

MAGNUM[®]

More Power, Better Controls

USER MANUAL

SINGLE PHASE

SUBMERSIBLE PUMP PANEL - PRADHAAN PRO

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KALP CONTROLS

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INDEX

Sl. No.	Topic	Page No.
1	Introduction	3
2	About Magnum SP Pradhaan Pro Panel	3
3	Installation Instruction and Connections	5
4	Mounting Template	6
5	Switching and Operating	7
6	Technical Specifications and Configuration	9
7	Panel Dimensions	10
8	Circuit Diagram	11
9	Precautions and Maintenance	12
10	Trouble Shooting	12
11	Spares and Assemblies Available	13
12	Warranty Card and Policy	14

INTRODUCTION

Dear Customer,

Congratulations on purchase of MAGNUM Submersible Pump Panel PRADHAAN PRO. This is made with heavy duty components, which protects your pump from hazards caused due to **dry run, over-current, under voltage and over voltage.**

Located in Bangalore, Kalp Controls commenced its operations in the year 2009. At Kalp Controls, we are focused on offering you heavy duty

1. Submersible Pump Panel - DOL & Star Delta
2. Open Well Pump Panel
3. Starters - DOL & Star Delta
4. Single Phasing Preventer & Auto Start Unit.
5. Spares like Contactor, Relay, Capacitor, Meters etc.

ABOUT MAGNUM SINGLE PHASE PRADHAAN PRO PANEL:

Magnum submersible control panels are controlling devices for your submersible pumps. These are made from quality raw materials, enabling it to protect and control your motor consistently.

Functions :

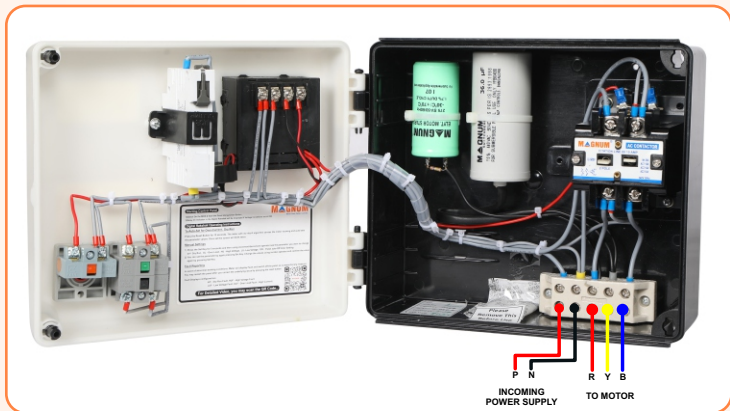
1. Switches your pump/motor on and off.
2. Protects the pump from dry run, over current, under & over voltage.
3. Provides extra torque when the pump is being started.
4. Maintains torque level while the pump is running.
5. Indication of current drawn by the motor.
6. Indication of voltage supplied to the panel.

Salient Features :

1. Engineered Poly Carbonate Enclosure withstands High Temperature and is free from Short- Circuit and Corrosion unlike the metal ones.
2. Rugged MaCH contactor with wide voltage band (140-240V).
3. Digital Metering for easy and accurate reading.
4. Reliable and Branded MCB for overload and short circuit protection.
5. Ergonomic design with aesthetic looks.
6. No screw protrusion from the panel, hence additional safety from water, dust, corrosion and electric shock.

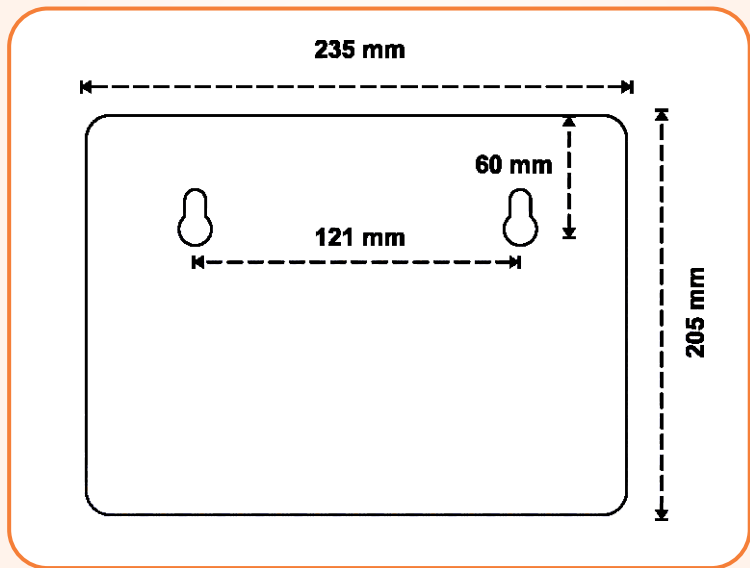
INSTALLATION INSTRUCTIONS & CONNECTIONS :

1. This Control Panel is designed to run only a Single-Phase Submersible Pump.
2. It is very important to ensure the current rating (power in H.P) of your motor and Control Panel are same.
3. Drill holes as per the given Mounting Templates.
4. Control Panel to Submersible Pump connection,



- i. Connect the incoming power supply to P and N terminals of the connector as shown in the above picture.
- ii. Connect the motor cable Red to R of the connector, Yellow to Y of the connector and Blue to B of the connector.

MOUNTING TEMPLATE: (Not to scale)



SWITCHING AND OPERATING:

1. Switch on the supply.
2. Ensure MCB is in ON position (Upwards)
3. Relay On Indicator in the Digital Rakshak will be displayed if Voltage Conditions are all OK..
4. To start the motor press the START (green) button for 3 - 4 seconds and immediately release the button after motor starts. **(Not more than 4 seconds) (Never attempt to press the green button when the motor is running)**
5. You can now read the current drawn by the motor in the Digital Rakshak.
6. The motor can be switched off by pressing STOP (Red) button.

Digital Rakshak Operating Instructions :

➤ To Auto-Set for Over-Current, Dry Run

Press the Reset Button for 10 seconds, The meter with its inbuilt algorithm senses the motor working and auto-sets the parameter values. Once set the screen will blink twice.

➤ **Manual Settings**

1) Press the Set Key for 5 seconds and then using increment/decrement operator see the parameter you want to change,

drY - Dry Run, **OL** - Over Load, **HU** - High Voltage
LU - Low Voltage, **Oft** - Panel auto-Off timer Setting

2) You can set the parameter by again pressing Set Key. Change the values using inc/dec operator and confirm the value again by pressing Set Key

➤ **Fault Reporting**

In event of abnormal working conditions, Meter will display Fault and switch off the panel as a precautionary measure. You may restart the panel after you correct the underlying issue by pressing the reset button

Fault Displays configured are

drF - Dry Run Fault, **HUF** - High Voltage Fault,
LUF - Low Voltage Fault, **OLF** - Over Load Fault (High Current)

For Detailed Video, you may click on the below Play Button



youtube/kalcontrols

TECHNICAL SPECIFICATIONS:

1. Power range : 0.5/1/1.5/2 HP
2. Coil Voltage : 220 V
3. Operating Voltage : 70% to 110% of coil voltage
4. Pick up voltage : Minimum 70% of coil voltage
5. Drop off voltage : Below 50% of coil voltage
6. Contactor : MaCH (2P: 10 to 25A)
7. MCB : Single Pole (6A to 20A)
8. Area : (252x215x105) mm
9. Net Weight : 1.8 - 1.9 Kg
10. Frequency : 50Hz
11. Insulation Voltage Ac (Vi) : 660V
12. Ambient Temperature : -25°C to +55°C
13. Terminal Capacity : 1 * 16 (mm)² or 2 * 10 (mm)²

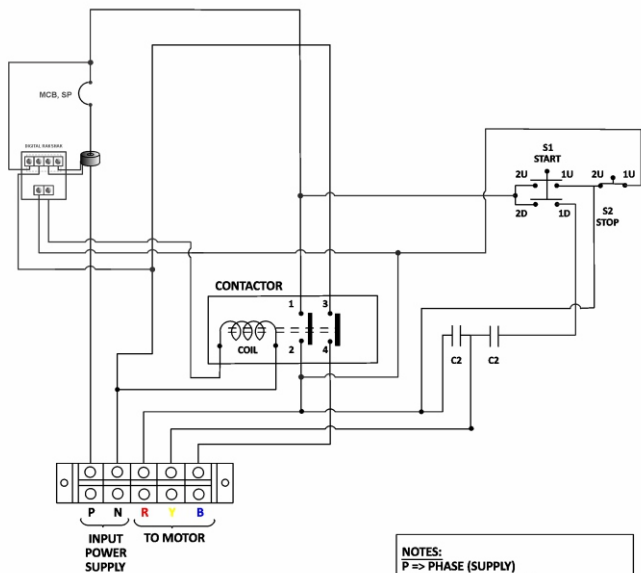
Normal Configuration of the panel :

POWER (HP)	Cat. No	MCB Rating
0.5	PSPPH	6
1	PSPP1	10
1.5	PSPP1H	16
2	PSPP2	20

PANEL DIMENSIONS :



CIRCUIT DIAGRAM :



**MAGNUM SINGLE PHASE
 SUBMERSIBLE PUMP CONTROL
 PANEL - PRADHAAN PRO**

NOTES:

- P => PHASE (SUPPLY)
- N => NEUTRAL (SUPPLY)
- R & B => MAIN WINDING TERMINALS
- Y => AUXILIARY WINDING TERMINAL
- C1 => START CAPACITOR
- C2 => RUN CAPACITOR
- S1 => START PUSH BUTTON
- S2 => STOP PUSH BUTTON

PRECAUTIONS & MAINTENANCE:

1. It's best that a qualified electrician installs the panel and repairs it in case of any problem.
2. A dust free environment is vital for long run of the control Panel. It is very important to keep the control Panel away from water or moisture. In very humid places it is strongly recommended to keep it in a closed setting.
3. The best way for prolonged life of the control Panel is to periodic inspection of the contactor contacts and keeping them free of dust and water.

TROUBLE SHOOTING:

1. If motor/pump does not start:
 - Reset the MCB and Digital Rakshak then try starting again.
 - Ensure adequate supply voltage.
 - Check the start capacitor, it might have burnt.
 - Check the contacts of the contactor.
2. If motor draws excess current:
 - Absence of water or load in the pump.

SPARES AND ASSEMBLIES AVAILABLE FOR THIS PANEL:

Part Description	Specification	Cat No
Magnum MaCH Contactor 2P, 220V	10A 16A 25A	C2C10 C2C16 C2C25
Digital Rakshak	300V, 20A	DRM-SP
Magnum MaCH Spare Kit Set for 2P Contactor	10A 16A 25A	K2C10 K2C16 K2C25
Magnum Coil (Open)	MaCH, 220V	CSCO
Magnum Start Capacitor	60-80 μ f 100-120 μ f 120-150 μ f 150-200 μ f	CS80 CS120 CS150 CS200
Magnum Run Capacitor	25 μ f 36 μ f 50 μ f 72 μ f 100 μ f	CR25 CR36 CR50 CR72 CR100
Porcelain Connector	5Way/30A	CPC35
Start Push Button Stop Push Button	22 mm 22 mm	BSTA22 BSTO22

Warranty Policy:

1. This product carries a warranty, against manufacturing defects only for a period of **12 months** from the **date of** manufacturing.
2. The warranty is however subject to provision of proper usage, efficient maintenance and **does not cover** defects arising out of **fire accident, Voltage Surge, Inefficient maintenance, faulty operation and willful or accidental damage**. Warranty is not covered for charred or burnt components at all.
3. The company will not be liable for any consequential loss, injury or damages attributable to defect or failure of its products.
4. We believe in our products and hence provide you with product guarantee, should it prove to be defective due to faulty workmanship or otherwise, we will remedy the defect or replace the faulty parts or the whole product at our discretion, as soon as possible, free of cost.
5. This product is made from quality raw materials and skilled assemblers. We believe in our product and hence provide you with this warranty of 12 months.
6. Proof of purchase (Invoice) is to be produced to avail the warranty.