

Introduction

DC Rectifier is a micro-controller based system suitable for operating DC Brakes of 100 – 700 Ø drum of any make. The unique rectifier system, converts the input AC voltage of 400-415 VAC to an output DC voltage using a micro-controller based circuit and controlling switch gear items like contactors, rectifier bridges etc.

A high transition SCR controls the DC output voltage level as per the firing signals sent by the micro-controller, through a pulse transformer. The micro-controller controls the DC output levels based on the input given to it through a keypad on the circuit. The input by the user can be visually seen on the display incorporated in the circuit. This intelligent controlling system is universally compatible for all brakes based on the input settings provided by the user and quickly transitions from inrush to holding state for optimally operating the brake.

Specifications :

Enclosure : Sheet Steel, IP-54 / IP-55

Finishing : Powered Coated

Input Voltage : 400-440 VAC

Output Voltage

Inrush Voltage : 300-350 VDC

Holding Voltage : 110/45 VDC

Bill Of Material

Symbol	Description	Rating	Make	Qty.
C1	Two Pole Contactor Voltage 415 V, 50 Hz	25A	BCH / SIEMENS	1
PC	Power Supply + Control Section	-	SOC	1
T1	Transformer, Primary: Secondary:	415VAC; 8, 15, 24 VAC	SOC	1
SCR	Silicon Controlled Rectifier	40 A	SILICONTRONIX	1
M1, M2	Single Pole MCB	25 A	SIEMENS	2
F1	Fuse	25 A	L&T	1
D1	7 Segment Display, 4 digit	-	-	1
K1	Keypad(4 KEYS) For Setting	-	-	1

KEY- PAD (K1)

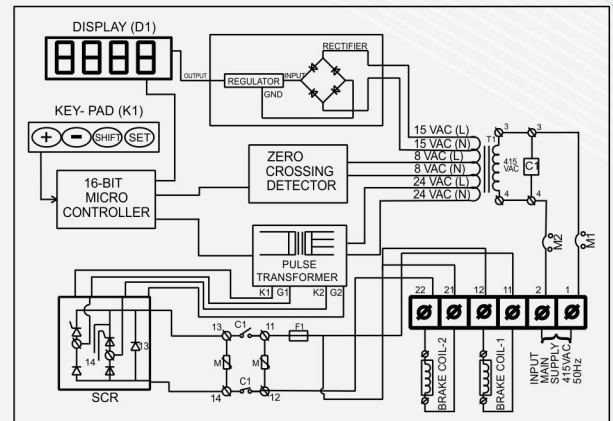


Setting the brake diameter value

To use the pre-selected primary and secondary holding values as per the brake diameter selection, follow the procedure given below:

1. Power off the Controller.
2. In the power off mode, press key 1. While keeping the key 1 pressed, POWER ON the controller. Keep the key pressed till the display shows [100]. Release key 1.
3. The display now shows the brake diameter reading. Use the Key 1 & Key 2 to change the value to [160], [200]...upto [700]. Upon reaching the desired brake diameter value, press the key 4.
4. Restart the controller and operate the brake as per the selected value.

Circuit Diagram For Rectifier DCEM Brake



Layout For Rectifier Circuit

