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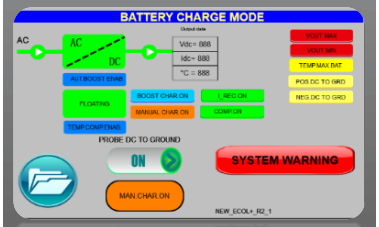
DC UPS – PLATINUM PL4.0E

These devices are the result of careful research and development carried out by our company, aimed at obtaining maximum reliability and the best performance in the field of DC emergency power supply systems.
The improvements we have made now allow us to offer a single system that can be offered in different electrical configurations, all with IGBT (CHOPPER) or THYRISTORS conversion technology depending on the currents required:

Single branch - code **1R** (IGBT or THY)
Double branch - code **2R** (one input transformer for each AC/DC module)
Double branch - code **2R1T** (a single input transformer for both AC/DC modules)
Parallel double branch - code **2RP** (one input transformer to each AC/DC module)
Double parallel branch - code **2RP1T** (a single input transformer for both AC/DC modules)
Battery charger - code **CB**

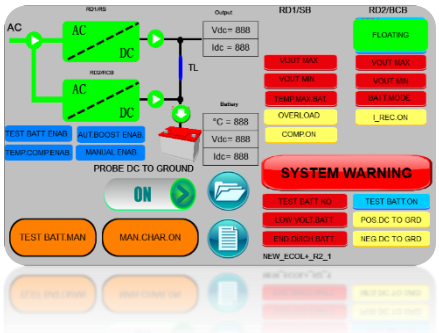


The **SYSTEM CONTROL** is based on an industrial **PLC**, which is therefore characterized by very high reliability, and allows a greater number of technical requirements and consequent applications to be met. This section, which constitutes the 'intelligent' heart of our system, is connected to the AC/DC power units, which recognize the loss of communication with the PLC and set themselves up in **'AUTOMATIC SAVE MODE'** working independently and guaranteeing continuity of operation.
Once the connection is re-established, the AC/DC units will operate again under the automatic control of the PLC, resuming normal and complete operation.

The HMI (Human Machine Interface) system features a 7" resistive touch panel with excellent visibility and mechanical resistance to wear.

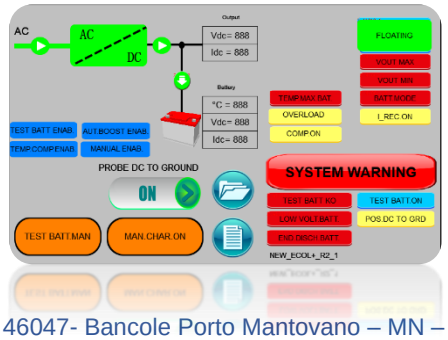
MAIN FEATURES

- Power element: IGBT or THY depending on power
- Insulating transformer on AC input line complete with electrostatic screen between primary and secondary
- System control with industrial PLC
- 7” touchscreen color panel
- High MTBF and low MTTR
- Easy maintenance with access from the front
- Low % ripple at output and batteries



- **FIELD of APPLICATION**

- Oil & Gas (Petrochemical, offshore, pipeline)
- Power generation (Power plant, hydropower, transmission, distribution, utilities)
- Transport (Airport, naval, railway)
- Process control (mining industry, steelwork, paper production, etc.)
- Desalination and water treatment plant



MTS ELETTRONICA Srl – Via Bachelet 70/72 – 46047- Bancole Porto Mantovano – MN – Italy
Tel. +39.0376392608 Internet: www.mtselettronica.it email: info@multiservice-mn.it
P.iva: 01781600208

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GENERAL TECHINICAL SPECIFICATIONS

ELECTRICAL DATA								
		IGBT			**THY**			
DC output voltage		24	48	110	24	48	110	220
AC Incoming voltage	**1 Ph 230 Vac ± 10%**	√	√	√	**NOT AVAILABLE**			
	3 Ph 400 Vac ± 10%	√	√	√	√	√	√	
Incoming frequency		50 ÷ 60 Hz ± 5%						
Incoming s/c current		≤ 10KA RMS (with nominal VAC - ref.CEI EN 60947-2)						
Incoming current distortion	**THD**	≤ 27 (with nominal load)						
Incoming power factor		≥ 0.80 (with nominal voltage , 100% load)						
I/O insulation		4kV WITH INPUT TRANSFORMER						
OUTPUT DATA								
Ouput current (IGBT)		**Incoming feeding 1 Ph**			**Incoming feeding 3 Ph**			
	Config.1R	10÷60 Amp			10÷100 Amp			
	Config.2R – 2R1T	10÷60 Amp			10÷100 Amp			
	Config.2RP – 2RP1T	10÷60 Amp			10÷100 Amp			
	Config.CB	10÷60 Amp			10÷100Amp			
Output current (THY)					**Incoming feeding 3 Ph**			
	DC output voltage				24	48	110	220
	Config.1R				10 – 500 Amp			10 – 250 Amp
	Config.2R				10 – 500 Amp			10 – 250 Amp
	Config.2RP				10 – 500 Amp			10 – 250 Amp
	Config.CB				10 – 500 Amp			10 – 250 Amp
Battery voltage	**Floating** (HMI adj)	2,27 V/cell for VRLA battery type 2,2 ÷ 2,3 V/cell for VLA battery type 1,4 ÷ 1,5 V/cell for Ni-Cd battery type						
	Boost (optional) (HMI adj)	2,4 ÷ 2,45V/cell for VLA battery type 1,5 ÷ 1,65 V/cell for Ni-Cd battery type						
	Manual (optional) (HMI adj)	2,35 V/cell for VRLA battery type 2,7 V/cell for VLA battery type 1,7 V/cell for Ni-Cd battery type						
Battery current recharge	(HMI adj)	1 ÷ In Amp (Note 2)						
Current curve		COSTANT						
Output voltage stability		1%						
Output volt.stab.ref.to Main input variation		1%						
Output volt.stab.ref.to Load variation		1%						
Output ripple	**RMS**	1%						
OUTPUT OVERLOAD	(without)	100% In (Note 1) or 2 In x 5 mS			100% In (Note 1) <120% per 20 min (Note1 1a) >150% per 5sec (Note1 1a)			
AMBIENT DATA								
Noise level	**Ref. EN50091**	< 60 dBA (typical value with forced ventilation in operation)						
EMI		EN 61000-6-2 - EN 61000-6-4						
Operating temperature standard	**°C**	-10..... +40						
Storage temperature	**°C**	-20.....+70						
Relative humidity	**Without condense**	< 95%						
Ventilation (on the power module AC/DC)		Electronic speed control according to the current delivered			NATURAL / FORCED as a function of power output			
Altitude	**Mt.s.l.**	< 1000 (de - rating ref. EN62040-3)						
MECHANICAL DATA								
External degree of protection	**Ref. IEC 60529**	IP 31 standard						
Internal degree of protection	**Ref. IEC 60529**	IP 20 with main door open and additional guards engaged						
Color		RAL 7035 structure RAL 7012 roof and base						
Dimensions (w*d*h) mm		In function of the Iout / Autonomy						
IN/OUT cables connection		From the front with cable entry from below						
Transport		Base for handling with pallet trucks						
Installation		Floor standing						
Accessibility		Front						
PROTECTIONS								
Incoming		See TAB.1						
Output		See TAB.1						
Battery		See TAB.1						
Generals		Vout > / Vout< / Maximum temperature / Icc / Incorrect input cyclic direction						

More details can be found in the technical document initialed STC22-00.

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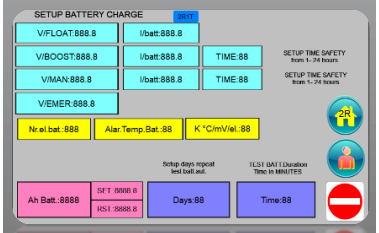

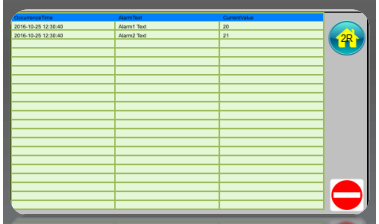

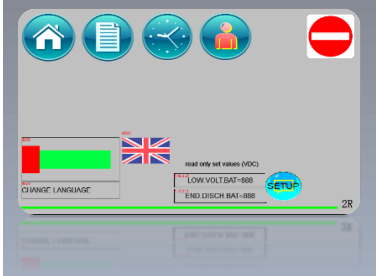

Tab.1 Standard set	1R	2R	2R1T	2RP	2RP1T	CB
MCB on AC input	x	-	-	-	-	x
Disconnector and fuses on AC input	-	x	-	x	-	-
Disconnector on DC output	x	x	x	x	x	x
MCB and fuses on AC input	-	-	x	-	x	-
Batteries fuses	x	x	x	x	x	-
Floating charge	x	x	x	x	x	x
Probe of DC polarity to ground	x	x	x	x	x	x
Temperature compensation	x	x	x	x	x	x
Automatic/Manual Test	x	x	x	x	x	-
Relay alarms	x	x	x	x	x	x
Colour 7" Touch HMI	x	x	x	x	x	x
MODBUS RS485 RTU	x	x	x	x	x	x
Alarms log	x	x	x	x	x	x
Configuration menu protected by password	x	x	x	x	x	x
System software updates from remote	x	x	x	x	x	x
Multiple languages HMI (ITA / ENG / FRA)	x	x	x	x	x	x
Frequency and duration of Automatic batteries test configurable from HMI	x	x	x	x	x	-
Correction factor K/°C/el for batteries temperature compensation configurable from HMI	x	x	x	x	x	x
Measure and alarms on HMI						
DC output voltage – Load	x	x	x	x	x	-
DC output current – Load	x	x	x	x	x	-
DC voltage – Batteries	x	x	x	x	x	x
DC current- Batteries	x	x	x	x	x	x
Temperature - Batteries	x	x	x	x	x	x
Reporting on HMI						
AC input line ON/OFF	x	x	x	x	x	x
AC/DC – RS/RD1- ON/OFF		x	x	x	x	
AC/DC – RCB/RD2- ON/OFF	x	x	x	x	x	x
RS/RD1- High output voltage	-	x	x	x	x	-
RS/RD1- Low output voltage	-	x	x	x	x	-
RCB/RD2- High output voltage	x	x	x	x	x	x
RCB/RD2- Low output voltage	x	x	x	x	x	x
RCB/RD2- Floating Charge	x	x	x	x	x	x
RCB/RD2- Boost Charge	x	x	x	x	x	x
RCB/RD2- Manual Charge	x	x	x	x	x	x
Recharge current limitation ongoing	x	x	x	x	x	x
Temperature compensation ongoing	x	x	x	x	x	x
Batteries maximum temperature	x	x	x	x	x	x
Positive DC pole to ground	x	x	x	x	x	x
Negative DC pole to ground	x	x	x	x	x	x
Overload at the output	x	x	x	x	x	-
Batteries test ongoing	x	x	x	x	x	-
Batteries test failed	x	x	x	x	x	-
System operating from batteries	x	x	x	x	x	-
Low batteries voltage	x	x	x	x	x	-
Batteries end of discharge	x	x	x	x	x	-
Normally operating system	x	x	x	x	x	-
System general fault	x	x	x	x	x	-
DC output MCB status	x	x	x	x	x	-
Relay alarms						
Mains ac input	x	x	x	x	x	x
General fault (cumulative of states)	x	x	x	x	x	x
Low voltage battery	x	x	x	x	x	-
DC to earth (cumulative +/-)	x	x	x	x	x	-

Cod.	Description – OPTION AVAILABLE	1R	2R	2RT1	2RP	2RT1	CB
20.100PLE	Circuit breaker on batteries	x	x	x	x	x	x
20.101PLE	Circuit breaker on output	x	x	x	x	x	x
20.102PLE	Battery end-of-discharge contactor-LVBD	x	x	x	x	x	-
20.103PLE	Timed power reserve - CEI 0-16	x	x	x	x	x	-
20.104PLE	Reverse polarity check on batteries BRPCU	x	x	x	x	x	x
20.105PLE	Blocking diode on DC output	x	x	x	x	x	x
20.106PLE	Output distribution	x	x	x	x	x	-
20.107PLE	Boost charge function	x	x	x	x	x	x
20.108PLE	Manual charge function	x	x	x	x	x	x
20.109PLE	Temperature compensation	x	x	x	x	x	x
20.110PLE	Twelve-phase configuration for THY technology systems only	x	x	-	x	-	x

X = optional
X = standard
- = not present

MTS ELETTRONICA Srl – Via Bachelet 70/72 – 46047- Bancole Porto Mantovano – MN – Italy
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P.iva: 01781600208