Standby Power Systems
Dialog CSS



RIELLO UPS uninterruptible power supplies are also designed and built for use in applications such as central supply systems for emergency lighting, security alarms and electro-medical equipment.
The CEI 64-8 V2, EN 50171 standards and other guidelines set down the characteristics and performance levels required from such systems. The main ones are summarised below:

- Up to 3 h back-up times
- Battery recharge time of under 12 h
- Galvanically isolated input/output
- High-level diagnostics - preferably from a front mimic panel
- Remote interface - normally volt-free contacts
- High short circuit current capability

The applications require a continuous power system configured as follows:

- A standard UPS with high capacity battery charger
- An isolation transformer option
- A remote interface to communicate with other peripherals

Dialog CSS configurations

MODEL	DIALOG PLUS	DIALOG DUAL	POWER DIALOG PLUS	MULTI DIALOG
Back-up times of up to 3 hours				
POWER LOADS OF POWER UP TO	1600 W	2000 W	3000 W	30,000 W
Back-up times of up to 1 hour				
POWER LOADS OF POWER UP TO	2100 W	3500 W	7000 W	64,000 W

Characteristics

- Full microprocessor control: for greater reliability and compactness in size
- Use of Insulated Gate Bipolar Transistors (IGBT) technology - used in UPS for over 10 years to optimise performance (such as overloads) and reduce physical sizes
- Advanced communication interface - the units come with a volt-free contact interface and RS232/485 serial interface for communication with a local PC or computer network
- TeleNetGuard remote support service compatible for remote diagnostics and control
- Front panel LCD to display operating status, alarms, measurements and logs
- Option to expand the power and/or reliability through the parallel connection of units - 8kVA models and higher

Options

- Communication interfaces: see accessories table for individual models
- Isolation transformers

Advanced communication

- Advanced, multi-platform communication for all operating systems and network environments: PowerShield^3 monitoring and shut-down software included, with SNMP agent, for Windows 9x, ME, NT 4.0, 2000, XP, Vista and 2003 server; Mac OS X, Linux, Novell and most popular Unix operating systems

Compliance with Legislation

The Dialog CSS range complies with the relevant European regulations (and national guidelines still in force in some countries) governing such applications.

A full range of CSS units, from 700VA to 200kVA

The Dialog CSS range units are comprised of the following blocks:

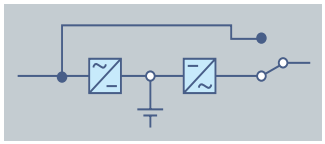
Rectifier: converts the alternating voltage input from the mains power supply or from an alternative source (generator) into direct current voltage.

Inverter: converts the direct current voltage supplied by the rectifier into alternating voltage: in this way the voltage is reconstructed, filtered and stabilised with regard to the input voltage.

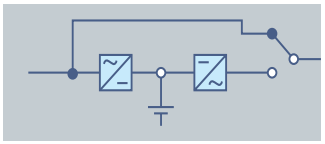
By-pass: this allows switching between the inverter and the mains power supply. In “always powered” operating mode the CSS load is always powered from the inverter and is only switched onto the mains via the by-pass circuit in the event of a failure. In “powered from the mains” mode, the load is powered and only switched onto the inverter when there is no power from the mains. In “emergency only” mode the load is only powered from the inverter in the event of a mains power failure.
To deal with switch-on current surges, the inverter has a soft-start feature to limit the current supplied when required. In “always powered/emergency only” two outputs can be used: one always powered (such as for powering computer loads) and one that is only powered when there is no power from the mains (such as for powering emergency lights that by law must switch on within a maximum time of 0.5 seconds from a mains failure).

Batteries: used to feed the inverter output for the legally required time of 3 hours (if there is no generator). The batteries used are generally valve-regulated, lead-acid type, and do not require maintenance or a special installation room as they have very low gas emissions.

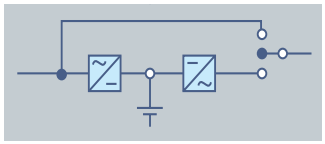
Diagrams of the various system solutions



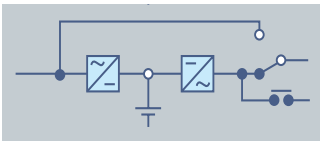
1. ALWAYS POWERED



2. POWERED FROM THE MAINS



3. EMERGENCY ONLY



4. ALWAYS POWERED/EMERGENCY ONLY