

## Bespoke Control Panels

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.**

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.

Due to the complexity and inherent importance of a life risk type system, training on this equipment is essential and commissioning should only be carried out by competent persons.

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

## 1. General

This Manual is intended as a guide to the engineering and commissioning principles of bespoke Hydor control panel systems and covers the system hardware information only.

Due to the complexity and inherent importance of a system covering animal welfare with electricity, training on this equipment is essential and commissioning should only be carried out by competent and approved persons. For further details of the availability of commissioning services, please contact Hydor or your supplier.

## 2. System Design

2.1 This document does not cover Electrical system design and you should contact a qualified person for assistance with electrical installation

### **A knowledge of BS 7671:2018 is essential**

It is strongly recommended that a suitably qualified and competent person is consulted in connection with the electrical system design and that the entire system is commissioned in accordance with the current national standards and specifications.

### **Equipment Guarantee**

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 the following standards and the owner/operator is given the current User's Manual.

Any modifications to the panel or its installation, even the smallest modification, change or elimination of security components or pieces that influence the efficiency will result Hydor's warranty being cancelled.

### **Anti-Static Handling Guidelines**

Immediately prior to handling any PCBs or other static sensitive devices, it is essential to ensure that a personal **connection to earth is made with an anti-static wrist-strap** or similar apparatus.

Always handle PCBs by their sides and avoid touching any components. PCBs should also be stored in a clean dry place, which is free from vibration, dust and excessive heat and is protected from mechanical damage.

 **WARNING: Do not attempt to install this equipment until you have fully read and understood this manual.**

Failure to do so may result in damage to the equipment and could invalidate the warranty.

For technical support please contact Hydor. Do not call the Hydor support department unless your distributor has first given their advice and attempted to rectify the issue.

Technical support will **not** be available if the instruction manual has not been read and understood. Please have this instruction manual available whenever you call for technical support.

### **3. Control Panel**

- 3.1 It is important these Installation and Maintenances are fully adhered to.
- 3.2 Full details of the control panel supplied are showed on the product nameplate and the circuit diagrams forwarded with the panel. If in doubt about any detail contact Hydor or its agents for clarification.
- 3.3 All electrical installations must be carried out by qualified and competent personnel in accordance with all current statutory requirements.
- 3.4 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. proper electrical isolation.
- 3.5 All declarations made by Hydor about the product installation and safety, are dependent on the control panel being used within installations which themselves meet the requirements of the relevant Standards and Directives of the region.
- 3.6 The control panel is designed for use in an ambient temperature of up to 50°C and 95% relative humidity. The control panel is NOT suitable for corrosive or explosive atmospheres unless stated.
- 3.7 It is the Installer's responsibility to provide easy access to the control panel to facilitate future maintenance.
- 3.8 This product is not intended for the use of young children or infirm persons unless they have been adequately supervised by a responsible person to ensure they can use the product safely. Young children should be supervised to ensure they do not play with the appliance.

#### 4. Mounting the Control Panel

- 4.1 First identify the proposed location for the control panel. Ensure that the control panel will be easily accessible and that account is taken of any subsequent work that may affect access.
- 4.2 The control panel should be mounted on a flat, vertical wall at a height where the indicators may be seen without difficulty and any screens or controls are fully accessible.



The panel can weigh in excess of 15kg if batteries are contained. Use the appropriate fixing hardware to secure the panel to the wall. Observe recommended lifting practices to guard against spinal injury.



Do not locate the control panel at high level where stepladders or other access equipment may be required, in spaces with restricted access, or in a position that may require access panels to be removed.



Do not locate the control panel where extremes of temperature or humidity may occur, or where there is any possibility of condensation or water ingress.

- 4.3 Like all electronic equipment, the control panel may be affected by extreme environmental conditions. The position selected for its installation should therefore be clean and dry, not subjected to high levels of vibration or shock and at least 2 metres away from any pager or radio transmitting equipment. Ambient temperatures should be within the range given within the Technical Data section, e.g. not directly over a radiator or heater.
- 4.4 In common with all microprocessor-controlled panels, the control panel may operate erratically or may be damaged if subjected to lightning induced transients. Proper earth/ground connections will greatly reduce susceptibility to this problem.
- 4.5 Upon receipt, the control panel should be visually inspected to check for any damage during transportation. Ensure that all switches are free to move.
- 4.6 If there are any queries concerning the control panel, Hydor should be contacted prior to installation.
- 4.7 A minimum of 200 millimetres air space is required, on top, below and to the sides of the panel.
- 4.8 The control panel should be mounted on a vertical wall of the building, ensuring that the access to the terminals and panel is available.



**IMPORTANT:** Check the details of the control panel rating plate to ensure that the correct power supply [voltage, frequency, phase and current] is available.

- 4.9 Ensure that all voltages are correct as any incorrect supplies can cause electrical damage to internal components.
- 5.0 Refer to the appropriate wiring diagrams, as all bespoke control panels can vary. Means for electrical current protection and disconnection must be incorporated in the wiring installation in accordance with the relevant wiring and electrical regulations.
- 5.1 Ensure that all electrical connections are made and secure. Fuses/Circuit breakers, contactors and overloads are provided where appropriate to protect external circuits in the control panel as is a door interlocking mains isolator switch.
- 5.2 All external cabling should be the correct sizing, as required by BS 7671:2018 or as required by local regulations.
- 5.3 Cable entry must NOT be made through the top plate of the control panel due to the possibility of water ingress and subsequent equipment failure.



**IMPORTANT: Top panel cable entry will invalidate the warranty.**

## **6. Commissioning**

Commissioning your Hydor control panel system involves testing the system for correct operation.

It is essential that every device is tested in every mode of operation, and that all programmed actions are observed for correct operation.

If your panel contains a controller, please refer to the controller manual for operation instructions.

- 6.1 Before power is supplied to the panel, check that the wiring is correct as per the particular panel connection diagram and the control instructions, as supplied with the control panel.
- 6.2 Switch the panel ON. Check the operation of the various circuits, one at a time, calibrating any equipment that may be necessary, carefully following the instructions, appertaining to the equipment.
- 6.3 Check for any deviations in operation or amperage.
- 6.4 Switch ON the circuits as required for normal operation.

**Hydor can supply a Service Engineer to check and calibrate your control panel, if required, as an optional extra charge.**

## **7. End User Training**

- 7.1 A Hydor control panel is of little use if the end user and/or the responsible persons who will be present on site, do not know how to operate and respond to the system. It is therefore essential that commissioning includes training for the users of the system and responsible persons.

7.2 The **Hydor control panel installation and maintenance document** should be explained and left with the responsible person on site, for storage in an accessible and known location, in order that the responsible person and the service engineer may keep information records up to date.

## **8. Maintenance**

- 8.1 Inspection of the control panel after 6 months initially, with 12 month intervals after is recommended to ensure that the panel is clean externally as well as internally. Any build-up of dust deposits should be removed using a non-abrasive cleaner externally and a vacuum cleaner internally.
- 8.2 All fastenings should be checked for tightness and any signs of overheating should be investigated.
- 8.3 Any UPS power supply or batteries should be checked for leaks or low voltages during the regular service.



**Respect the Environment. Batteries must be disposed of responsibly and in accordance with any local regulations.**

Batteries Expected Life: - 3-5 years at an ambient temperature of 20°C  
Replacement Schedule: - As above. However, note that the expected battery life is shortened by increase in ambient temperature. The life reduces by 50% for every 10°C rise above ambient.

## **Technical Support**

Contact your distributor for technical support on this product.  
Do not call the Hydor technical support department unless your distributor has first given their advice and attempted to rectify the issue.



## **Guarantee**

Hydor or its agents will, within a period of one year from the date of dispatch from their works, at its option, 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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