SOCCORRITORI IN CORRENTE ALTERNATA

The devices of this series are the result of a long experience in the field of CENTRAL POWER SUPPLY SYSTEM as well as in this specific.

The on-line double conversion technology, ensures complete protection of users from disturbances and perturbations of the mains: thus these units are designed to supply emergency lighting systems and privileged users.

PRINCIPLES OF WORKING

The loads can be divided into two types:

1) Users always powered (SA). the users are always fed both in the presence and absence of the mains.
2) Users powered emergency service only (SE). the users are fed only in the absence of the mains.

- Operation as UPS (ON LINE). with the mains, the SA users are fed from the inverter (voltage stabilized and filtered), in mains failure condition, the inverter feeds both SA and SE users.
- Operation as an Emergency Device (OFF LINE). To reduce power consumption, an alternative mode is the following way: in the presence of the mains the load is supplied by the mains (filtered), in mains failure condition, the inverter feeds both SA and SE users.

In both previous cases, it is possible to control the power to the SE load with an external contact.

PRODUCT RANGE

The ELIT Central Power Supply System are available in two families:
NS KING SA SE: single-phase / single phase 6kVA, 8kVA, 10kVA and 12kVA.
TPH KING SA SE: Three phase / three phase 10KVA, 15kVA, 20kVA, 25kVA, 30kVA, 40kVA and 50kVA.
Back up times available for both series: from 10 minutes to several hours.
All devices mounted sealed batteries of Canadian or European brand, 10 years life design.

CONTROL PANEL

The entire operation of the Central Power Supply System is managed through the control panel on the front of the apparatus. Through the LCD and the touch of a few buttons, the user can define the mode of operation of the apparatus (operation "ON LINE" / "OFF LINE"), test the batteries, reset the alarm circuits, take measurements battery voltage, output voltage / input applied load, etc., and furthermore the occurrence of an alarm condition is signaled by the apparatus through the red light "ALARM" and activating the alarm buzzer.

Power Management Display (PMD)

The 2x20 character LCD simplifies the communication with the Central Power Supply System and provides the necessary monitoring information about the GS KING. The menu driven LCD enables the access to the:

- Event register.
- Monitor the input and output V, I, f, P.
- Battery runtime.
- Start up and shutdown of CENTRAL POWER SUPPLY SYSTEM.
- ON LINE – OFF LINE modality settable.
- Diagnosis (Service Mode).
- Adjustments and testing.
-

LED indicators

The mimic diagram serves to indicate the general status of the GS KING. The LED indicators show the power flow status and in the event of mains failure and load transfer from inverter to by-pass and vice-versa. The corresponding LED indicators will change colors from green (normal) to red (warning).

Keys

The keys allow the user to operate the GS KING to perform settings and adjustments, to start up and shut down the Central Power Supply System, to monitor on the LCD display the voltages, currents, frequencies and other values.

INTERFACES

The TPH KING is provided with two standard interfaces:

- Serial RS232.
- Base dry contacts.

Standard serial RS 232

The smart port is an intelligent RS232 serial port that allows the Central Power Supply System to a computer. The connector is a standard D-Type, 9 pin, female.
The software optionally allows the computer to monitor the mains voltage and the GS KING status continuously.

Standard dry port (volt-free contacts)

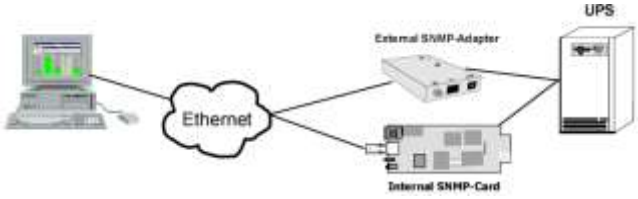
The base dry port may be used for:
Emergency Power Off (NC), GEN-ON (NC), Programmable Customer's Inputs, Temp. Sensor for Battery Control and 12 Vdc source (max. 200 mA).

The Central Power Supply System GS KING is provided with the following accessory cards:

Optional relay card for:
Common alarm, Load to bypass/Load to inverter No & NC, Battery load/battery ok, Mains failure/Mains present.

USB port for remote signaling and automatic computer shutdown

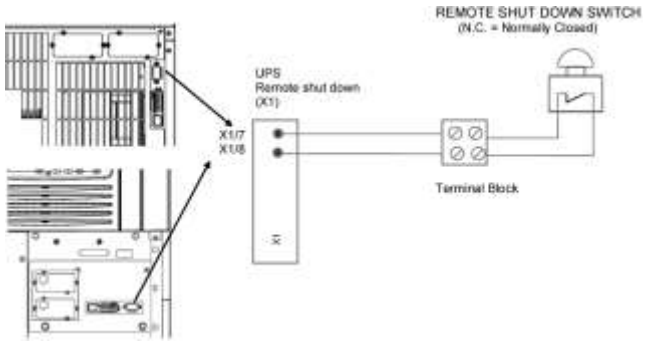
SNMP card for monitoring and integration in network management. The Simple Network Management Protocol (SNMP) is a worldwide-standardized communication-protocol. It is used to monitor any device in the network via simple control language.



EMERGENCY POWER OFF

The Emergency Power Off facility must use a normally closed contact, which opens to operate the emergency stop sequence. The Emergency Power Off port is located at the front or at the back of the GS KING Central Power Supply System, according to the model.
In order to allow removal, maintenance or testing of any remote emergency stop facility without disturbing the normal operation of the GS KING, it is recommended that a terminal block, with linking facilities, be installed between the S KING of wire 0.5mm2) and maximum length of 100m.

1. Connect the cable as shown in figure.



INSULATION TRANSFORMER

The GS KING Central Power Supply System device can be provided with an external insulation transformer with shield among windings, insulation level 1.1 / 3x60 sec KV, insulation class F or H.

	NS KING SA SE	TPH KING SA SE
INPUT		
Nominal voltage	230V 1F	400V 3F+N
Voltage tolerance	184V ÷ 264V	280V ÷ 450V
Frequency	50Hz ± 4%	50Hz ± 4%
Power factor	> 0.95	> 0.99
Current distortion THiD	< 10%	< 3%
OUTPUT		
Power factor	0.8	0.9
Nominal voltage	230V ± 1%	400V ± 1%
Nominal frequency	50Hz ± 1%	50Hz ± 1%
Waveform	Sinusoidal	Sinusoidal
Voltage distortion THD	1.5%	1.5%
Overload	125% for 10 minutes 150% for 1 minute	
Transfer time in ON LINE mode	Zero	
Transfer time in OFF LINE mode	10 ms	
Crest factor	3 : 1	
BATTERY		
Type	Valve-regulated lead–acid battery	
Life design	10 years	
Charging Curve	IU (DIN 41773)	
Recharge time	8 hrs	
MISCELLANEOUS		
Efficiency at nominal load	92%	> 93%
Working temperature	0 ÷ 40°C	
Humidity @ 40°C	95% without condensing	
Noise at full load	from 50dBA to 62dBA	
Neutral	Floating except with insulation option	
LCD display	input/output measurement V, I, f, P – alarms and power history	
Block diagram with LED conditions	Standard	
Commands	ON LINE / OFF LINE battery test start/stop push buttons	
EPO (Emergency Power Off)	Standard	
STANDARDS		
Safety	EN 62040-1	
Performance	EN 62040-3	
Central Power Supply System	EN 50171	