



## Magnum Vajra MaK-1 Star - Delta Control Panel

### Introduction

Magnum Vajra MaK-1 Star - Delta Control Panel is a powerful switching and controlling device for higher H.P motors. It also protects against single phasing, phase reversal and provides users with auto-restart facility.

### Applications


Magnum Vajra MaK-1 Star-Delta Control Panels are powerful switching & controlling devices which are used for agricultural and industrial installations. These are found in applications such as,

- \*Three Phase Pumps
- \*Big Electric Motors
- \*Induction Motors
- \*Three Phase Submersible Pumps only

### Functions

- 1.Switches your pump ON and OFF.
- 2.Being based on Star-Delta mechanism the starting torque & current is considerably reduced on the motor.
- 3.Protects the pump from:
  - Single phasing condition
  - Phase Reversal
  - Phase Unbalanced Condition
  - Over current
- 4.Enables Motor to automatically Switch-On if power resumes when kept in Auto-mode.
- 5.Indication of power supply and current drawn.

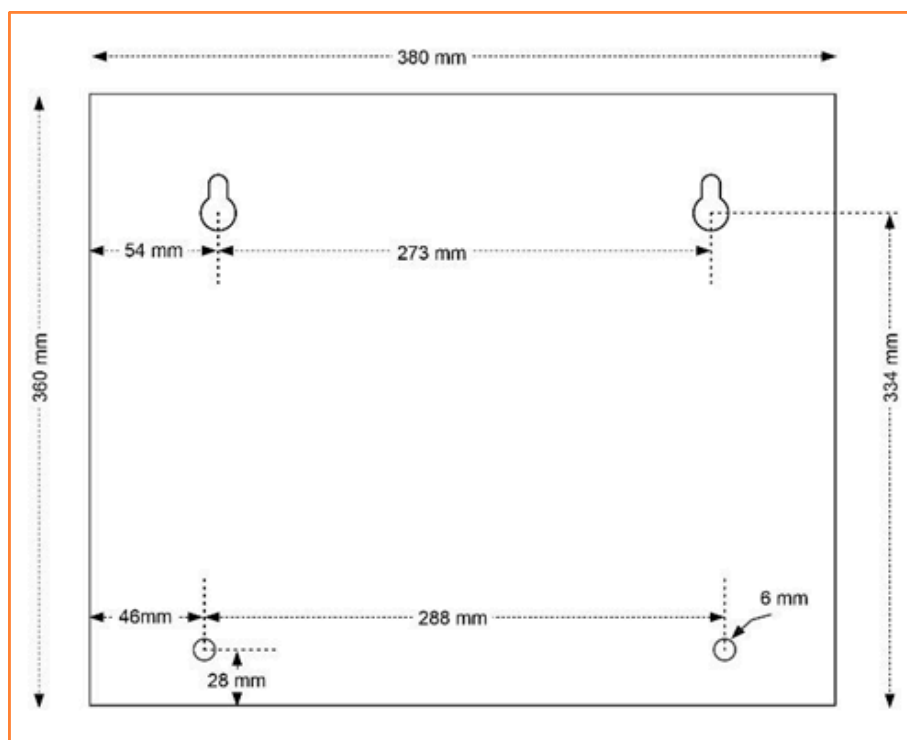
### Technical Specifications

- 1.Enclosure: Powder Coated Mild Steel
- 2.Current: AC
- 3.Operating Voltage: 70% to 105% of coil voltage
- 4.Pick up voltage: Minimum 60% of coil voltage
- 5.Drop off voltage: Below 50% of coil voltage
- 6.Contactor: MaK-1 4 Pole / Mak-1 Heavy Duty
- 7.Relay: MaK-1 4 Pole
- 8.Area: (360 \*380 \*143) mm
- 9.Net Weight: 9.60 Kilograms
- 10.Insulation Voltage AC (Vi): 660V
- 11.Frequency & Ambient Temperature: 50Hz & (-25°C to +55°C)
- 12.Terminal Capacity: 1 \* 16 mm<sup>2</sup> or 2 \* 10 mm<sup>2</sup>
- 13.Power range: Up to 20 HP/32A
- 14.Coil Voltage: 440 V
- 15.Phase: 3 Phase
- 16.Number of cable entries: 1+3 (top+bottom)
- 17.Enclosure cover: Fixed
- 18.Country of origin: 

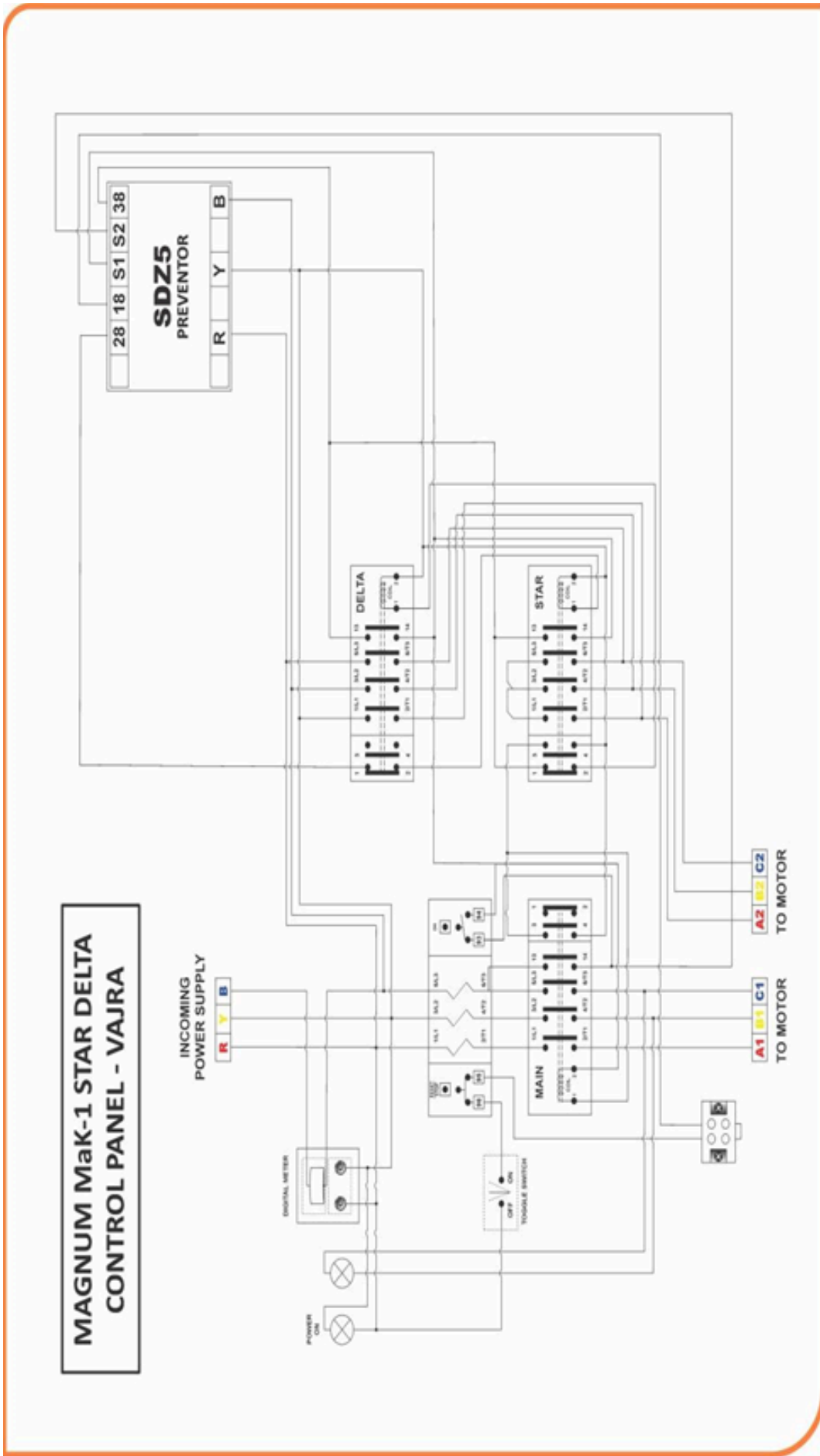
## Salient Features

1. Powder coated MS enclosure for corrosion resistance & sturdiness.
2. Rugged MaK-1 Contactor with wide voltage band (250V to 440V).
3. Fitted with MaK-1 type relay for reliable Over Load Protection.
4. A latch on the push button can be used to keep the stop button locked, thus preventing accidental starting.
5. Manual reset facility after overload protection.
6. Fitted with SDz5 type preventor with inbuilt Star Delta Timer used for protection from Single Phasing, Phase Reversal and Voltage Imbalance Conditions.
7. SDz5 Preventor can be chosen to run in three modes.
  - Auto – To automatically start the motor after the power resumes + Prevention ,➤ SPP – Prevention only
  - Bypass – This can be used if you want to turn-off single phasing protection and Auto Feature. (This is not Recommended)
8. There is a provision in the preventor to have a ON Time Delay start ranging from 30 seconds to 5 minutes (before the motor starts)
9. There is a provision in the SDz5 to have a me delay from 6 to 30 seconds during Star-Delta Conversion.
10. All connections are terminated through appropriate crimping lugs.
11. Fitted with Digital Meter to show the voltage (Incoming Power Supply) and Current (Motor Current).
12. Indication lamps for Power supply and Pump run status
13. There is a provision to connect a Dry-Run Preventor to the panel. [D1, D2]
14. Ergonomic design with aesthetic looks, Easy & quick mounting.
15. No screw protrusion from the panel, hence additional safety from water, dust, corrosion and electric shock.
16. There is a provision for using an auxiliary contact block with configuration 1NO + 1NC.
17. Gasketed enclosure for protection from ingress of dirt and water

## Mounting Template (mm): (Not to Scale)



**Circuit Diagram**



## Selection & Ordering info.

<b>Relay Range (Amps)</b>	06-10	09-14	11-18	13-21	20-32	20-32
<b>Power in H.P.</b>	7.5	10	12.5	15	17.5	20
<b>MaK-1</b>	PSDK7H	PSDK10	PSDK12H	PSDK15	PSDK17H	PSDK20
<b>Std. Pkg.</b>	2/ range					

Product page - <https://kalpcontrols.com/product/vajra-star-delta-control-panel-mak-1/>  
 Video url - <https://www.youtube.com/watch?v=TgDhxxLToQ>

## Links