

TITANIUM ECO 1R-CH

DC POWER SUPPLY SYSTEMS

SINGLE BRANCH Rectifier - IGBT type



TITANIUM ECO 1R-CH rectifier series belongs to the Single Branch category thus provided with a single AC / DC converter that powers the direct current loads and simultaneously charges a battery. They are only available in the version with rack 19" cabinet, combined with vented/sealed Lead Acid and Ni/Cd batteries. An input insulation transformer is present while the AC / DC power converter is of the rack 19" removable type and made with Chopper IGBT technology, step down, in order to improve the efficiency and contain the ripple at the output. In this way the MTBF is high and MTTR extremely low.

PRODUCT PLUS

- An input insulation transformer at power frequency, with an electrostatic shield
- Bridge rectifier Chopper **IGBT ON REMOVABLE UNITS RACK 19"** with connector
- Control type: High Frequency PWM
- Digital control Microprocessor
- Charge curve for each type of battery
- Digital control panel with backlit alphanumeric display
- High efficiency and reliability
- Easy maintenance with access from the front and removable power units
- Extended frequency range accepted as input
- Low residual ripple as output and on batteries (RIPPLE)
- Automatic and manual battery test for performing a true discharge battery test (Optional)
- Earth fault sensor with POLE+ and POLE- LED indications (optional)
- Field Bus communication available with various protocols (optional)
- Parallel connection ability for redundancy (optional)

APPLICATIONS

- Oil & Gas
- Energy production and distribution
- Process controls
- Transportation
- Safety
- Telecommunications

DATA SHEET

MODEL	TITANIUM ECO 1R-CH		
GENERAL	BATTERY TYPE	Suitable for Sealed (VRLA) Lead Acid - Vented Lead Acid - Ni/Cd	
	CHARGING CHARACTERISTICS	IU (according to DIN 41773)	
OUTPUT	NOMINAL VOLTAGE (V)	24	48 110
	CURRENT RANGE	10 ÷ 60 A	
	MAXIMUM POWER (W)	1440	2880 6600
	RIPPLE NOISE (RMS)	≤ 0.5% Vn	
	Vout SETTING RANGE	+/- 5%	
	STABILITY	+/- 1%	
	Vin VARIATION SETTING	+/- 1%	
	LOAD VARIATION SETTING	+/- 1%	
	START-UP TIME	2 sec.	
INPUT	VOLTAGE RANGE	1Ph 230Vac +/- 10% or 3Ph 400Vac +/- 10%	
	INPUT FREQUENCY	50 ÷ 60 +/- 7%	
	EFFICIENCY (Typ.)	≥ 90 %	
	I/O INSULATION	4kV BY TRANSFORMER	
PROTECTIONS	INPUT	MCB	
	BATTERY	Fuses	
	OVERLOAD	2In x 5ms	Shut down duration: 250mS - Automatic restart
	CURRENT CURVE	COSTANT	
	OVERVOLTAGE	+ 10% Vn	
	UNDERVOLTAGE	- 50% Vn	
	OVERTEMPERATURE	Shut down; automatic restart after temperature reset	
SPDT ALARMS 8Amp/250Vac	MAINS FAILURE		
	GENERAL FAILURE		
	BATTERY LOW VOLTAGE		
ENVIRONMENTAL DATA	OPERATING TEMPERATURE	-10+40°C	
	OPERATING HUMIDITY	2090% (NO COND.)	
	STORAGE TEMPERATURE	-20+50°C	
STANDARDS	MARKING	CE	
	DEGREE OF PROTECTION	IEC 60529	
	EMC	EN 61000-6-2 EN 61000-6-4	
	STATIC CONVERTERS	EN 60146-1-2	
DEGREE OF PROTECTION (closed door)		IP30	
COLOUR		RAL 7035	

* = Relay normally operating in positive safety

LED INDICATORS

- SYSTEM OK (GREEN)
- SYSTEM FAILURE (RED)

DISPLAY MESSAGES

- RECTIFIERS ON
- BOOST CHARGE (OPT.)
- MANUAL CHARGE (OPT.)
- OVERLOAD
- RECTIFIERS MAX VOUT
- BATTERY DISCHARGING
- BATTERY LOW
- END OF BATTERY AUTONOMY



ELECTRICAL MEASURES ON LCD

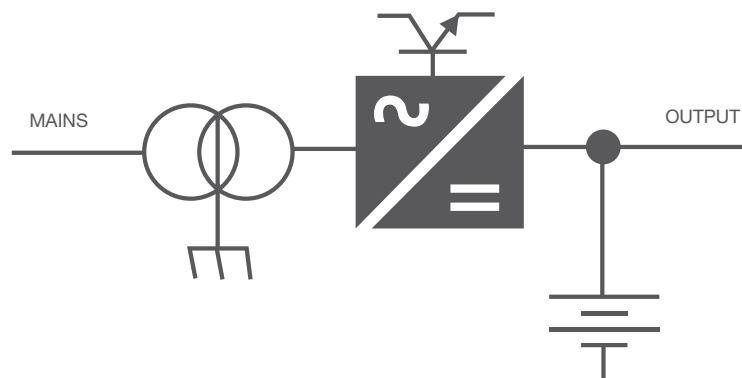
- OUTPUT VOLTAGE
- OUTPUT CURRENT

MULTIPURPOSE BUTTON

- BUZZER OFF

REMOVABLE AC/DC CONVERTERS

Rack 19" removable AC/DC converters, using polarized connectors in order to simplify the replacement in case of failure (very short MTTR)



SINGLE-LINE DIAGRAM

AVAILABLE ACCESSORIES (OPTIONAL):

- Automatic circuit breaker on input, output and battery (with or without auxiliary contact and/or opening coil)
- UP board for BOOST CHARGE and MANUAL functions
- UP board for Compensation in temperature function automatically adjusting the charging voltage to the battery temperature + Temperature probe
- BRPCU device; protection against reverse battery polarity. It may be associated with an automatic battery circuit breaker with automatic opening
- Disconnection device for battery discharge end; disconnects the load from the battery to prevent a battery deep discharge and makes the equipment compliant with CEI 0-16 standard
- Automatic and manual battery test for performing a true discharge battery test
- Earth fault sensor with POLE+ and POLE- LED indications
- Parallel connection ability for redundancy
- E.P.O. Device (Emergency Power Off)
- Field Bus communication interface available with different protocols allowing the status transmission
- Distribution; circuit breakers for output line protection.



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