



DC-UPS

NCPA0727G01005

1 Short description

The DC-UPS of the series C-TEC includes ultra-capacitors as energy storage inside the housing. This capacitor is charged with the system voltage (U_e) during normal operation. The connected loads are supplied as well from the system voltage. In case of an interruption of the system voltage the energy of the ultra-capacitors is released in a regulated way. With a dc dc converter, the load is supplied by the capacitor until it is discharged. The back-up time depends on the state of charge of the capacitors and on the discharge current.

The DC-UPS has the following characteristics:

- Maintenance-free because of long-life ultra-capacitors
- Microcontroller based charging and discharging of the ultra-capacitors
- Control of operation and status of charge with potential-free contacts and LED
- U_e o.k. message via potential-free relay contact
- Capacity extension possible with external capacitor extension modules (CEM)

2 Technical Data

| | |
|---|--|
| Nominal input voltage | 12 V DC -15 % / 10 % |
| Input voltage range | 10,2 V ... 13,2 V DC |
| Min. charging voltage | 11,8 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 | 11,5 V DC \pm 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 $U_c >$ | 2,5 W |
| Power loss at 100 % load and charge | 7 W (max. 60 seconds) |
| Efficiency at $U_c >$ | >96% @ ($U_e=12,0$ V DC; $U_a=11,5$ 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 U_e | Spring terminal max. 1,0 mm ² |
| Type of connection: output U_a | Spring terminal max. 1,0 mm ² |
| Type of connection: message contacts | Spring terminal max. 1,0 mm ² |
| Max. load message contact (U_e -OK ¹) | 30 V/ 0,5 A potential-free relay-contact |
| Protective system | IP20 u. EN 60529 |
| Operational temperature | -20 °C ... 60 °C |
| Storage temperature | -20 °C ... 60 °C |
| Rel. humidity | \leq 95% no condensation |
| Max. mounting height (without load reduction) | 2000 m above sea level |

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.

Technical Datasheet

C-TEC 1203-05



J. Schneider
Elektrotechnik

| | |
|--------------------|------------------------|
| 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 |
| Ermited 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 |