Technical Datasheet
C-*TEC* 2403 USB

J. Schneider Elektrotechnik

DC-UPS
NCPA0727G20001

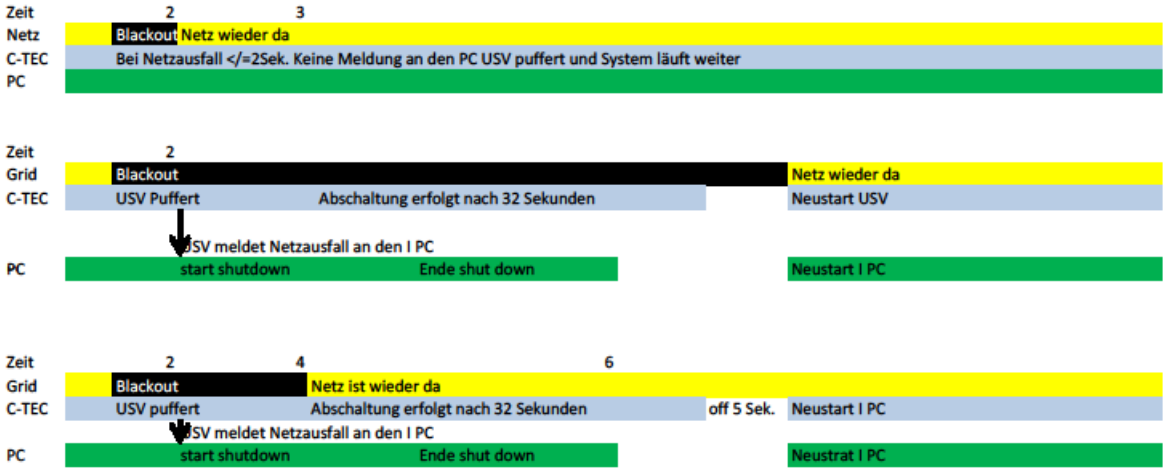
1 Short description

The buffered DC power supply of the **C**-*TEC* series includes ultra-capacitors as energy storage inside the housing. During normal operation this capacitor is charged from the system voltage (Ue). The connected DC consumers are supplied as well from the system voltage. In case of an interruption of the system voltage, the energy of the ultra-capacitor is released regulated. With a dc/dc converter the load is supplied from the capacitor until it is discharged. The backup time depends on the state of charge of the capacitor and the discharge current.

The power supply hast he following characteristics:

- Maintenance-free because of long-life ultra-capacitors
- Mikrocontroller based charging and discharging oft he ultra-capacitors
- Control of operation and status of charge with potential-free contacts and LED
- Capacity extension possible with external capacitor extension modules
- ‚Ue-o.k.' message via USB

The *TEC***Contro**l software (optional) monitors permanently the mains. The **C-***TEC* equalizes mains disturbances (blackout) or short time drops of the input voltage (brownout).
In case of mains failures > 2 Sekunden the **C-***TEC* signalizes the mains failure to the PC, which conducts a system shutdown after an adjustable time. Subsequently the **C-***TEC* as well as the IPC are switched off. In case of mains return, the **C-***TEC* releases the output voltage, so that the system is able to restart automatically. If the mains returns during the shut down procedure, the **C-***TEC* separates nevertheless the PC supply for a short time, so that the PC can restart afterwards without error.
With this function all mains failures can be handle without problems, even complete systems may be switched off only with the main switch and the **C-***TEC* respectively the *TEC***CONTROL** take over the complete internal switch off routine of the system. So downtimes and damages because of an uncontrolled process stop are avoided.



CAUTION: if the mains failure is > 2 seconds, the C-*TEC* switches off at the latest 40 seconds afterwards for at least 5 seconds.

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C-*TEC* 2403-1

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2 Technical Data

Nominal input voltage	24 V DC -15 % / 10 %
Input voltage range	20,4 V … 26,4 V DC
Min. charging voltage	23,7 V DC
Nominal input current (at 24,0 V DC) C charged 3 A load	3,1 A DC
Output voltage in back-up operation	23,0 V DC ±2 %
Nominal output current Max	3 A DC (at 0,94 kJ)
Nominal output current at maximum energy	2 A DC (at 1,0 kJ)
Current limitation	1,05 … 1,2 x I_{Nom}
Power loss at Uc >	2,5 W
Power loss at 100 % load and charge	7 W (max. 60 seconds)
Efficiency at Uc >	>96% @ (U_e=24,0 V DC; U_a=22,9 V DC; I_a=I_{Nom})
Internal device protection (internal)	4 A (T)
fusing DC-output circuit (external)	3 A (T)
Type of connection: input Ue	Spring terminal max. 1,0 mm²
Type of connection: output Ua	Spring terminal max. 1,0 mm²
Message contact (Ue-OK[1])	Message via USB
Protective system	IP20 u. EN 60529
Operational temperature	-20 °C … 60 °C
Storage temperature	-20 °C … 60 °C
Rel. humidity	≤95% no condensation
Max. mounting height (without load reduction)	2000 m above sea level
dimensions (HxWxD)	92,5 mm, 60 mm, 116 mm
weight	0,6 Kg

3 Norms and regulations

Terminal voltage	SELV / PELV according to EN 60950 EN 50178
Ermitted interference	EN 6100-3-2 EN 6100-3-3 class A EN 55011 class B EN 62040 -2
Noise immunity	EN 61000-6-2 EN 62040-2 EN 61000-4-2 (Static discharge ESD) 8kV/6kV EN 61000-4-3 (electromagnetic fields) 10V/m 27 – 1000MHz 3V/m 1400 - 2700MHz EN 61000-4-4 (fast transients / Burst) DC IN, DC OUT 2kV others 1kV EN 61000-4-5 (Stoßstrombelastung / Surge) DC IN 0.5kV EN 61000-4-6 (conducted noise immunity) 10V 150kHz – 80MHz EN 61000-4-11 (voltage interruptions) back-up with ultra capacitors
Total unit	EN 50178 EN 60950

[1] The message contacts are coupled with LED display. (see section 4.1). The illumination of a LED effects the activation of the corresponding relay.