

Single Phase Zero Cross Over - SCR Firing Card



Model Wise Description:

Sr.No	Model	Product Description	Size (H X W X D) mm.
21.4.3	LZF-1	Single phase zero cross over SCR firing card	120 x 80 x 50

Description:

Libratherm offers single phase zero cross over SCR firing cards model **LZF-1** for AC single phase operated electrical resistive or inductive loads. This card is basically developed to replace the electro-mechanical contactor with the solid state switch using silicon controlled rectifiers (SCRs). When the electrical load is operated through contactors – the AC cycle is switched ON or OFF at any point of 0 to 180 degree phase angle, this leads to generation of arcing on the contacts and may generate harmonics, which can cause electromagnetic disturbance in the power lines and can also cause malfunctioning of other electronic instruments on the panel. The card featured here eliminates generation of voltage transients because of zero cross over switching technique, also no arcing will be observed during switching operation – since no mechanical contact movement is involved in the solid state device.

The card **LZF-1** accepts logic pulse of 3 to 36VDC or potential free contact or analog signal from temperature controller or from PLC and generates single phase gate cathode triggering pulses for a pairs of back to back connected SCRs. The analog signal is pulse width modulated to generate variable duty cycle on-off pulses. Hence, one can control AC single phase load in time proportional mode.

Using LZF-1 card and external back to back connected SCR modules (such as Semikron SKKT27, SKKT57, SKKT106, SKKT162, SKKT 273, SKKT 573) one can build solid state relays rated for 25A to 500A @ 230VAC.

Technical Specification:

Item	Single phase zero cross over SCR firing card
Models	LZF-1
Control Input	3 to 32VDC or potential free contact or 4-20mA/0-5V/0-10V – user selectable using DIP switch.
No. of Inputs	Single and selectable using on card DIP switch.
Triggering Pulses	Gate/ Cathode pulses - Optically isolated from the Input – suitable to fire 25A to 500A back to back connected SCRs. G1K1+G2K2 = 4pulses.
No. Of Outputs	Single for Back to Back connected SCR .
Load Configuration	Single phase with respect to Neutral
Supply Voltage	230VAC +/-10%, 50/60HZ.
Output Line Voltage	40 to 240VAC
Mounting	4 x Screw mounted on the panel surface.
Size (H x W x D)	120 x 80 x 50 mm.

