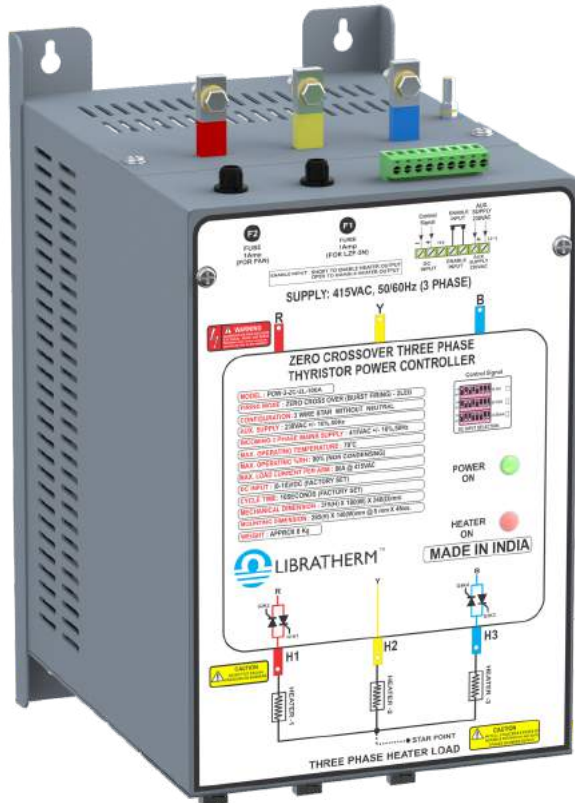


# Three Phase Zero Cross Over Thyristor Power Switch Model: POW-3-ZC - (2 Leg and 3 Leg Control)



## POW-3-ZC

### MODEL WISE DESCRIPTION

Model	Product Description
POW-3-ZC-2L	Three Phase Thyristor Power Switch suitable for 3 phase heaters connected in 3 wire Star without Neutral or in Close Delta ( 2 leg control mode ) (20 KW/30A to 360KW/500A @ 415VAC)
POW-3S-ZC-3L	Three Phase Thyristor Power Switch suitable for 3 phase heaters connected in 3 wire Star with or without neutral ( 3 leg control mode) (20 KW/30A to 360KW/ 500A @ 415VAC)
POW-3D-ZC-3L	Three Phase Thyristor Power Switch suitable for 3 phase heaters connected in 3 wire Close Delta (3 leg control mode) (20 KW/30A to 360KW/500A @ 415VAC)

## FEATURES

- 30Amps to 500 Amps capacity (20KW to 360KW – 3 phase heaters).
- 3 phase versions (2 leg or 3 leg control)
- 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 servicing of cards and thyristors.
- Suitable for both inductive and resistive heating loads.
- Finds application in 3 phase Air heaters in AHU / HVAC, Industrial Heating, Control through Scot wound transformers
- Compatible with DDC/PID/PLC/HMI of any brand.

## Description

Libratherm offers ready to use thyristor power switch for On-Off switching of electrical heating loads ranging from 20KW to 360KW 3-phase. This power switch module comprises Libratherm make SCR triggering card model LZF-3 or TSC-307, suitably rated back to back or inverse parallel connected SCR modules (with electrically isolated base)- mounted on the suitable size of Aluminum heat sink duly fitted with the cooling fan, 3 phase AC Supply Input and Load Output Aluminum/Copper bus bars and over temperature thermal cutouts. The entire assembly is mounted in an MS enclosure, which in turn can be easily mounted inside the closed control panel as desired.

Model POW-3-ZC-2L and 3L accept both analogue and digital control signal from DDC, PLC or PID controller to switch the AC power. The PWM duty cycle is adjustable by the user using on board potentiometer. Following diagram shows the switching pattern of thyristor with respect to the analogue control signal.

Complete ready to use control panel with suitable PID / Program temperature controller can also be supplied as per the user's specifications and requirement.

## Technical Specifications

Available Ratings	20KW to 360KW @ 415VAC/440VAC, 3 phase.
Available Configuration	Three phase (2 leg or 3 leg control) 3 or 4 wire star or 3 wire close delta.
Control Action	Zero cross over Burst firing, time proportional with variable duty cycle.
Control Signal	(4-20) mA / (0-5) VDC / (0-10) VDC / Potentiometer or 12-36 VDC pulse or potential free contact.
On/Off PWM Duty cycle	2 to 20 seconds (user adjustable) using on card potentiometer proportional to Linear control signal.
Output	0 to 230VAC or 0 to 415/440 VAC variable on/off duty cycle proportional to input control signal.
Load Type	Suitable for 3 phase resistive or inductive / transformer load.
Aux. Supply Voltage	230VAC +/- 10%, 50/60 Hz.
Size	As given in the above table
Mounting	POW-3-ZC can be mounted on the base plate of the control panel

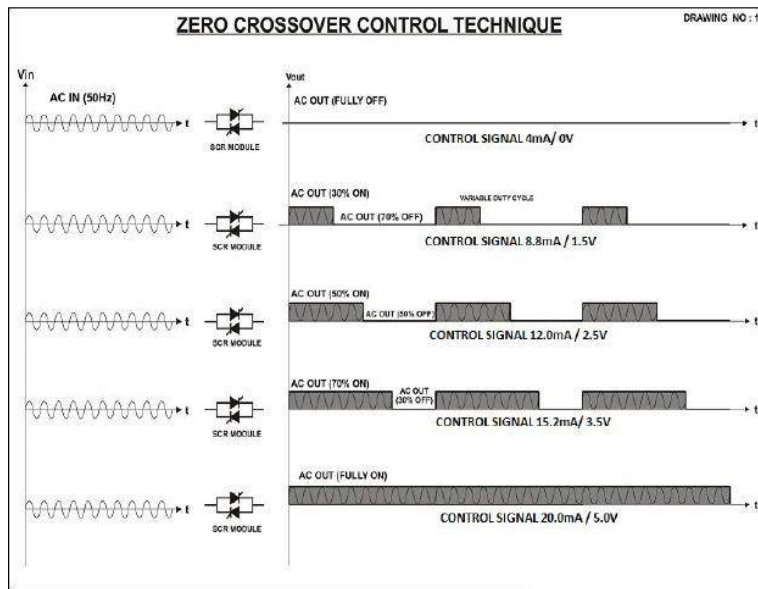
## ORDERING CODE

Sr. no.	POW-3-ZC-2L	THREE PHASE THYRISTOR POWER SWITCH FOR 3 WIRE STAR / CLOSE DELTA CONNECTED LOAD (2 LEG CONTROL)	Size (h x w x d)	PART NO.
1.1	POW-3-ZC-2L-50A (36KW)	Three phase Zero Cross over PWM based thyristor power switch - 2 leg control suitable for max. 36 KW @ 415/440 VAC in star or delta configuration.	305 x 185 x 220	2903-2-1
1.2	POW-3-ZC-2L-100A (68KW)	Three phase Zero Cross over PWM based thyristor power switch - 2 leg control suitable for max. 68 KW @ 415/440 VAC in star or delta configuration.	325 x 185 x 245	2903-2-2
1.3	POW-3-ZC-2L-150A (104KW)	Three phase Zero Cross over PWM based thyristor power switch - 2 leg control suitable for max. 104 KW @ 415/440 VAC in star or delta configuration.	345 x 185 x 285	2903-2-3
1.4	POW-3-ZC-2L-200A (144KW)	Three phase Zero Cross over PWM based thyristor power switch - 2 leg control suitable for max. 144 KW @ 415/440 VAC in star or delta configuration.(Panel mount)	425 x 285 x 300	2903-2-4
1.5	POW-3-ZC-2L-250A (178KW)	Three phase Zero Cross over PWM based thyristor power switch - 2 leg control suitable for max. 178 KW @ 415/440 VAC in star or delta configuration.	425 x 285 x 300	2903-2-5
1.6	POW-3-ZC-2L300A (215KW)	Three phase Zero Cross over PWM based thyristor power switch - 2 leg control suitable for max. 215 KW @ 415/440 VAC in star or delta configuration.	450 x 350 x 350	2903-2-6
1.7	POW-3-ZC-2L-400A (287KW)	Three phase Zero Cross over PWM based thyristor power switch - 2 leg control suitable for max. 287 KW @ 415/440 VAC in star or delta configuration.	450 x 350 x 350	2903-2-7
1.8	POW-3-ZC-2L-500 (360KW)	Three phase Zero Cross over PWM based thyristor power switch - 2 leg control suitable for max. 360 KW @ 415/440 VAC in star or delta configuration.	500 x 400 x 300	2903-2-8

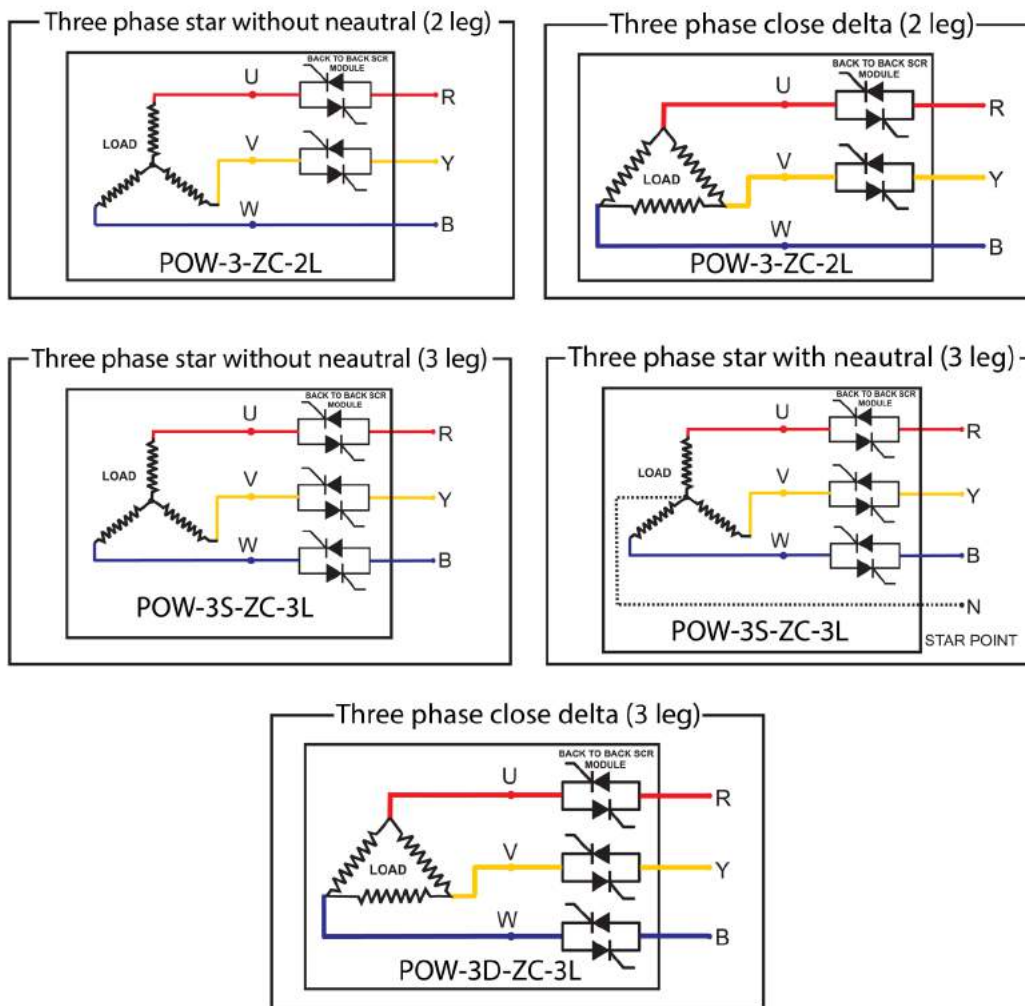
Sr. no.	POW-3S-ZC-3L	THREE PHASE THYRISTOR POWER SWITCH FOR 3 WIRE STAR CONNECTED LOAD (3 LEG CONTROL)	Size (h x w x d)	PART NO.
2.1	POW-3S-ZC-3L-50A (36KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 36 KW @ 415/440 VAC in star or delta configuration.	305 x 185 x 220	2904-3-1
2.2	POW-3S-ZC-3L-100A (68KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 68 KW @ 415/440 VAC in star or delta configuration.	325 x 185 x 245	2904-3-2
2.3	POW-3S-ZC-3L-150A (104KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 104 KW @ 415/440 VAC in star or delta configuration.	345 x 185 x 285	2904-3-3

2.4	POW-3S-ZC-3L-200A (144KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 144 KW @ 415/440 VAC in star or delta configuration.	425 x 285 x 300	2904-3-4
2.5	POW-3S-ZC-3L-250A (178KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 178 KW @ 415/440 VAC in star or delta configuration.	425 x 285 x 300	2904-3-5
2.6	POW-3S-ZC-3L-300A (215KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 215 KW @ 415/440 VAC in star or delta configuration.	450 x 350 x 350	2904-3-6
2.7	POW-3S-ZC-3L-400A (287KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 287 KW @ 415/440 VAC in star or delta configuration.	450 x 350 x 350	2904-3-7
2.8	POW-3S-ZC-3L-500 (360KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 360 KW @ 415/440 VAC in star or delta configuration.	500 x 400 x 300	2904-3-8

Sr. no.	POW-3D-ZC-3L	THREE PHASE THYRISTOR POWER SWITCH FOR 3 WIRE STAR CONNECTED LOAD (3 LEG CONTROL)	Size (h x w x d)	PART NO.
3.1	POW-3D-ZC-3L-50A (36KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 36 KW @ 415/440 VAC in star or delta configuration.	305 x 185 x 220	2905-3-1
3.2	POW-3D-ZC-3L-100A (68KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 68 KW @ 415/440 VAC in star or delta configuration.	325 x 185 x 245	2905-3-2
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3.8	POW-3D-ZC-3L-500 (360KW)	Three phase Zero Cross over PWM based thyristor power switch - 3 leg control suitable for max. 360 KW @ 415/440 VAC in star or delta configuration.	500 x 400 x 300	2905-3-8

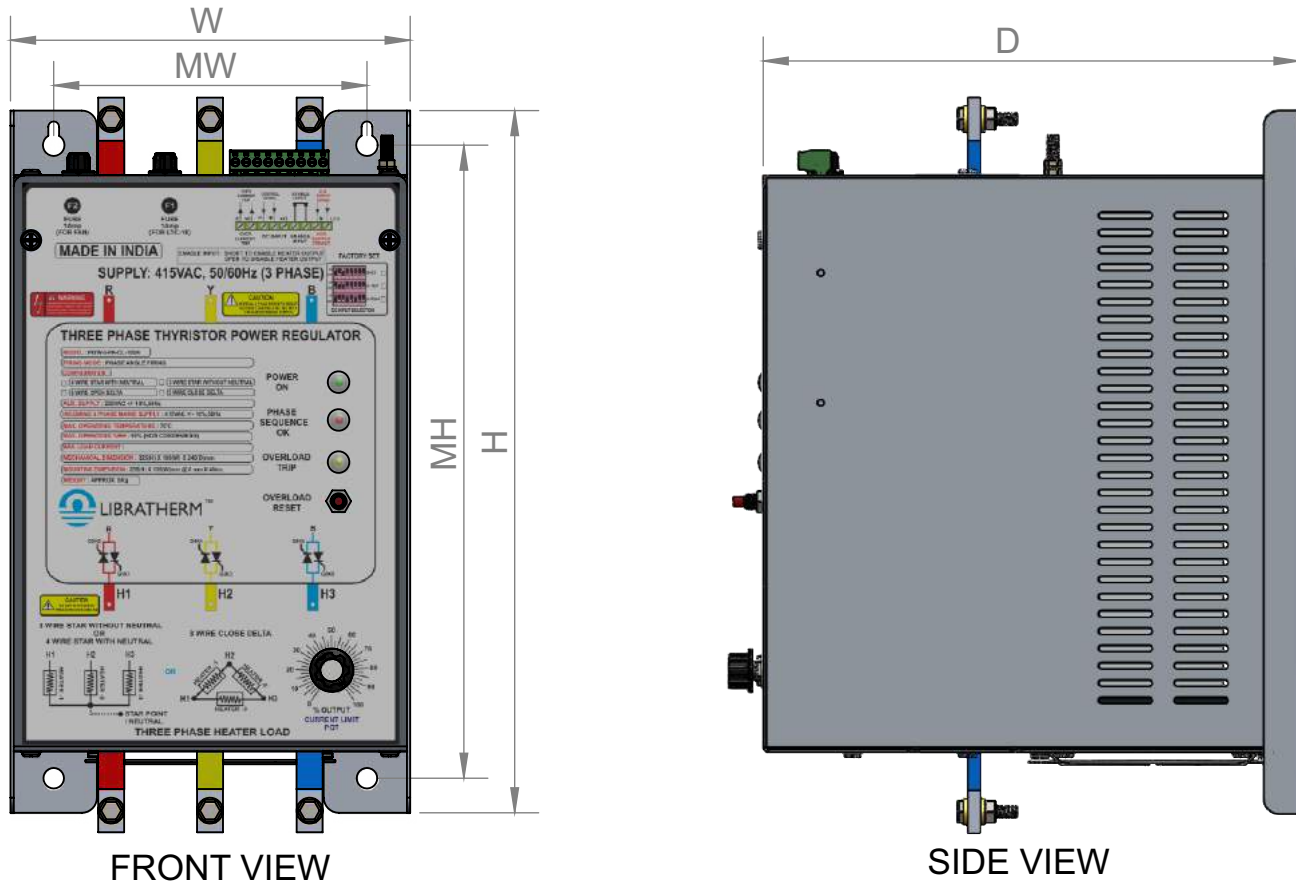


## Various possible three phase load configuration





## DIMENSIONAL DIAGRAM:-



ALL DIMENSIONS ARE IN mm

## DIMENSIONAL TABLE:-

SR NO.	MODEL NAME	HEIGHT (H)	WIDTH (W)	DEPTH (D)	MOUNTING HOLE HEIGHT (MH)	MOUNTING HOLE WIDTH (MW)
1	POW-3D-ZC-3L-50A	305	185	220	275	155
2	POW-3D-ZC-3L-100A	325	185	245	295	155
3	POW-3D-ZC-3L-150A	345	185	285	315	145
4	POW-3D-ZC-3L-200A	425	285	300	395	255
5	POW-3D-ZC-3L-250A	425	285	300	395	255
6	POW-3D-ZC-3L-300A	450	350	350	420	320
7	POW-3D-ZC-3L-400A	450	350	350	420	320
8	POW-3D-ZC-3L-500A	500	400	300	470	370

Note: Dimensions and specifications are subjected to change during product upgradation.