

# Single Phase Zero Cross Over Thyristor Power Switch



**POW-1-ZC**

## MODEL WISE DESCRIPTION

Model	Product Description	Size (w x h x d) mm.
POW-1-ZC-10A/20A	Single Phase Zero Cross Over Pulse Width Modulated SCR power switch for 2 to 4KW load (10 to 20A) @ 230VAC	120 x 190 x 100
POW-1-ZC-30A/40A	Single Phase Zero Cross Over Pulse Width Modulated SCR power switch for 6 to 8KW load (30 to 40A) @ 230VAC	120 x 190 x 110

## FEATURES

- 10 Amps to 40 Amps capacity (2KW to 8KW).
- Single phase version.
- Auto / Manual operation.
- Accepts (4-20)mA/(0-5)VDC/(0-10)VDC/Pot or DC pulse as the control signal.
- Simple and Modular design for easy installation.
- Suitable for both inductive and resistive heating loads.
- Finds application in single phase Air heaters in AHU / HVAC.
- Compatible with Industrial BMS controllers/DDC/PID/PLC.

## Description

Libratherm offers ready to use Zero Cross over pulse width modulated SCR power switch model POW-1-ZC and POW-2-ZC for electrical heating loads ranging from 2KW to 8KW@ single phase. This power module comprises of Libratherm make triggering card model LZF-1, which generates the zero cross over firing pulses to control suitably rated back to back connected SCRs mounted on electrically isolated heat sink with suitably rated input and output heavy duty connectors for heaters and AC power supply. The entire assembly is mounted in MS powder coated enclosure, which in turn can be easily mounted inside the closed control panel. Both the models accepts analog and digital control signal from DDC or PID controller to accurately control the heater power.

Libratherm offers complete ready to use control panel with suitable PID / Program temperature controller as per the user's specifications and requirement.

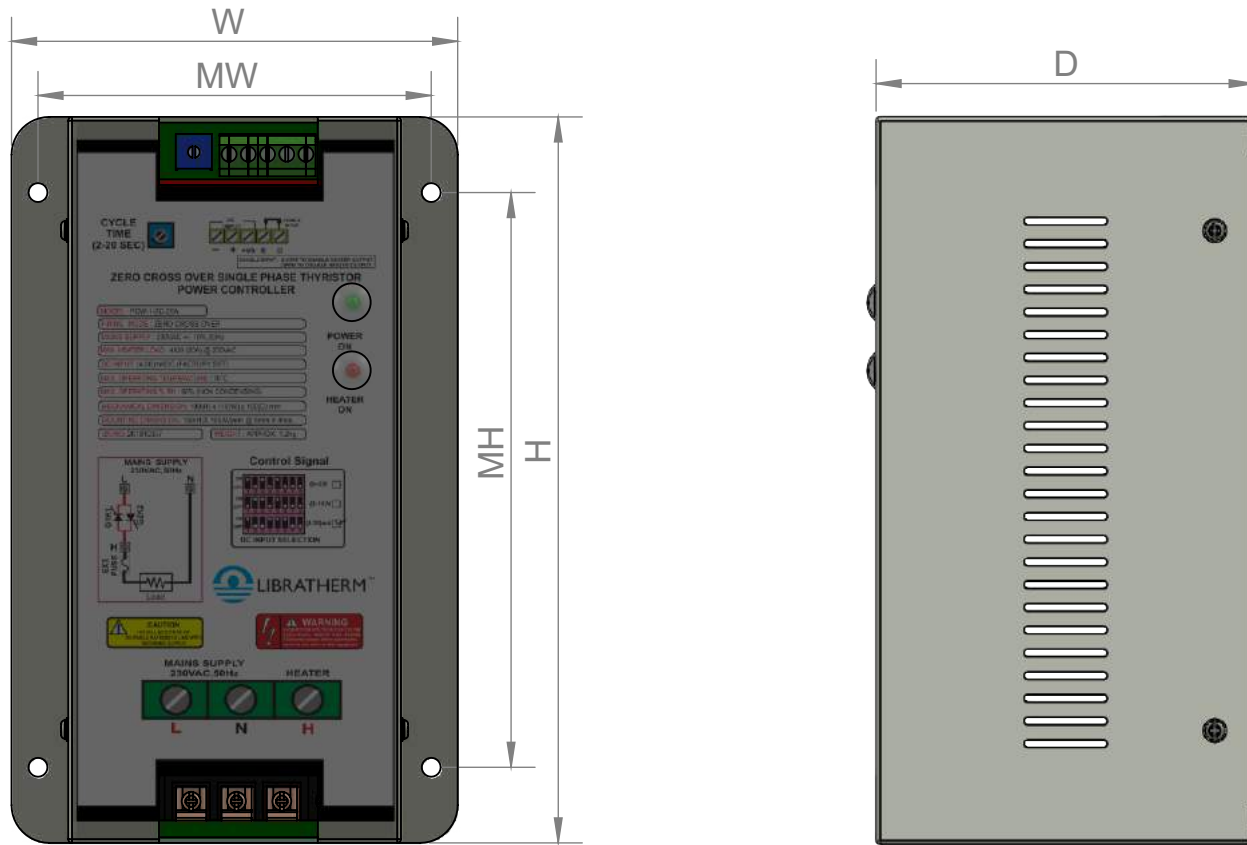
## Technical Specifications

Available Ratings	2KW to 8KW @ 230VAC, single phase.
Available Configuration	Single phase with respect to neutral or two phase
Control Action	Zero cross over Burst firing, time proportional with variable duty cycle. (Pulse width modulated - PWM)
Control Signal	(4-20) mA / (0-5) VDC / (0-10) VDC / Potentiometer or 5-24VDC logic pulse.
On/Off Duty cycle	2 to 20 seconds (user adjustable) using on card potentiometer.
Voltage Output	0 to 230VAC variable on/off duty cycle proportional to the control signal.
Max. Current Load	10A @ 2KW, 20A @ 4KW, 30A @ 6KW and 40A @ 8KW
Load Type	Suitable for resistive and inductive / transformer load
Supply Voltage	230VAC +/- 10%, 50/60 Hz.
Size	As given in the above table
Mounting	On Base plate of the control panel

## ORDERING CODE

Model	Product Description	Part No.
POW-1-ZC-10A/20A	Single Phase Zero Cross Over Pulse Width Modulated SCR power switch for 2 to 4KW load (10 to 20A) @ 230VAC	2701
POW-1-ZC-30A/40A	Single Phase Zero Cross Over Pulse Width Modulated SCR power switch for 6 to 8KW load (30 to 40A) @ 230VAC	2702

## DIMENSIONAL DRAWING



**FRONT VIEW**

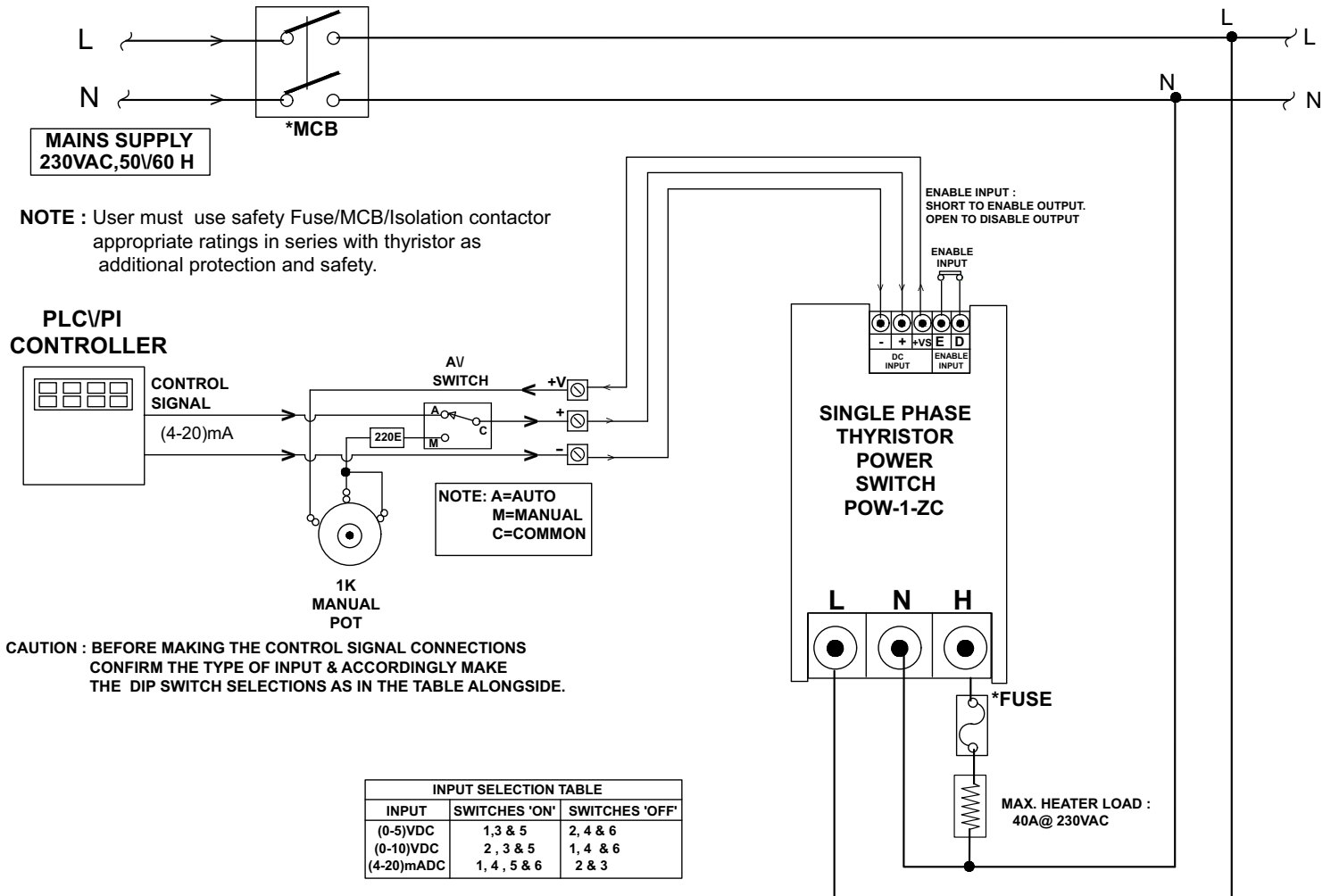
**SIDE VIEW**

ALL DIMENSIONS ARE IN mm

### DIMENSION TABLE:-

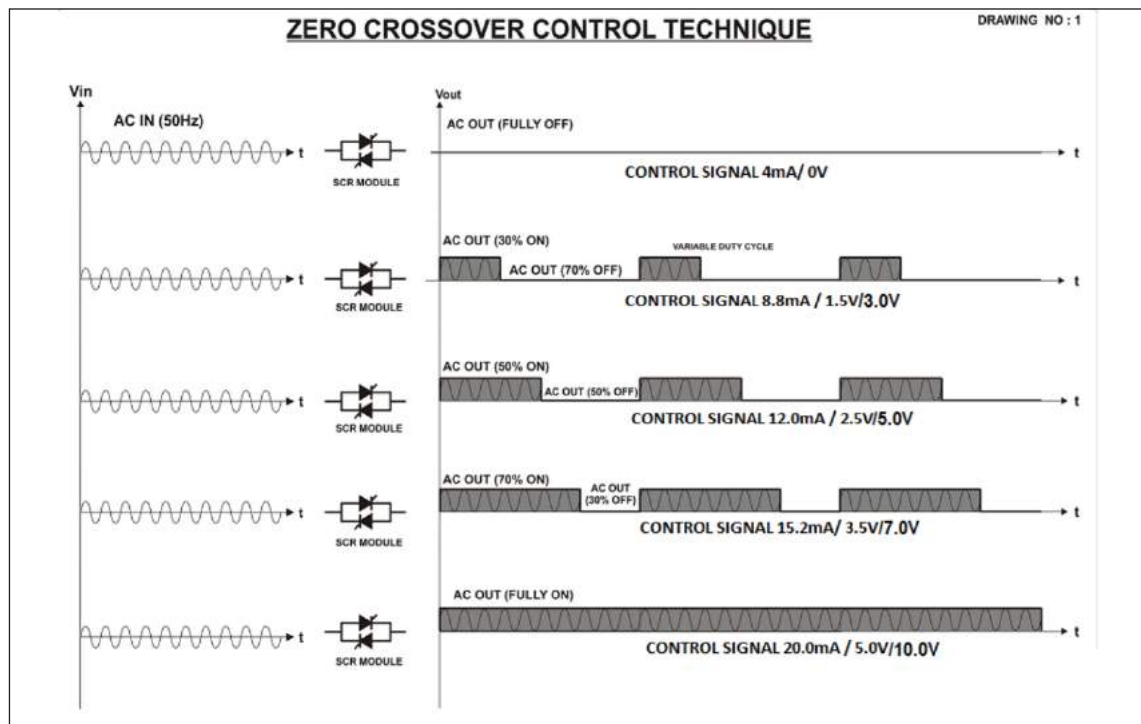
SR NO.	MODEL NAME	HEIGHT (H)	WIDTH (W)	DEPTH (D)	MOUNTING HEIGHT (MH)	MOUNTING WIDTH (MW)
1	POW-1-ZC-10A	190	120	100	150	105
2	POW-1-ZC-20A	190	120	100	150	105
3	POW-1-ZC-30A	190	130	110	150	110
4	POW-1-ZC-40A	190	130	110	150	110

## WIRING DIAGRAM



**CAUTION :** BEFORE MAKING THE CONTROL SIGNAL CONNECTIONS CONFIRM THE TYPE OF INPUT & ACCORDINGLY MAKE THE DIP SWITCH SELECTIONS AS IN THE TABLE ALONGSIDE.

INPUT SELECTION TABLE		
INPUT	SWITCHES 'ON'	SWITCHES 'OFF'
(0-5)VDC	1, 3 & 5	2, 4 & 6
(0-10)VDC	2, 3 & 5	1, 4 & 6
(4-20)mADC	1, 4, 5 & 6	2 & 3



## LOAD CONFIGURATION

