

POWER STACK

3 PHASE THYRISTOR POWER CONTROLLER

General Features

- ❖ PMA Power Stack is a Full digital and universal Thyristor unit based on a very powerful dedicated microprocessor configurable via serial communication port for all inputs, Control modes and loads types
- ❖ Suitable to drive resistive, inductive, transformer and complex loads requiring current limit and power control mode.
- ❖ Front Keypad standard to configure all the internal functions and parameters.
- ❖ Four analog outputs configurable.
- ❖ Six digital inputs
- ❖ Four relay output
- ❖ Universal Input signal with automatic zero/span calibration.
- ❖ Universal firing modes, customer configurable port as burst firing and phase angle.
- ❖ Universal Feedback modes.
- ❖ Soft start can be used in addition to burst firing and phase angle.
- ❖ Unbalanced load and heater Break alarm
- ❖ Built in RS 485 Modbus RTU interface
- ❖ Internal fuses
- ❖ Comply with EMC and CE and UL
- ❖ IP20 Protection.



close the loop with PMA

Specification - Technical data

Firing modes	S+ PA : Soft start +Phase angle , BF; Burst Firing, SC: Single cycle, S+BF: Soft start + Burst Firing, DT+BF: Delayed Triggering+ Burst Firing
Control Mode	V : Voltage, V X I : power and External feed back

Max. Rated voltage	480 V Range 330V to 480V max
	600 V and 690 V Range units are Available on request
Frequency	From 47 to 70 HZ
Aux. Voltage	90 – 265 Volt ; 20 VA Consumption

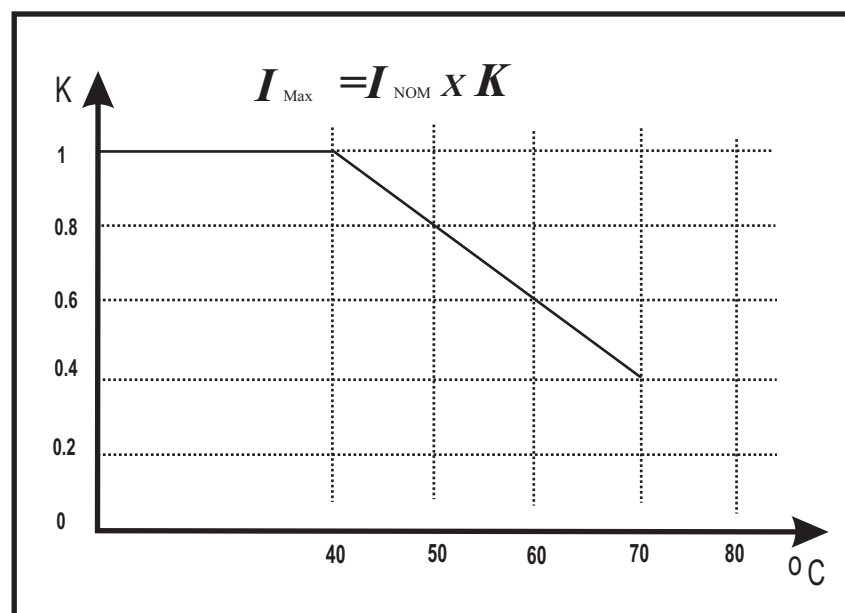
Current Ratings	25A, 35A, 45A, 75A, 100A, 125A, 150A, 225A, 300A, 350A,400A, 450A, 500A,600A, 850 A, 1000** ,1400 A, 1500 A** ,1850 A, 2000 A** ,2400 A, 2700A**
** The highlighted Ratings are not available at 690Volt range	

Analog input – 1	Main reference 0-10V DC , 4-20mA,10K POT, Com. Command Via Rs485 Modbus 1-5V, 0-5 V, 0-20mA Available on request.
Analog Input - 2	Secondary Reference , 0-10V ,10K Pot
Analog input- 3	External current limit set Via analog input 0-10V or POT
Analog output	4 Analog output 0-10V, (0-20mA or 4-20mA as option), to retransmit, Voltage or Power, Current.

Load type	Normal resistive load, Infrared lamps, variable resistances, super Kanthal, Silicon carbide elements, Three phase transformers and inductances.
Load Connection	Star, Star with Neutral, Delta, Open Delta

Digital input	6 Opto isolated digital Input 12/24VDC, for Start, stop, Enable, Calibration, Reset Alarm and External Alarm
Relay Output	3 configurable Relay output and one for critical alarm

System Interface	Built in RS 485 Modbus RTU and other field bus protocols are available as an option
Protection	Built in High rapid Semiconductor Fuse standard
Monitoring	Microprocessor based circuit for partial and total load failure and short circuit on Thyristor
Thermal protection	Available on forced ventilated units
Configuration	Configurable Via Front panel and through RS485 serial port.
Mounting	Panel Mounting, IP 20 protection
Operating temperature	0-40°C, for higher temperature please see Derating curve



Dimensions (in mm)

Current Rating	W	H	D	Current Rating	W	H	D
25A - 225A	262	440	270	1400A -1500A	525	780	435
300A - 600A	262	520	270	1850 A- 2000A	780	790	533
850A	400	520	270	2400 A	890	790	518
1000A	525	580	435	2700A	890	790	518

Output Features

Current In Amps	Voltage range	PIV		Power Loss I=Inom(W)	Isolation Voltage
		600V	690V		
35A	330-690V	1600	1800	126	2500 V
45A	330-690 V	1600	1800	162	2500 V
75A	330-690V	1600	1800	270	2500 V
100A	330-690 V	1600	1800	360	2500 V
125A	330-690V	1600	1800	450	2500 V
150A	330-690 V	1600	1800	540	2500 V
225A	330-690V	1600	1800	810	2500 V
300A	330-690 V	1600	1800	1080	2500 V
350A	330-690V	1600	1800	1260	2500 V
400A	330-690 V	1600	1800	1440	2500 V
450A	330-690V	1600	1800	1620	2500 V
500A	330-690 V	1600	1800	1800	2500 V
600A	330-690V	1600	1800	2160	2500V
850 A	330-690 V	1600	1800	3000	2500 V
1000 A	330-600V	1600	*RNA	3300	2500 V
1400 A	330-690 V	1600	1800	4620	1700 V
1500 A	330-600 V	1600	*RNA	5625	1700 V
1850 A	330-690V	1600	1800	6105	2500 V
2000 A	330-600 V	1800	*RNA	6600	2500 V
2400 A	330-690V	1800	1800	8000	2500 V
2700 A	330-600 V	2200	*RNA	10125	2500 V

*RNA : Rating not available

Additional Features



PM- EASY

- ❖ This is a memory support tool that can be used by maintenance personnel on shop floor.
- ❖ The user can copy the configuration of one unit and paste it in to another unit.
- ❖ PM-Easy is very simple with one push button to upload the configuration and another one push button to download the configuration to unit.



PM- KP

- ❖ The PM-KP is designed mounted on front cabinet and to be connected with all PMA thyristor units via RS 485.
- ❖ On front unit is possible to read parameters, power, current, reference and alarms.
- ❖ One of these variables can be selected and retransmit via an isolated output (4-20mA or 0-10V)
- ❖ The PM-KP has connector to communicate with PC, in addition local/remote, up/down and function command.

Industry & Applications

Furnace heating : SQF,GCF, Melting, Holding, Sintering, Tempering, Hardening ,MBF,Rotary, Bogie Hearth, Vacuum Furnace.

Extruders, Plastic process, Tungsten Manufacturing, Winding CoatingM/C

Pipe trace heaters, Pre-heating equipments, Autoclaves

Regeneration Heating system and Gas heating Applications

Float glass, Automotive glass, Fiber Glass, Lamp Manufacturing
Lab equipment Manufacturing

Electrical Kilns, Tempering Ovens etc

Shrinkage Tunnel

Industrial diffusion, Drying, Curing Ovens, Paint drying,
Bio Diesel , Herbal Extraction, Food Processing.

Crystal Growing, High Temperature furnace, Autoclave, Curing process.



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