TRYSTAR®

P5500 Series

DC Rectifiers

- Continuous duty rated c/w O/P voltage and current adjustment
- Safety focused & water room cabinet design
- 6 X SCR bridge with complete I/O isolation
- CE safety & EMC standards tested
- Listed to UL1012 Approved to CSA C22.2-107.1
- Optional Modbus RTU-RS232/485 ports
- Built to ISO 9000 QA standards

15765 Acorn Trail / Faribault, MN 55021 / 507.333.3990

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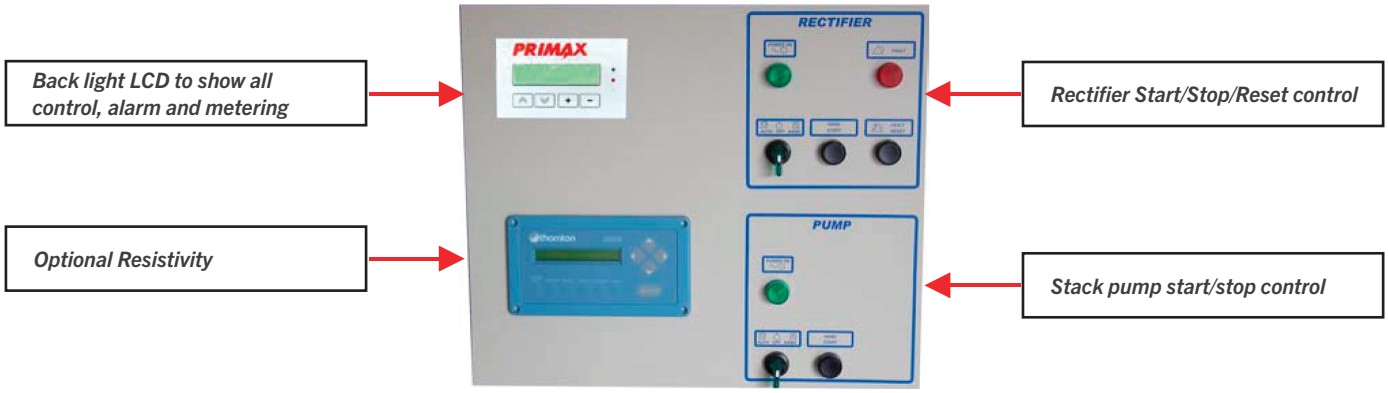
Control Display :



Trystar P5500 Rectifiers / DC Power Supplies are designed to suit all EDI applications. Voltages from 2 Volts up to 600 Volts with currents up to 1000 Amps are available in a compact and modular configurations. Optional remote control via RS232/485 ports provides full unit parameters reading and control from remote locations.

Regulated SCR units have inherent current limit and voltage regulation circuits to provide you with controlled power and improved performance.

Higher currents and power factor can be achieved by using multi-phase configurations. That reduces harmonics, losses and semiconductors size.

Metering & control

Standard Features

Metering:

- 0.5%RMS +/- 1 digit, digital ammeter and voltmeter

Safety:

- Main AC breaker with door interlock
- Emergency start/ stop pushbutton and contactor
- Remote shut-down
- Transformer over-temperature shutdown
- Rectifier over-temperature shutdown

Control and adjustments:

- Remote start/stop with 24VDC signal provided by User's control panel
- Automatic / Off / Manual switch
- Current control via the keyboard
- Voltage regulation via the keyboard
- Fault reset button

Distribution:

- 1 pole/stack feeder fuses /stack

Local indications and lamps (IEC):

- AC power On green light
- DC power On green light
- Fault red light
- High rectifier temperature
- Rectifier shut down

Remote annunciation voltage free (dry) contacts:

- Auto Mode
- AC input contactor status
- DC output status

Partial option list

- Non-standard input voltage
- Extra output filtering
- Main DC output circuit breaker
- RS 232 / 485 communication ports with Modbus/RTU
- Individual stack current monitoring & regulating
- I/P Voltage, current & frequency monitoring c/w High/low alarm and shutdown unit
- Analog meters
- Power factor correction to 0.90 lagging
- 3 ph-575V-AC rated Water pump contactor(s) c/w overload relay rated, auxiliary dry contact and fuse protection activated with 24VDC signal provided by User's control panel
- Remote Start/Stop with AC voltages provided by User's control panel
- Special NEMA / IP protection
- Personalized mimic diagram (self adhesive Lexan)
- Special wiring and corrosion inhibitor
- Tropicalization and Fungus proofing
- Special paint

Standard Electrical Specifications:

Basic design features	100% continuous duty: 24 hour a day at full output voltage. Output de-rating must be applied for lower O/P voltage operation (refer to the de-rating table in application notes)
	UL/ANSI 1012 Listed, CSA C22.2 107.1 Certified and applicable IEC standard compliant
	ISO 9002-1994 Quality control compliant
	3 phase SCR (Thyristor) based rectifier c/w double wound isolation transformer
	Electronic control, current limiting and voltage regulation
	Modular construction using the latest power and microelectronic devices
	Color coded PVC copper stranded wire for control and signals
	30 year design, MTBF of 300 000 hours typical, MTTR less than 1 hour

Input:	
Voltages	380-400-480VAC
Phases	3 phase
Frequency	50-60Hz
Power factor	0.75 Typical
Efficiency at full load	> 92% Typical

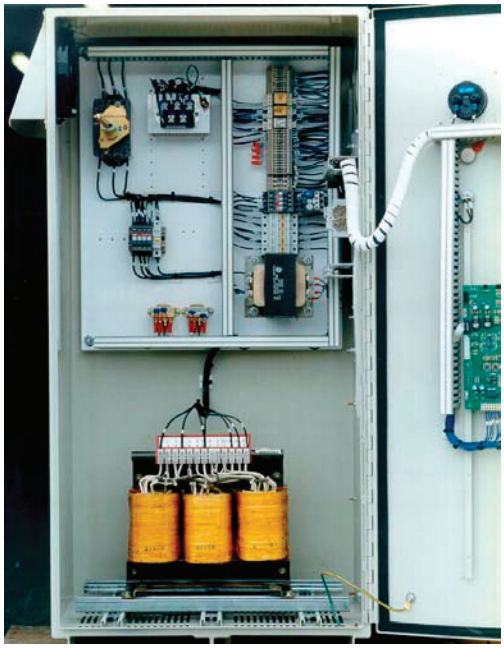
Output:	
Available nominal voltages	100 – 200 – 300 – 400 – 500 & 600VDC.
Available Power	200 kVA++
AC ripple voltage	6% at rated output and low input mains
Static regulation	< +/-1%RMS
Emc*	Conducted (150kHz-30mHz) and radiated (30MHz-1GHz): en55011 class A
	Electrostatic discharge EN61000 4-2 level 2/3 (4kV contact, 8kV air)
	Radiated susceptibility: EN61000-4-3 level 3 annex D (80MHz- 1GHz @ 10V/m)
	Electrical fast transient: EN61000-4-4 level 3 (2kV)
	Surge immunity: EN61000-4-5 level 3 (1kV l/l, 2 kV L/GND)
	Conducted susceptibility: EN61000-4-6 level 3 (150kHz to 80mHz, 10v)
* CE marked units only	Voltage interrupt: EN61000-4-11 (30,60&90%- 10-10&5000 ms)

Protection:	
Over-current	Automatic current limiting circuit, adjustable from 0% to 100% of nominal rating
	Input thermal-magnetic circuit breaker
	UL rated 600VDC rated output fuse
	UL rated 600VDC rated distribution fuses (1 per stack)
Remote/local ON/OFF	Via 3 phase input contactor
Over-temperature (AC input disconnect)	SCR overheat
	Power transformer internal windings overheat
Voltage transients	Surge suppression on input and output

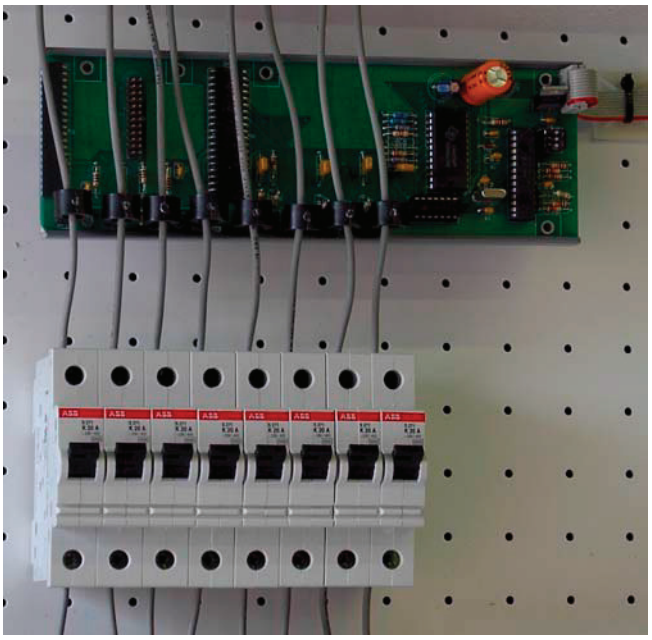
Power transformer features:	
	Low flux density
	Splice free copper windings
	220 degree Celsius insulation
	115 degree Celsius temperature rise
	Vacuum Pressure impregnation with high temperature thermosetting varnish (VPI)
	BIL of 10kV
	Thermal overload device in each coil

Mechanical and physical:	
Enclosure	CEMA/NEMA3R (IP33), 14GA (2mm) steel C/W hinged front access door
Finish	Standard powder baked RAL7032, light beige
Cooling	Forced air convection cooling N.B. Floor mounted models are provided with 3 in. (75mm) clearance at bottom to facilitate handling by lift truck, pallet truck or slings

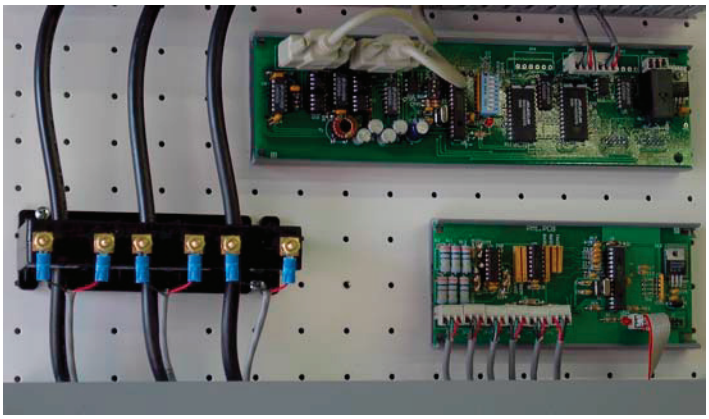
Environmental	
Audible noise	45 to 65 dBa at 3ft (1 meter) rating dependant
Operating temperature range	0°C to 40°C / Storage -40°C to 85°C
Temperature de-rating	0.83% / °F from 122°F to 140°F (1.5% / °C from 50°C to 60°C)
Operating humidity	Up to 95% (non condensing)
Altitude de-rating	0% for 1st 3300ft (1000m), 7% per 3300ft (1000m) over 3300ft (1000m)



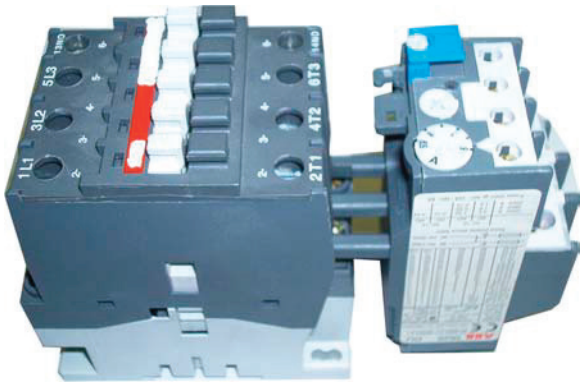
Structured Wiring in channels and modular components for easy access and service



Individual stack current metering unit c/w overcurrent protection



AC current metering unit and RS232/485 port with Modbus*/RTU protocol



Optional 575V rated pump contactor c/w thermal relay

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