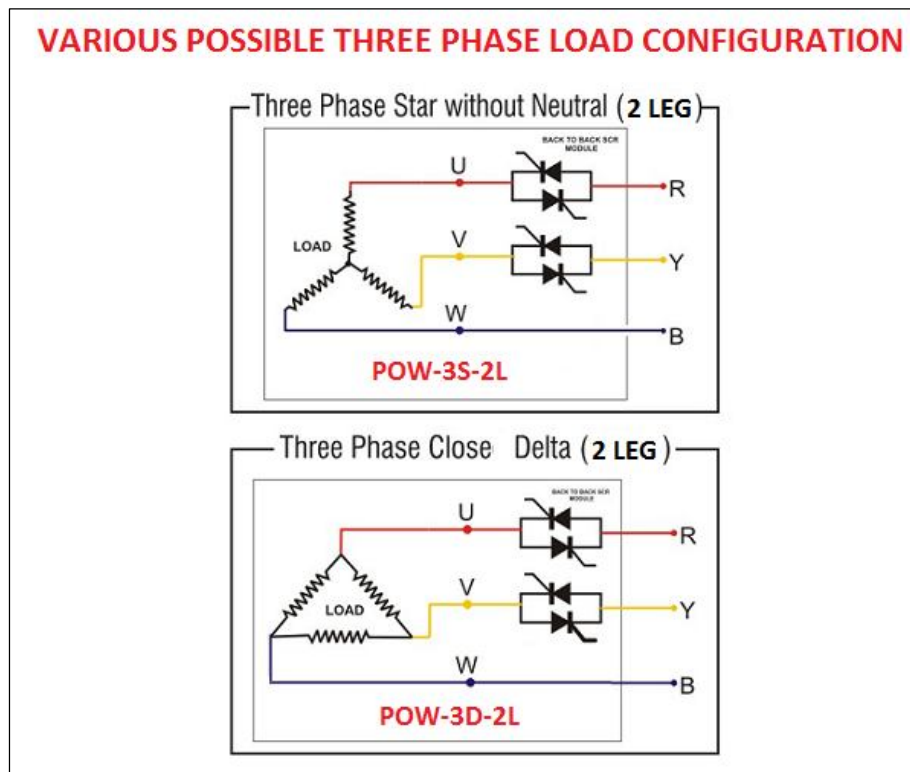
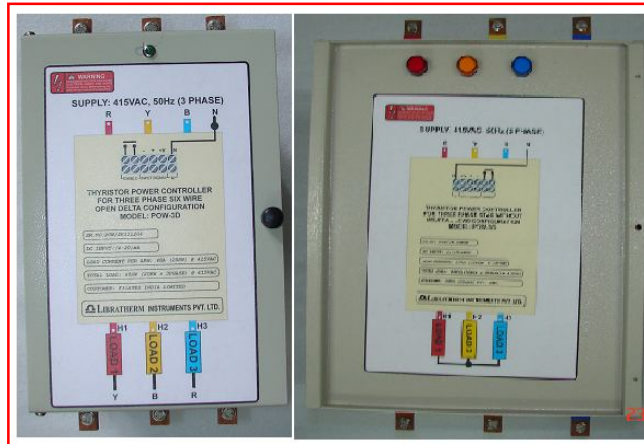


Three Phase Zero Cross Over - Thyristor Power Controller (Two leg control)

(Product Code 21.5.3)



Model Wise Descriptions:

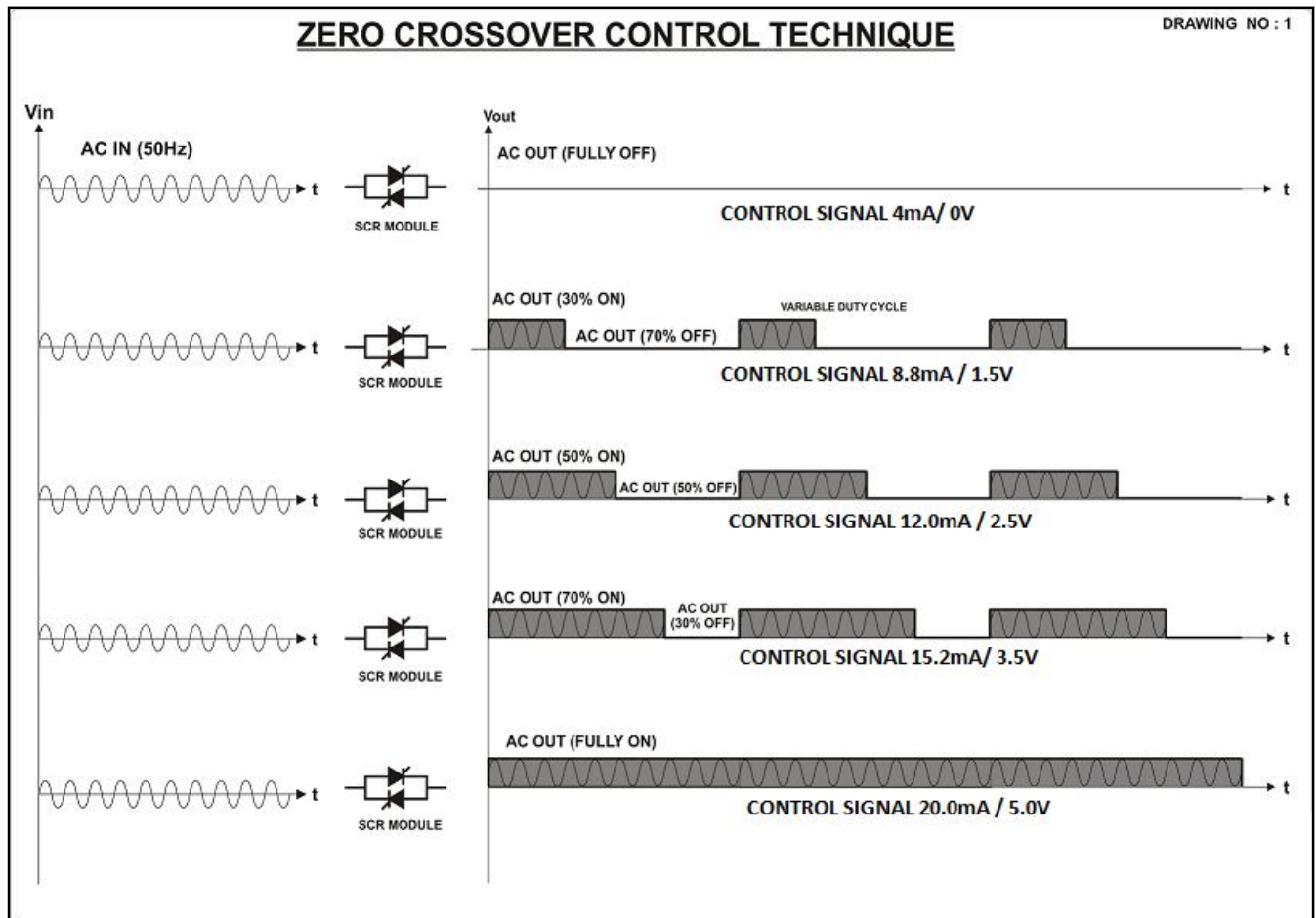
Sr. No	Model	Product Description
21.5.3.1	POW-3S-2L	Three Phase SCR Power Controller – suitable for 3 phase heaters connected in 3 wire Star with 2 leg control
21.5.3.2	POW-3D-2L	Three Phase SCR Power Controller – suitable for 3 phase heaters connected in 3 wire Delta with 2 leg control

Features:

- ❖ 25 Amps to 500 Amps capacity (3KW to 360KW).
- ❖ 3 phase versions.
- ❖ Auto / Manual operation.
- ❖ Accepts (4-20)mA / (0-5)VDC / (0-10)VDC 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.

Description of Thyristor Power Controller:

Libratherm offers ready to use SCR power controller for electrical heating loads ranging from 15KW to 500KW/3-phase. This power pack module comprises of suitable triggering card model LZP-3N, suitably rated back to back connected SCR module (with electrically isolated base)- mounted on the appropriately rated heat sink (natural air or forced air cool), input and output clip-on type heavy duty connectors or copper bus bars, semiconductor fuses and thermal cutouts. The entire assembly is mounted in an MS enclosure or on MS powder coated plate, which in turn can be easily mounted inside the closed control panel as desired. 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	15KW to 500KW Three phase
Available Configuration	Three phase (2 leg control) 3 wire star or 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 0-12VDC pulse.
On/Off Duty cycle	2 to 20 seconds (user adjustable) using on card potentiometer.
Output	0 to 230VAC or 0 to 415VAC variable on/off duty cycle proportional to the control signal.
Load Type	Suitable for resistive and inductive / transformer load (25A to 500A @ 230/415 VAC)
Supply Voltage	415/440 VAC, 50/60 Hz. (User should specify)
Available Models	As given in the above table (Under Model wise description)
Other accessories provided with each power pack	a) Semiconductor fuse per phase – to protect thyristors against short Circuit condition. RC snubbers / MOV across the SCRs to protect against transients. b) Thermal cut out switch on the heat sink – to protect thyristors against over heating. c) Cooling fan on heat sinks for thyristors above 50Ampere d) Heavy duty input/output terminals or Copper Bus bars for supply and heater Connections.
Size (Power Pack)	As per Std. (Sizes can be given on request – based on the model)
Mounting	Power pack can be mounted on the base plate of the control panel

KW (Kilowatt) wise selection table for 3 phase resistive/inductive loads:

Line Current per phase (I) AMPS	BACK TO BACK SCR MODULE (1600V PIV)	POW-3S-2L / POW-3D-2L @415VAC P= (415X1.732X I) KW
20A	SKKT-27A	3 – 15 KW
50A	SKKT-57A	16- 35 KW
80A	SKKT-106A	36 - 60 KW
150A	SKKT-162A	61 - 107KW
250A	SKKT-273A	108 - 180 KW
300A	SKKT-330A	181 - 215 KW
500A	SKKT-573A	216 - 360 KW

- User can select the required power pack – either by actual current through the heaters or by KW of the heaters.
- If the heaters are designed at different voltage other than 230VAC or 415VAC, still the selection can be made, based on the actual current flowing through the heaters at the desired voltage level.

Ordering Information:

MODEL	A- INPUT CONTROL SIGNAL	B- CURRENT (Line current per phase)
POW-3S-2L	A1- (0-5 VDC) A2- (0-10 VDC) A3- (4-20 mA) A4 - (0 to 12VDC logic pulse)	B1-20A B2-50A B3-75A B4-150A
POW-3D-2L	A5- All above but user selectable using DIP switch selection <i>Variable signal through external potentiometer is available in all models.</i>	B5-250A B6-300A B7-500A

Examples:

MODEL	A- INPUT CONTROL SIGNAL	B- CURRENT (Line current per phase)
POW-3S-2L	A3	B2
POW-3D -2L	A5	B8

Example	Ordering Code	Description
1	POW-3S-2L-A3-B2	This is three phase thyristor power controller with (4-20)mA control Signal suitable for maximum 15KW load connected in star configuration.
2	POW-3D-2L-A5-B8	This is three phase thyristor power controller with universal input control signal suitable for maximum 208KW load connected in delta configuration.