

PM 3000E

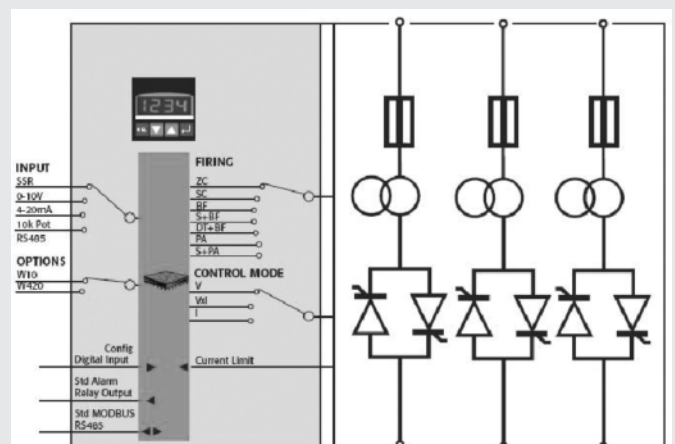
3 PHASE THYRISTOR POWER CONTROLLER

General Features

- ❖ PM3000E 3PH is a Full digital and universal Thyristor unit based on a very powerful dedicated microprocessor configurable via serial communication port for all inputs, firing modes, feedback modes and load types.
- ❖ Suitable to drive resistive, inductive, transformer and complex loads requiring current limit and power feedback.
- ❖ External Key Pad to control the unit and to read power, current and voltage value
- ❖ Universal Input signal with automatic zero/span calibration.
- ❖ Soft Start can be used in addition to Burst Firing.
- ❖ Built in RS 485 Modbus RTU interface
- ❖ Internal fuses
- ❖ Comply with EMC and CE
- ❖ IP20 Protection.
- ❖ Operating temperature 0 - 45°C For higher temperature use Derating curve
- ❖ Range 330V to 480V max and 600V on request,
- ❖ Auxiliary Voltage 90-265 VAC and 110V on request
- ❖ Analog Input Primary reference, 4-20mA ,0-10V, 10K Pot, Communication port,
- ❖ External Current Limit Set, analog input to set the current limit value: 0-10V
- ❖ One of these firing modes can be configured on line via serial port: Burst Firing (BF); Single Cycle (SC); Soft Start + Burst Firing (S+BF); Phase Angle + Soft Start (S+PA)
- ❖ Voltage (V), Current (I), Power (VxI) and External feedback,
- ❖ Microprocessor based circuitary to diagnose partial or total load failure and short circuit on Thyristors.



3 Phase Thyristor Power controller



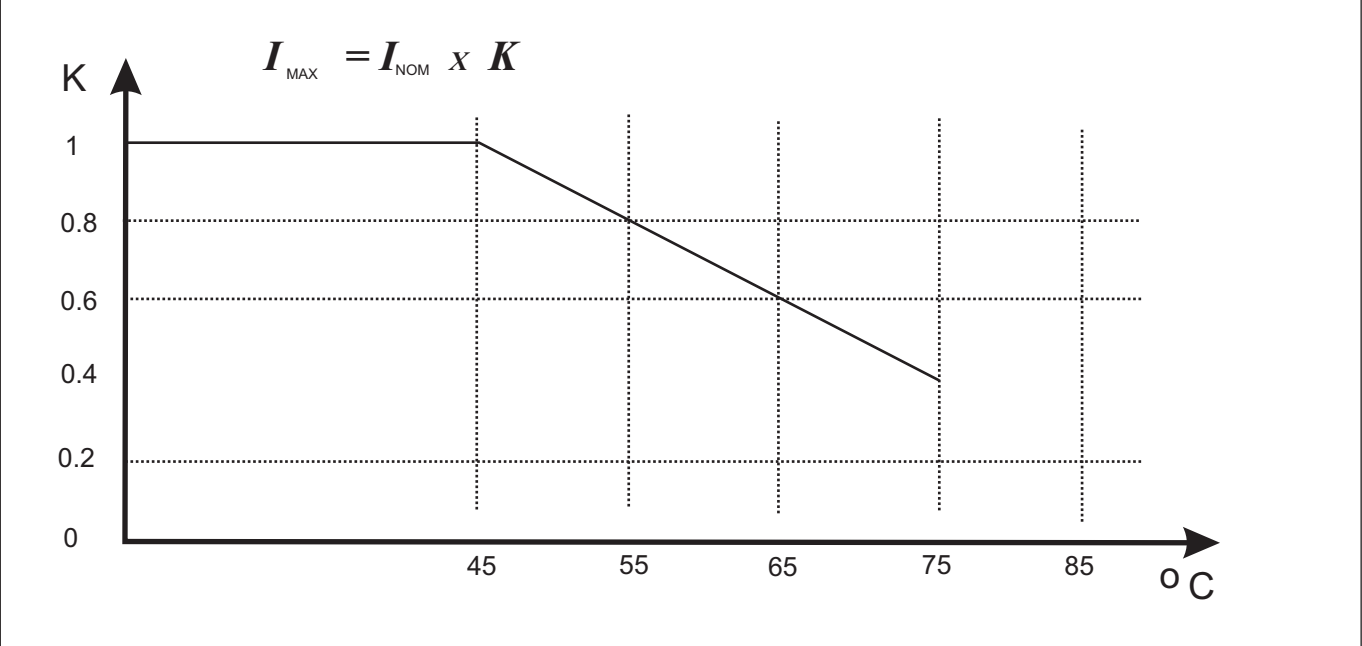
Worloegem's geregelf
close the loop with PMA



Specification - Technical data

Firing modes	PA	Phase angle	DT+BF	Delayed Triggering +Burst Firing			
	BF	Burst Firing	S+PA	Soft start+ Phase Angle			
	SC	Single cycle firing	S+BF	Soft Start + Burst Firing			
One of these firing modes can be configured on line via serial port or through front panel display							
Max. Rated voltage	480 V Range 330V to 480V max						
	600 V on Request 690 V Available on units * 400A						
Frequency	From 47 to 70 HZ						
Aux. Voltage Supply range	110 V, 230 V AC						
Current Ratings	25A	35A	45A	75A	100A	125A	150A
	225A	300A	350A	400A	450A	500A	
*Higher current ratings available on request							
Analog input – 1	0-10V DC , 4-20mA, 10K POT, Communication Command Via RS 485 Modbus 1-5V, 0-5 V, 0-20mA Available on request.						
Analog Input -2	External Current Limit Set, analog input to set the current limit value: 0-10V						
Analog output	One Analog output 0-10V, 0-20mA or 4-20mA, to be used as Re-transmitted of current, Voltage or Power						
Feed Back control Mode	Ex	External feedback (0-10V dc)					
	V	Voltage feed back					
	V ²	Voltage Square Feed back					
	Vxl	Power Feed Back					
	I	Current Feed Back					
Load type	Normal resistive ,3 Phase transformer Coupled with normal or cold resistance, IR Short wave form, IR medium and long						
Load Connection	Star without Neutral , Delta, Star with Neutral, Open Delta,						
Output	One Relay output for critical alarm 2 opto isolated digital output (12VDC)						
Digital input	4 Opto isolated digital Input (12/24VDC), for Start, stop, calibration and Reset Alarm						
Unit display (HMI)	Control Panel display visualizes the Alarm Status, Load Voltage, current, Power, %input Signal and internal LEDs						
System Interface	RS 485 Modbus RTU inbuilt & Profibus, other field bus protocols available as option.						
Protection	Inbuilt High rapid Semiconductor Fuse standard						
Current Limit	Current limit can be done through front panel display or external Analog input, or through RS485 Modbus						
Monitoring	Microprocessor based Circuitary to diagnose partial or total load failure and Short circuit on thyristors. Unbalanced load monitoring, Unit excess temperature monitoring on forced cooling units						

Configuration	Through Control Panel and using Configurator Software
Cooling Fan	230V AC ± 15% fan standard and 110V on request.
Operating temperature	0-45°C, for higher temperature please see below Derating curve



Mounting	Panel Mounting, IP 20 protection
-----------------	----------------------------------

Dimensions (in mm)

Current Rating	W	H	D	Current Rating	W	H	D	Current Rating	W	H	D
25A	116	316	187	125A	137	440	270	400A	262	520	270
35A	116	316	187	150A	137	440	270	450A	262	520	270
45A	116	316	187	225A	262	440	270	500A	262	520	270
75A	116	316	187	300A	262	520	270				
100A	137	440	270	350A	262	520	270				

Peak reverse voltage	1600V for 480V & 600V rating
Isolation voltage	2500 V AC

Power Loss	I = I nom (W)
Unit	Power Loss in watts
25 A	90
35A	126
45A	162
75A	270
100A	360
125 A	450
150 A	540
225A	810
300A	1080
350A	1260
400A	1440
450A	1620
500A	1800

Industry & Applications

Automobile

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

Plant Equipments

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

Chemical

Pipe trace heaters, Pre-heating equipments, Autoclaves

Oil & Gas

Regeneration Heating system and Gas heating Applications

Glass Processing

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

Ceramics

Electrical Kilns, Tempering Ovens etc

Packaging

Shrinkage Tunnel

Other industries

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

Research & Development

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



Germany

PMA

Prozeß- und Maschinen-Automation GmbH
Miramstraße 87 · D-34123 Kassel/ Germany
Tel. +49 (0) 561 / 505 - 1307 · Fax –1661

India

PMA Controls India Ltd,

4th Floor Ceebros Arcade,
SP road, Adyar / Chennai- 20
Tel: +91(0) 44- 24430659
Mobile : 9444969444
info@pmacontrols.in