

QUOTATION
OTN/L/22-23/1332

Customer Name: Jindal Aluminium Limited **Date:** 20-10-2022
Valid Till: 31-12-2022
Address: SP-2/333, RIICO Industrial Area, Bhiwadi, Alwar 301019, Rajasthan **Contact:** Mr Chinmay Pradhan
 State Code: 08 **GSTIN:** 08AAACJ4324M1ZH **Mobile No:** 7008979510

- Final Price

#	Item Code	Item Name	HSN/SAC	Rate	Qty	Amount
✓ 1	PID-903	Libratherm make PID Temperature Controller	90328910	₹ 4,200.00	1.0 Nos	₹ 4,200.00 → DI22100309
✓ 2	POW-3-PA-CL-50A	Libratherm make Three Phase Thyristor Power Regulator for 36 KW Heater Load	90328910	₹ 30,975.00	1.0 Nos	₹ 30,975.00 → ,,
3	PID-8000	Libratherm Make Microprocessor-Based 3 Zone PID Temperature Controller	90328910	₹ 30,000.00	1.0 Nos	₹ 30,000.00 =
4	POW-12-PA-CL-25A	Libratherm make Three Phase Thyristor Power Regulator for 18 KW Heater load	90328910	₹ 20,500.00	3.0 Nos	₹ 61,500.00

*Discussed with Mr. Vijay Sir
He is agreed on above Price*

*Rupesh Saini
17/11/23*

Total ₹ 1,26,675.00
IGST @ 18.0% ₹ 22,801.50
Grand Total: ₹ 1,49,476.50

CHECK LIST

DISCOUNT : *above Price are final*
 PRICE BASIS : FOR BHIWADI *Ex-Work*
 P & F : INCL...../EXTRA *Extra*
 GST/IGST : *18% Gvt Extra*
 DELIVERY : *2 to 3 week*
 PAYMENT : *30 day*
 GCW/CIC : *12 month warranty*
 VALIDITY : _____
 SIGNED BY : *Rupesh Saini*

Sr Description

1



PID-903

Libratherm make PID Temperature Controller

Application:- To Control the Temperature of Container Heaters.

Input : K-Type Thermocouple (Available with Customer)

Application Temperature Range : (0 to 500) °C

Resolution : 1°C

Accuracy : +/- 1 °C

Display : 4 digit 0.5" Red 7-segment LED display for Process value 4 digit 0.3" Red 7-segment LED display for Set value & other parameters LED indications on front panel to indicate output & other condition status

Setting : Using front panel soft membrane Keypad.

Control Action : PID

Control Output : SSR + (4-20) mA DC to Thyristor Power Controller

Alarm Output : 2 nos. of Relays for High/Low Alarms (User configurable)

Supply : (90VAC-250VAC) +/- 10%, 50 Hz.

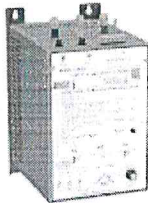
Size : 96(H) x 96(W) x 75(D)mm.

Enclosure : ABS plastic with polycarbonate front graphic.

PART No.: 1505-1

HSN/SAC: 90328910

2



POW-3-PA-CL-50A

Libratherm make Three Phase Thyristor Power Regulator for 36 KW Heater Load

Module : 3 Nos. x SCR Module : 57 A(Make: Semikron Germany).

Control Input : (4-20)mA , (0-5)VDC , (0-10)VDC, Potentiometer-User selectable.

Factory Set Input : (4-20)mA DC from PID Controller (PID-903)

Aux supply : 230 VAC +/-10%, 60 Hz.

Load Configuration: Three-phase (3 or 4 wire star and 3 or 6 wire delta).

Factory Set Load Configuration: Star without Neutral

Output Voltage : (0 to 230/240) VAC or (0 to 415/440) VAC variable voltage proportional to the control signal.

Max. Load Current: 50 Amp per phase.

Current Control: Current Limit and Current Trip settings using on card presets.

DI/DO Control :

a) Potential free contact input (DI) to remotely start/stop the Thyristor

b) Potential free contact output (DO1) to indicate status of Thyristor ON or OFF.

c) Potential free contact output (DO2) to indicate Over Load condition (Trip Contact) .

Protection provided with each power controller :

a) RC snubber / MOV across the SCRs to protect against voltage transients dv/dt.

b) Thermal cut out switch on the heat sink – to protect thyristors against overheating.

c) Heavy duty input/output terminals or Copper or Aluminum Bus bars for supply and heater Connections.

d) Cooling fan on heat sinks

Soft Start : 0 to 20 sec. individual Ramp up & Ramp down field Adjustable.

Size : 305 x 185 x 220 mm (H X W X D).

PART No. : 2603-1

HSN/SAC: 90328910

Sr **Description**

3



PID-8000
Libratherm Make Microprocessor-Based 3 Zone PID Temperature Controller

Model: PID-8000-H-4

Application:- Aluminum Extrusion Machinery having OVEN for Mould Dye Heating.

No. of Inputs: 3 + 1 spare

Type of Inputs: K-Type Thermocouple (Available With Customer)

Application Temperature Range : (0 to 480) oC

Resolution : 1 oC

Accuracy: Better than $\pm 0.1\%$ of the specified range

Display : 4 digit 0.5" Red 7-segment LED for actual temperature. 4 digit 0.5" Red 7-segment LED for set temperature. 2 digit 0.5" Green 7-segments LED for zone or channel number. 6 digit 0.5" Green 7-segments LED for various parameters.

Open or Short Sensor Indication : Display shows Open or r:PoL and outputs will be turned OFF.

Sampling time : Better than 25 millisecond per channel.

Display Scan Rate : 1 to 99 sec (programmable through front panel keyboard).

Skip/Hold : Available through key board in configuration mode.

Control Action : PID or ON/OFF selectable

Control Outputs:

a] 4 x (4-20)mA DC output per zone with soft ramp start (rt) and power limit (PL) facility for analogue output to drive Thyristor Power controller

b] 4 Nos. of DC Pulses to drive External SSR

Alarm Outputs: 2 x Relay changeover contacts for common High and Low Alarms rated for (5A @ 230VAC).

Digital Interface: Dual serial interface port RS-485 over MODBUS RTU protocol

Supply: (90-240)VAC, 50/60 Hz

Size : 192 (W) x 96 (H) x 160 (D) in mm

Panel Cutout : 188 (W) x 92 (H) in mm +/- 0.5 mm.

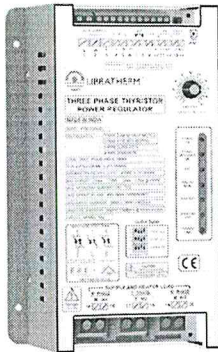
Enclosure: Metal Powder coated with polycarbonate front.

PART No. : 1513-4-5

HSN/SAC: 90328910

Sr Description

4



POW-12-PA-CL-25A

Libratherm make Three Phase Thyristor Power Regulator for 18 KW Heater load

Control Input : (4-20)mA, (0-5), (0-10), Potentiometer- User Selectable

Factory Set Input : (4-20) mA from PID Controller (PID-8000)

Aux. Supply Voltage: 230VAC +/- 10%, 50 Hz

Load Configuration: Three-phase (3 or 4 wire star and 3 or 6 wire delta)

Application Load Current: 18 Amp per phase

Factory Set Load configuration : Star without Neutral

Output Voltage : 0 to 230VAC (for star connected loads) or 0 to 415/440VAC (for delta connected loads) variable voltage across the heater/transformer load,proportional to the control signal.

Front Panel LED Indications: For Power ON, Phase Sequence OK, Enable/Disable mode, Healthy Relay, Over Load, Over Heat, and Current Limit mode

Digital I/O:

a) Remote ON-OFF (DI) Using external potential-free relay contacts to enable or disable the Thyristor or voltage output to the load.

b) Relay contacts (DO) (C-NO) are provided when Thyristor power is ON and it is Enabled.

c) Relay contact (DO) (C-NO) is provided when an overload condition occurs.

Other accessories

a) RC snubber / MOV across the SCRs to protect against voltage transients dv/dot

b) Thermal cut out switch on the heat sink – to protect thyristors against overheating.

c) Cooling fan on heat sinks for all Thyristor regulators.

d) Heavy duty input/output terminals for supply and heater Connections.

Current Control: Built-in current limit and overload trip features. Trip Reset switch is provided for easy access to the user.

Control Method: Phase angle control (self synchronized).

Smooth Control: Adjustable Ramp Up and Ramp Down Time for the soft increase and decrease of output voltage. (Settable in the range of 2 to 20 seconds).

Load Type / Current : Suitable for Resistive/Inductive load (10A to 35A @ 110/230/415 VAC).

CE Certification: Low Voltage Directives - 2014/35/EU and EMC Directives – 2014/30/EU

Mounting: The regulator can be mounted on the base plate of the control panel using 4 x M6 bolts

Size : 255 (H) x 150(W) x 135(D) mm.

Part Code: 2504

HSN/SAC: 90328910

Precautions to Use Thyristor Power Controller:

a) User must use safety Fuse / MCB / Isolation Contactor of appropriate ratings in series with Thyristor as additional protection and safety.

b) User is advised & requested to ensure that wherever Thyristor has been installed there should be proper air circulation & temperature below 50 oC is maintained within the Panel.

c) All Thyristor controllers are supplied with a heat sink & cooling Fan. In the event the hot air is not throw out of the panel, it will tend to raise the inner temperature & due to which electronics will tend to malfunction for temperature crossing more than 70 oC.

Note: Semiconductor Fuses are to be arranged by customer:

Terms & Conditions of Sales:

Payment:

- All prices are ex-works.
- GST: 18% on the basic price
- 100% payment after 30 days from the date of dispatch.
- Mode of Payment: *NEFT / RTGS / Cheque / Demand Draft in favour of Libratherm Instruments Pvt. Ltd.*
- Bank Details:
 - HDFC Bank Limited || Account No. 04142560000536 || IFSC Code HDFC0000414
 - Bank of Maharashtra || Account No. 20006601495 || IFSC Code MAHB0000964

Packaging & Delivery:

- Packaging charges: In Libratherm Scope
- Freight charges: Extra at actual
- Mode of Dispatch: By suitable Courier (Preferred courier or transporter can be mentioned in the Purchase Order)
- Dispatch: Within 2-3 weeks after receipt of confirmed techno-commercial purchase order
- **Delivery schedules may vary based on the order quantity**

Warranty:

- 12 months warranty from the date of dispatch.
- Offsite warranty, only against manufacturing defects.

Orders once placed cannot be cancelled. For amendment of any orders, modification charges will be applicable.

Subject to Mumbai Jurisdiction only.

Our Company Details:

Company Name: Libratherm Instruments Pvt. Ltd.

GSTIN: 27AABCL1732A1Z5

CIN Number: U31909MH2006PTC159638

MSME UAM Number: MH18A0004977

UDYAM Registration Number: UDYAM-MH-19-0047398

Details required from Customer: GSTIN., CIN., Email ID, Billing Address and Shipping Address

We are pleased to offer our 30 years of experience in product design. Libratherm products are rugged, reliable and field-proven since 1991.

We look forward to your valued order.

Partners in Measurement and Control

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