Technical Datasheet
UCC-*TEC* 450

J. Schneider Elektrotechnik

Ladegerät für Ultracapacitor Module
NCPA0936G10xxx

1 Short description

The **UCC**-*TEC* (Ultra Capacitor Charger) is a charger for the J. Schneider Ultracapacitor modules 10F/90V (UC-Modul). There are several possiblities to connect the individual modules: From a single module 90V up to five modules with 450V. The device is used in a pitch system of a wind energy plant, where it is exposed to major mechanical stress and temperature fluctuations. As it is part of the wind energy plant's security concept, it is equipped with additional security systems and diagnostics possibilities.

The **UCC**-*TEC* has the following features:

- Great mechanical stability
- Wide working temperature range
- Particularly immune against electrical interferences
- 2 serial interface ports for connecting a computer (EIA 485) (for data exchange, parameter assignment, service functions, remote monitoring, etc.) and for linking other **UCC**-*TEC*'s
- Integration in PLC possible via RS485 or signalling contacts
- Individual monitoring of the UC modules regarding temperature, polarity reversal and overvoltage
- Capacity measuring and limit monitoring
- Optimum charging of the UC modules with constant current
- Charging stop in case of the UC being overcharged, excess temperature and polarity reversal
- Isolated relay signalling contacts
- Optically isolated open collector signal outputs

2 Technical Data

Rated input voltage	400 V AC 45 – 65 Hz
Input voltage range	340 V – 460 V AC 400 V AC -15 % / + 15%
Rated input current	1,7 A AC (Ue=400V AC)
Max. turn-on current	15A / 0,5ms
Power factor AC-input	0,65-0,75 capacitive
Crest factor (AC)-input	2,0-2,5
Rated output voltage Un	90 V... 450 V DC
Charging time for complete charging, max. [1)]	10 F Moduls: 5 min (25°C)
Rated output current	3,5 A DC
Short-circuit current	3,5 A DC
Charging characteristic	Constant Currant 3,5 A DC Beim Derating 2,5 A DC
Voltage variation during capacity measurement	Un –5,0 / +4,0 V DC

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Capacity measurement	1st measurement: When Un is reached 2nd measurement: 30 min. after 1st measurement Further measurements every 24 hours (after a power failure, repetition of this sequence)
Max. power consumption 'worst case'	185W (Ua = 450 V DC)
Wirkungsgrad Ua=225 V DC, Ia= 3.5 A und Ue=400 V AC	typ. 90%
Discharge current (without mains)	<50mA
Earth leakage current	<3,5mA
Max. fuse protection	Melting fuse 3 x 4 A T Automatic type C3
Protection class	IP 20 u. EN 60529
Weight	7kg
Storage temperature	-40...70°C
Operating temperature	-30 - 65°C
Comparative humidity	Max. 95% (non-condensing)
Maximum Altitude	2000 m ü. NN
Dimensions	258 x 185 x 245mm (H x W x D)

3 Norms and regulations

Complete unit	EN 50178 / EN 60950
EMC	EN 61000-6-2:2001 ESD Luft: 8kV ESD Gehäuse: 4kV Burst an 400V AC: 2kV Surge an 400V AC: 2kV/4kV
Environmental testing	EN 60068-2-6 und EN 600068-2-7
Optocouplers ensuring a safe isolation of various device parts	VDE 0884
HF power transformer ensuring a safe isolation of primary/secondary	EN 61558 2-17 (VDE 0570 2-17)