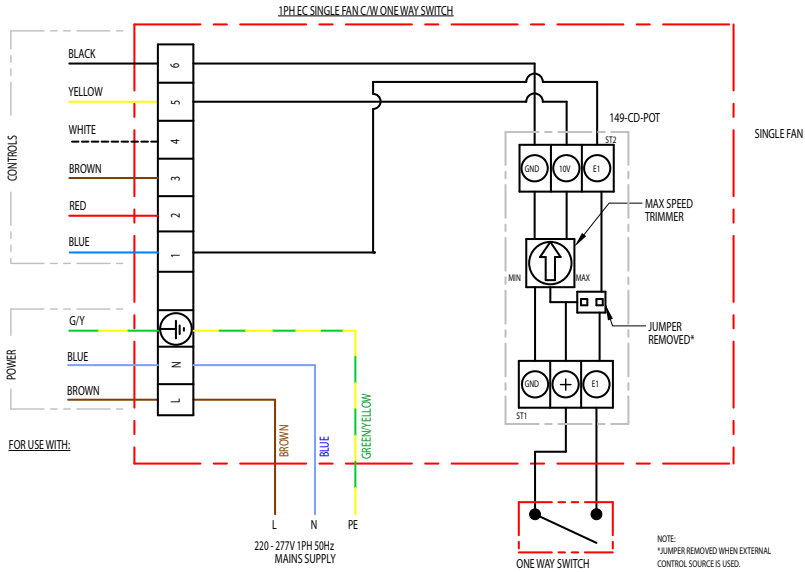
'ST1' CONNECTIONS ARE CLASSED AS 'CUSTOMER/USER CONNECTIONS'.

- **GND** = COMMON
- **+** = VDC OUTPUT AS SET BY INTERNAL POTENTIOMETER
- **E1** = 0-10VDC INPUT

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

149-CD-POT Issue A: 10.07.2018

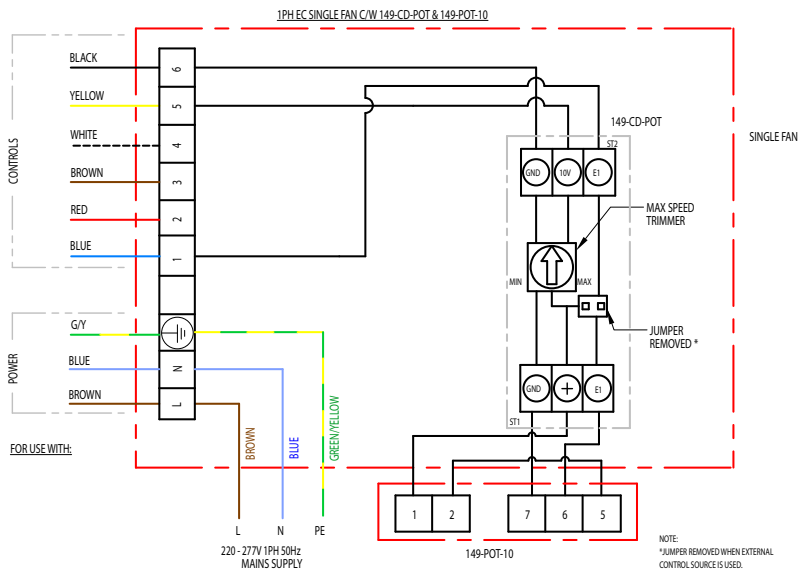
Check the individual product accessories table for fan controller compatibility.



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

MK-152-711 Issue C: 15.01.2019

Check the individual product accessories table for fan controller compatibility.



NOTE: TAG REFERENCES RELATE TO MOTOR CONTROL WIRES, AND NOT 149-POT-10

Tag	Purpose	Description
L	Live	Live power supply, 220-277V
N	Neutral	Neutral from power supply
⊕	Permanent Earth	Permanent earth from power supply
1	DC Voltage [2-10V]	DC control voltage input (2 to 10VDC input)
2	DC Current [4-20mA]	DC control current input (4 to 20mA input)
3	Frequency [10-95%]	Frequency duty-cycle (PWM) Voltage: 10 to 24Vpk Frequency: 80Hz (10 to 95% input)
4	Speed Reference	Tacho output
5	10VDC output	10VDC source output
6	GND / Common	DC Common

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

MK-152-711 Issue C: 15.01.2019

Check the individual product accessories table for fan controller compatibility.

Guarantee

Hydor or its agents will, within a period of one year from the date of dispatch from their works, at its option, repair or replace any goods, which are proven to have defects as a result of defective materials or workmanship. The goods must be inspected by a Hydor official and if necessary returned, with a Returns Note Number, carriage paid, for further examination.

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