

# Altech Corp.®

Serving the Automation & Control Industry since 1984



ISO 9001  
QMI-SAI Global



**DC-UPS Ultra-Capacitor  
Back-up Systems**

# Altech Corp.®

Since 1984, Altech Corporation has grown to become a leading supplier of automation and industrial control components. Headquartered in Flemington, NJ, Altech has an experienced staff of engineering, manufacturing and sales personnel to provide the highest quality products with superior service. This is the Altech Commitment!

With experienced Product Engineers and Customer Service personnel, Altech provides solutions to your most pressing application challenges. All with one thought in mind - *to ensure that we solve your problem the first time!*



## Altech's Commitment

*Altech's Automation and Control components meet applicable national and international standards, such as UL, NEC, CSA, IEC and VDE. Altech provides these products with superior customer service and delivery through a ISO 9001 Quality Management system, which stresses continuous process improvement. We perform these services with honesty and integrity. All Altech employees are trained in this Quality Management System and are dedicated to achieve these goals. Altech's quality system has been ISO approved since 1999.*



Altech Corp.® has partnered with J.Schneider Elektrotechnik to bring you their state of the art DC-UPS back up systems. Working in conjunction with a complimentary power supply, ultra capacitor modules and battery back up modules reliably supply energy in peak power demand conditions as well as power outage scenarios. DC-UPS from Altech Corp.® help to ensure the safe and continued operation of critical and necessary functions and help to minimize operational loss in the event of a power failure. In line with Altech's commitment to its customers, J. Schneider creates quality products whose service life and function is thoroughly superior to that of its counterparts in the DC-UPS field.



### SOME OF THE MANY APPLICATIONS:

- Data Centers
- Industrial PC
- Textile Machinery
- Assembly Production
- Electronic Automation
- Molding Machines
- Automotive Industry
- Packaging
- Feeding Systems
- Steel Production
- Wind Turbines
- Disability Assistance
- Tunneling Machines
- Telecommunications and Control
- Ship Building
- Safety Engineering
- Building Technology
- Automation
- Rail Vehicles
- Water Supply
- Machinery Construction
- Power Supply
- Stations Control Technology
- Switchgear Production
- Photovoltaik

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## C-TEC / AC-C-TEC / CTEC-P / CEM



**Ultra Capacitor based technologies** provide an attractive yet efficient platform for both simple and complex applications.

DC-UPS systems are an absolute must in a world of uncertainties. DC-UPS helps to prolong the operation of machinery and controlled processes in the event of power outages or in case of power dips and sags.

Altech Corporation offers a wide variety of products for DC-UPS systems starting at 2 A and up to 40 A along with monitoring / setup software, and comprehensive support



## KEY FEATURES

- Works primarily in an online parallel configuration
- Controlled shut down functions
- Up to 40 A low discharge protection through load rejection
- Ultra Capacitors have 15 years of life
- Quick back up recharges due to the nature of Ultra Capacitors
- DIN rail mount

The DC Back-Ups from Altech Corp.® utilize Ultra Capacitors as an innovative way to store energy within a compact design. In the event of a main power supply interruption, the energy stored in the Ultra Capacitors is released. The load is energized from the buffer module, until it's depleted.

Back up times depend on the state of the charge of the Ultra Capacitors and the load in which they are supplying. Compared with standard buffer modules, Ultra Capacitor units are capable of prolonged back-up times (up to 55 minutes) and fast discharges.

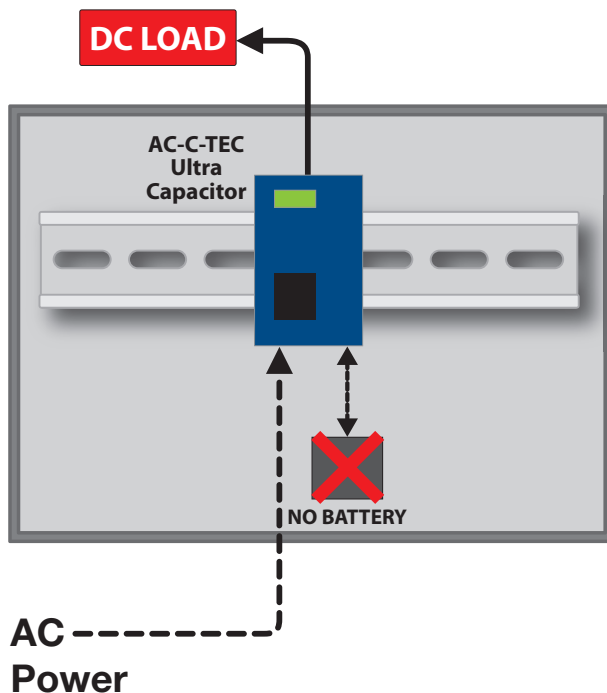
Capacitors excel at controlled shutdown functions and allowing for the protection of computer systems. Back-up times are dependent on the load and amount of Capacitors within the unit. Back up times can be calculated to better serve the requirements of required functions.



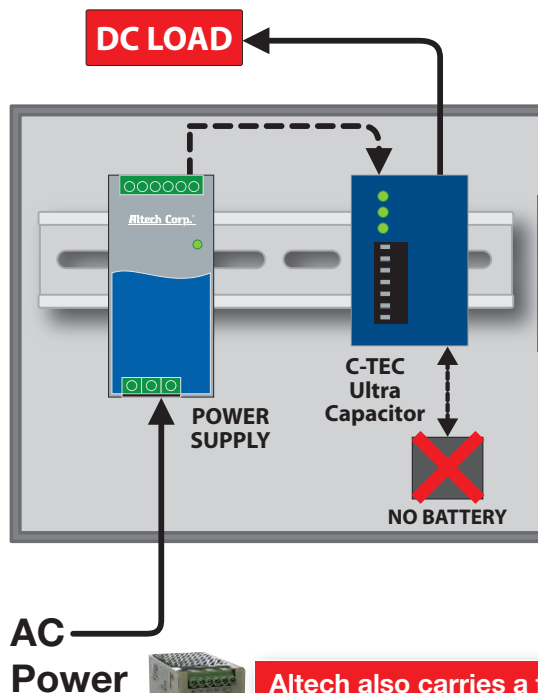
## DC Power Solutions

### 12, 24 and 48V DC

**DC BACK UP with AC Input**  
(Power Supply built in)



**DC BACK UP with DC Input**  
(Power Supply required)



Altech also carries a full line of DIN Rail Power Supplies and Accessories. See Preview on pages 60-61.

## BACK UP TIME CALCULATION

Back up time = energy/ (voltage x current)

A table of back up times has been added for your convenience (pg. 32)

## BENEFITS OF CAPACITOR TECHNOLOGIES

- Environmentally safe
- Free of toxic chemicals
- Virtually maintenance free
- Wide operating temperatures
- Long operational life (15 years or longer!)
- Compact and convection cooled
- Seamless switch overs
- No need to replace or maintain batteries
- Cost effective over time
- Resists shock and vibrations
- Quick buffer times

Through the innovative use of Ultra-Capacitors, CTEC presents itself as an attractive backup option for a variety of applications. In the event of a power interruption, the energy of the enclosed Ultra-Capacitors is released and power is supplied for a determined amount of time. Capacitor based technology comes in variety of configurations all of which serve a broad spectrum of functions.

## C-TEC

Capacitor driven back up UPS.



|        | Part No.                  | Model No.      | Input Voltage | Output Voltage | Output Current | Energy Content |
|--------|---------------------------|----------------|---------------|----------------|----------------|----------------|
| 12V DC | C-TEC1203-1               | NCPA0727G10002 | 12 V DC       | 12 V DC        | 3 A            | 1 KJ           |
|        | C-TEC1205-5 <sup>1</sup>  | NCPA0608G01001 | 12 V DC       | 12 V DC        | 5 A            | 5 KJ           |
|        | C-TEC1208-20 <sup>2</sup> | NCPA0607G01001 | 12 V DC       | 12 V DC        | 8 A            | 20 KJ          |
|        | C-TEC1210-1 <sup>3</sup>  | NCPA0609G01002 | 12 V DC       | 12 V DC        | 10 A           | 1 KJ           |
|        | C-TEC1210-10 <sup>4</sup> | NCPA0606G01001 | 12 V DC       | 12 V DC        | 10 A           | 10 KJ          |
| 24V DC | C-TEC2403-05              | NCPA0727G01001 | 24 V DC       | 24 V DC        | 3 A            | 0.5 KJ         |
|        | C-TEC2403-1               | NCPA0727G01002 | 24 V DC       | 24 V DC        | 3 A            | 1 kJ           |
|        | C-TEC2405-5 <sup>1</sup>  | NCPA0608G01001 | 24 V DC       | 24 V DC        | 5 A            | 5 KJ           |
|        | C-TEC2408-20 <sup>2</sup> | NCPA0607G01001 | 24 V DC       | 24 V DC        | 8 A            | 20 KJ          |
|        | C-TEC2410-1 <sup>3</sup>  | NCPA0609G01002 | 24 V DC       | 24 V DC        | 10 A           | 1 KJ           |
|        | C-TEC2410-10 <sup>4</sup> | NCPA0606G01001 | 24 V DC       | 24 V DC        | 10 A           | 10 KJ          |
|        | C-TEC2420-8               | NCPA0747G01003 | 24 V DC       | 24 V DC        | 20 A           | 8 KJ           |

Used in conjunction with a separate power supply (reference the Altech power supply catalog).

Part numbers with note 1, 2, 3, or 4 each use the same module consecutively.

## C-TEC P

Unlike its C-TEC counterpart, C-TEC P's are capable producing an output spike for applications requiring a temporary surge of power.



|        | Part No.    | Model No.      | Input Voltage | Output Voltage | Output Current | Energy Content |
|--------|-------------|----------------|---------------|----------------|----------------|----------------|
| 12V DC | C-TEC1225 P | NCPA1301G30001 | 12 V DC       | 12 V DC        | 25 A           | 0.5 KJ         |
| 24V DC | C-TEC2425 P | NCPA1301G10001 | 24 V DC       | 24 V DC        | 25 A           | 1.2 KJ         |
|        | C-TEC2440 P | NCPA1034G01001 | 24 V DC       | 24 V DC        | 40 A           | 4 KJ           |
| 48V DC | C-TEC4815 P | NCPA1301G20001 | 48 V DC       | 48 V DC        | 15 A           | 1 KJ           |

Used in conjunction with a separate power supply (reference the Altech power supply catalog).

## AC-C-TEC, AC-C-TE

AC-C-TEC modules improve on C-TEC design by incorporating a built in power supply (AC input) for maximum convenience and ease.



|        | Part No.           | Model No.      | Input Voltage | Output Voltage | Output Current | Energy Content |
|--------|--------------------|----------------|---------------|----------------|----------------|----------------|
| 12V DC | AC-C-TEC1203-1     | NCPA0724G10002 | 115-230 V AC  | 12 V DC        | 3 A            | 1 KJ           |
|        | AC-C-TEC2403-05    | NCPA0724G01001 | 115-230 V AC  | 24 V DC        | 3 A            | 0.5 KJ         |
| 24V DC | AC-C-TEC2403-1     | NCPA0724G01017 | 115-230 V AC  | 24 V DC        | 3 A            | 1 KJ           |
|        | AC-C-TEC2403-1-400 | NCPA0724G01020 | 3 X 400 V AC  | 24 V DC        | 3 A            | 1 KJ           |
|        | AC-C-TEC2410-10    | NCPA1430G01001 | 100-240 V AC  | 24 V DC        | 10 A           | 10 KJ          |
|        | AC-C-TEC2420-8     | NCPA0746G01003 | 3 X 400 V AC  | 24 V DC        | 20 A           | 8 KJ           |

## CEM (Capacitor Extension Module)

Designed to give existing capacitor modules extended buffer times allowing for applications with increased power demands.



|        | Part No. | Model No.      | Input Voltage | Output Voltage  | Output Current | Energy Content |
|--------|----------|----------------|---------------|-----------------|----------------|----------------|
| 24V DC | CEM-1    | NCBA0739G01001 | 24 V DC       | 0 V...26.4 V DC | 3 A            | 1              |
|        | CEM-2    | NCBA0739G01002 | 24 V DC       | 0 V...26.4 V DC | 3 A            | 2 KJ           |
|        | CEM-8    | NCBA0748G10003 | 24 V DC       | 0 V...26.4 V DC | 20 A           | 8 KJ           |
|        | CEM-16   | NCBA0748G10001 | 24 V DC       | 0 V...26.4 V DC | 20 A           | 16 KJ          |
| 12V DC | CEM-12-1 | NCBA0739G10003 | 12 V DC       | 0 V...13.2 V DC | 3 A            | 0.6 KJ         |
|        | CEM-12-2 | NCBA0739G1004  | 12 V DC       | 0 V...13.2 V DC | 3 A            | 1.23 KJ        |

Unusable by itself, designed to increase back up times of capacitor modules.

# DC UPS APPLICATIONS



Textile Machinery



Industrial PC



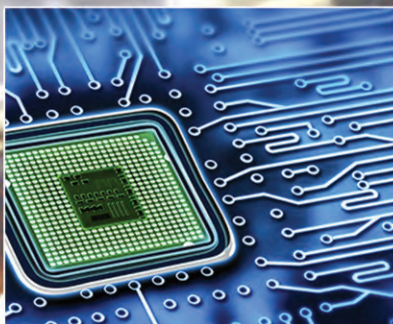
Data Centers



Molding Machinery



Automotive Industry



Electronic Automation



Feeding Systems



Packaging



Steel Production



Wind Turbines



Tunneling Machines



- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Pending



|              |                |
|--------------|----------------|
| Part No.     | C-TEC1203-1    |
| Model Number | NCPA0727G10002 |

INPUT

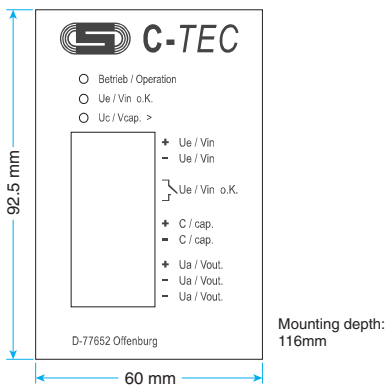
|                           |                    |
|---------------------------|--------------------|
| NOMINAL INPUT VOLTAGE     | 12 V DC -15% + 25% |
| NOMINAL FREQUENCY         | 47-63 Hz           |
| MAX NOMINAL INPUT CURRENT | 3.1 A              |

OUTPUT

|                                            |                                                                |
|--------------------------------------------|----------------------------------------------------------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 12.3 V DC +2 % -4 %                                            |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 11.5 V DC ± 2 %                                                |
| NOMINAL OUTPUT CURRENT                     | 2 A DC (with nominal capacity); 3 A DC (with reduced capacity) |
| EFFICIENCY                                 | 88%                                                            |

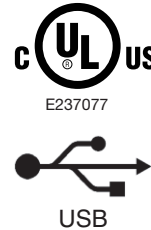
GENERAL DATA

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | 1 KJ                                                   |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                |
| DIMENSIONS                      | 92.5 mm x 60 mm x 116 mm (3.64in. x 2.36in. x 4.56in.) |
| WEIGHT                          | .4 Kg. (0.88lbs.)                                      |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950                                     |
| UL LISTING                      | Pending                                                |





- 12V DC and 24V DC outputs in one module
- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- UL Listed
- USB Interface



| Part No.     | C-TEC1210-1    | C-TEC2410-1    |
|--------------|----------------|----------------|
| Model Number | NCPA0609G01002 | NCPA0609G01002 |

**INPUT**

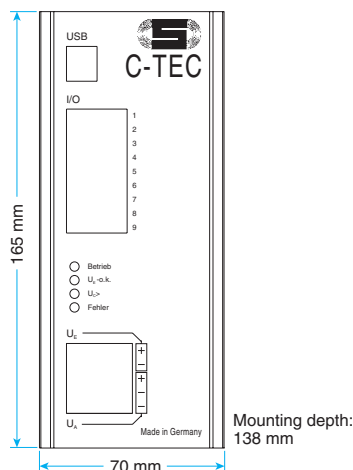
|                           |                     |                      |
|---------------------------|---------------------|----------------------|
| NOMINAL INPUT VOLTAGE     | 12 V DC $\pm$ 12.5% | 24 V DC $\pm$ 12.5 % |
| NOMINAL FREQUENCY         | —                   | —                    |
| MAX NOMINAL INPUT CURRENT | 10 A                | 10 A                 |

**OUTPUT**

|                                            |                 |                 |
|--------------------------------------------|-----------------|-----------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 12 V            | 24 V            |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 11.7 V $\pm$ 4% | 22.6 V $\pm$ 2% |
| NOMINAL OUTPUT CURRENT                     | 10 A DC         | 10 A DC         |
| EFFICIENCY                                 | >90%            | >90%            |

**GENERAL DATA**

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | 1 KJ                                                   |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                |
| DIMENSIONS                      | 165 mm x 70 mm x 138 mm (6.49in. x 2.75in. x 5.43in.)  |
| WEIGHT                          | 1.2 Kg. (2.65lbs.)                                     |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950                                     |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01                             |





- 12V DC and 24V DC outputs in one module
- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed
- USB Interface



| Part No.     | C-TEC1210-10   | C-TEC2410-10   |
|--------------|----------------|----------------|
| Model Number | NCPA0606G01001 | NCPA0606G01001 |

### INPUT

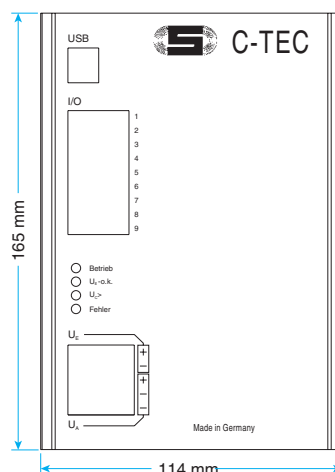
|                                                  |                     |                      |
|--------------------------------------------------|---------------------|----------------------|
| NOMINAL INPUT VOLTAGE                            | 12 V DC $\pm$ 12.5% | 24 V DC $\pm$ 12.5 % |
| MIN. NOMINAL INPUT VOLTAGE FOR LOADING OPERATION | —                   | —                    |
| MAX NOMINAL INPUT CURRENT                        | 10 A DC             | 10 A                 |

### OUTPUT

|                                            |                 |                 |
|--------------------------------------------|-----------------|-----------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 12 V            | 24 V            |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 11.7 V $\pm$ 4% | 23.5 V $\pm$ 2% |
| NOMINAL OUTPUT CURRENT                     | 10 A DC         | 10 A DC         |
| EFFICIENCY                                 | >90%            | >90%            |

### GENERAL DATA

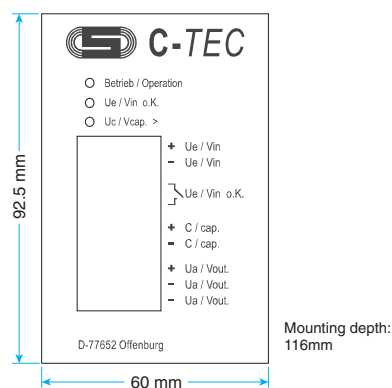
|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | 10 KJ                                                  |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                |
| DIMENSIONS                      | 165 mm x 114 mm x 145 mm (6.5in. x 4.49in. x 5.7in.)   |
| WEIGHT                          | 2.7 Kg. (5.95lbs.)                                     |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950                                     |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01.                            |



Mounting depth:  
145 mm



- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed

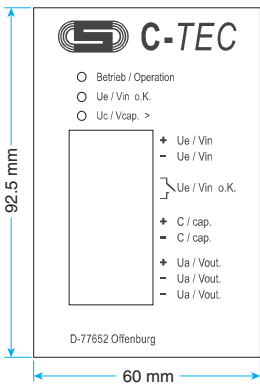

**Part No. C-TEC2403-05**
**Model Number C-TEC2403-05**
**INPUT NCPA0727G01001**
**NOMINAL INPUT VOLTAGE 24 V DC  $\pm$  12.5%**
**MIN. NOMINAL INPUT VOLTAGE FOR LOADING OPERATION 23.4 V DC**
**MAX NOMINAL INPUT CURRENT 3 A**
**OUTPUT**
**NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION 24 V**
**NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION 23.5 V DC 2 %**
**NOMINAL OUTPUT CURRENT 3 A DC**
**EFFICIENCY >90%**
**GENERAL DATA**
**BUFFER TIME DEPENDENT ON THE LOAD**
**ENERGY CONTENT .5 KJ**
**DEGREE OF PROTECTION IP20**
**OPERATING TEMP. -40 to 60 °C**
**STORAGE TEMP. -40 to 60 °C**
**RELATIVE HUMIDITY 95 % non-condensing**
**MAX ALTITUDE (without derating) 2000 m. above sea-level**
**DIMENSIONS 92.5 x 60 x 116 mm (3.64in. x 2.36in. x 4.57in.)**
**WEIGHT .5 Kg. (1.1lbs.)**
**MOUNTING 35 mm DIN Rail (panel mount available, contact Altech)**
**NORMS AND REGULATIONS EN 50178; EN 60950**
**UL LISTING UL 508; C22.2 No. 107.1-01.**




- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed



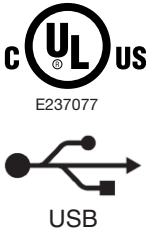
|                                                  |                                                        |
|--------------------------------------------------|--------------------------------------------------------|
| Part No.                                         | C-TEC2403-1                                            |
| Model Number                                     | NCPA0727G01002                                         |
| <b>INPUT</b>                                     |                                                        |
| NOMINAL INPUT VOLTAGE                            | 24 V DC $\pm$ 12.5%                                    |
| MIN. NOMINAL INPUT VOLTAGE FOR LOADING OPERATION | 23.5 V                                                 |
| MAX NOMINAL INPUT CURRENT                        | 3 A                                                    |
| <b>OUTPUT</b>                                    |                                                        |
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION        | 24 V                                                   |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION       | 23 V DC $\pm$ 2%                                       |
| NOMINAL OUTPUT CURRENT                           | 3 A DC                                                 |
| EFFICIENCY                                       | >90%                                                   |
| <b>GENERAL DATA</b>                              |                                                        |
| BUFFER TIME                                      | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                                   | 1 KJ                                                   |
| DEGREE OF PROTECTION                             | IP20                                                   |
| OPERATING TEMP.                                  | -40 to 60 °C                                           |
| STORAGE TEMP.                                    | -40 to 60 °C                                           |
| RELATIVE HUMIDITY                                | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating)                  | 2000 m. above sea-level                                |
| DIMENSIONS                                       | 95 mm x 60 mm x 116mm (3.74in. x 2.36in. x 4.57in.)    |
| WEIGHT                                           | .58 Kg. (1.28lbs.)                                     |
| MOUNTING                                         | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS                            | EN 50178, EN 60950                                     |
| UL LISTING                                       | UL 508; C22.2 No. 107.1-01                             |



Mounting depth:  
116mm



- 12V DC and 24V DC outputs in one module
- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed
- USB Interface



| Part No.     | C-TEC1205-5    | C-TEC2405-5    |
|--------------|----------------|----------------|
| Model Number | NCPA0608G01001 | NCPA0608G01001 |

INPUT

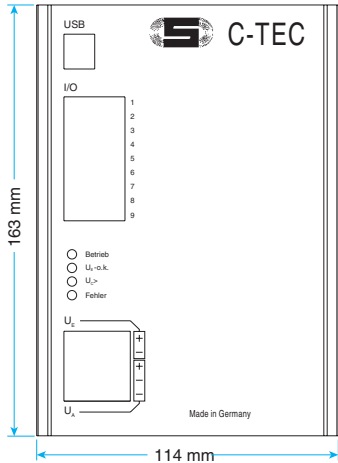
|                                                  |                     |                      |
|--------------------------------------------------|---------------------|----------------------|
| NOMINAL INPUT VOLTAGE                            | 12 V DC $\pm$ 12.5% | 24 V DC $\pm$ 12.5 % |
| MIN. NOMINAL INPUT VOLTAGE FOR LOADING OPERATION | —                   | —                    |
| MAX NOMINAL INPUT CURRENT                        | 5 A                 | 5 A                  |

OUTPUT

|                                            |                 |                 |
|--------------------------------------------|-----------------|-----------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 12 V            | 24 V            |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 11.7 V $\pm$ 4% | 23.5 V $\pm$ 2% |
| NOMINAL OUTPUT CURRENT                     | 5 A DC          | 5 A DC          |
| EFFICIENCY                                 | >90%            | >90%            |

GENERAL DATA

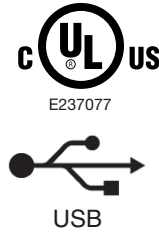
|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | 5 KJ                                                   |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                |
| DIMENSIONS                      | 163 mm x 114 mm x 145mm (6.4in. x 4.48in. x 5.7in.)    |
| WEIGHT                          | 1.7 Kg (3.74lbs.)                                      |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950                                     |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01.                            |



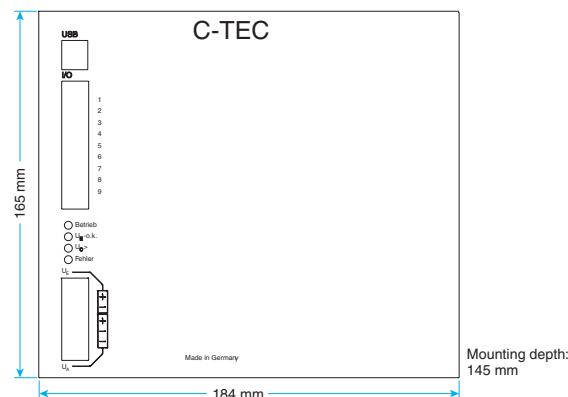
Mounting depth:  
145 mm



- 12V DC and 24V DC outputs in one module
- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed
- USB Interface



| Part No.                                   | C-TEC1208-20                                           | C-TEC2408-20         |
|--------------------------------------------|--------------------------------------------------------|----------------------|
| Model Number                               | NCPA0607G01001                                         | NCPA0607G01001       |
| <b>INPUT</b>                               |                                                        |                      |
| NOMINAL INPUT VOLTAGE                      | 24 V DC $\pm$ 12.5 %                                   | 24 V DC $\pm$ 12.5 % |
| MAX NOMINAL INPUT CURRENT                  | 8 A                                                    | 8 A                  |
| <b>OUTPUT</b>                              |                                                        |                      |
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 12 V                                                   | 24 V                 |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 11.7 V $\pm$ 4%                                        | 23.5 V $\pm$ 2%      |
| NOMINAL OUTPUT CURRENT                     | 8 A DC                                                 | 8 A DC               |
| EFFICIENCY                                 | >90%                                                   | >90%                 |
| <b>GENERAL DATA</b>                        |                                                        |                      |
| BUFFER TIME                                | DEPENDENT ON THE LOAD                                  |                      |
| ENERGY CONTENT                             | 20 KJ                                                  |                      |
| DEGREE OF PROTECTION                       | IP20                                                   |                      |
| OPERATING TEMP.                            | -40 to 60 °C                                           |                      |
| STORAGE TEMP.                              | -40 to 60 °C                                           |                      |
| RELATIVE HUMIDITY                          | 95 % non-condensing                                    |                      |
| MAX ALTITUDE (without derating)            | 2000 m. above sea-level                                |                      |
| DIMENSIONS                                 | 165 mm x 184 mm x 145 mm (6.5in. x 7.24in. x 5.7in)    |                      |
| WEIGHT                                     | 3.4 Kg. (7.49lbs.)                                     |                      |
| MOUNTING                                   | 35 mm DIN Rail (panel mount available, contact Altech) |                      |
| NORMS AND REGULATIONS                      | EN 50178; EN 60950                                     |                      |
| UL LISTING                                 | UL 508; C22.2 No. 107.1-01                             |                      |





- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed
- USB Interface



|                     |                    |
|---------------------|--------------------|
| <b>Part No.</b>     | <b>C-TEC2420-8</b> |
| <b>Model Number</b> | NCPA0747G01003     |

**INPUT**

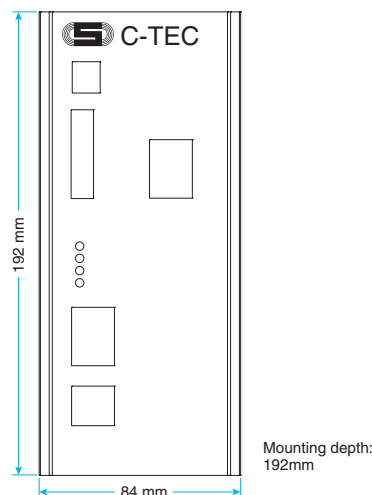
|                           |                       |
|---------------------------|-----------------------|
| NOMINAL INPUT VOLTAGE     | 24 V DC - 2.5 % + 20% |
| MAX NOMINAL INPUT CURRENT | 20 A                  |

**OUTPUT**

|                                            |             |
|--------------------------------------------|-------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 24 V - 0.5% |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 23.2 V DC   |
| NOMINAL OUTPUT CURRENT                     | 20 A DC     |
| EFFICIENCY                                 | >90%        |

**GENERAL DATA**

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | 8 KJ                                                   |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                |
| DIMENSIONS                      | 192 mm x 84 mm x 192 mm (7.55in. x 3.3in. x 7.55in.)   |
| WEIGHT                          | 2.2 Kg. (4.85lbs.)                                     |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950                                     |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01                             |





- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time

|                 |                    |
|-----------------|--------------------|
| <b>Part No.</b> | <b>C-TEC1225 P</b> |
| Model Number    | NCPA1301G30001     |

**INPUT**

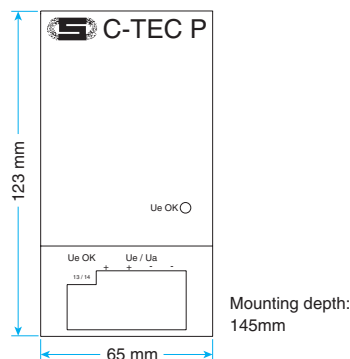
|                                             |                    |
|---------------------------------------------|--------------------|
| NOMINAL INPUT VOLTAGE                       | 12 V DC $\pm 10\%$ |
| MIN NOMINAL INPUT VOLTAGE FOR CHARGING MODE | 11.3 V DC          |
| MAX NOMINAL INPUT CURRENT                   | 28.5 A DC          |
| MAX CHARGING CURRENT                        | 3.5 A DC           |

**OUTPUT**

|                                            |                        |
|--------------------------------------------|------------------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 12 V DC $\pm 10\%$     |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 12 V-10 V DC $\pm 2\%$ |
| NOMINAL OUTPUT CURRENT                     | 25 A DC                |
| EFFICIENCY                                 | >90%                   |

**GENERAL DATA**

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | .5 KJ                                                  |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                |
| DIMENSIONS                      | 123 mm x 65 mm x 145 mm (4.84in. x 2.55in. x 5.7in.)   |
| WEIGHT                          | .7Kg. (1.54lbs.)                                       |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950                                     |
| UL LISTING                      | NA                                                     |





- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed



|                 |                    |
|-----------------|--------------------|
| <b>Part No.</b> | <b>C-TEC2425 P</b> |
| Model Number    | NCPA1301G10001     |

**INPUT**

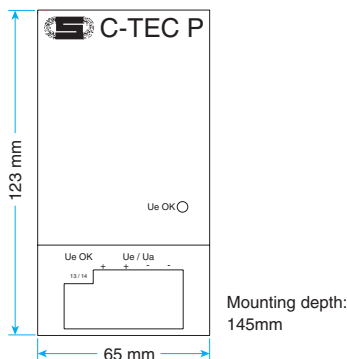
|                                             |                    |
|---------------------------------------------|--------------------|
| NOMINAL INPUT VOLTAGE                       | 24 V DC $\pm 10\%$ |
| MIN NOMINAL INPUT VOLTAGE FOR CHARGING MODE | 22 V DC            |
| MAX NOMINAL INPUT CURRENT                   | 28 A DC            |
| MAX CHARGING CURRENT                        | 3 A DC             |

**OUTPUT**

|                                            |                          |
|--------------------------------------------|--------------------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 24 V DC $\pm 10\%$       |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 24.5 V-19 V DC $\pm 2\%$ |
| NOMINAL OUTPUT CURRENT                     | 25 A DC                  |
| EFFICIENCY                                 | >90%                     |

**GENERAL DATA**

|                                 |                                                                               |
|---------------------------------|-------------------------------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                                         |
| ENERGY CONTENT                  | 1.2 KJ                                                                        |
| DEGREE OF PROTECTION            | IP20                                                                          |
| OPERATING TEMP.                 | -40 to 60 °C                                                                  |
| STORAGE TEMP.                   | -40 to 60 °C                                                                  |
| RELATIVE HUMIDITY               | 95 % non-condensing                                                           |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                                       |
| DIMENSIONS                      | 123 mm x 65 mm x 145 mm (4.84in. x 2.55in. x 5.7in.)                          |
| WEIGHT                          | .8Kg. (1.76lbs.)                                                              |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech)                        |
| NORMS AND REGULATIONS           | EN 50178; EN 60950; EN 61000-6-4<br>EN 61000-6-2; EN 60068-2-6; EN 60068-2-27 |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01                                                    |





- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed



|                     |                    |
|---------------------|--------------------|
| <b>Part No.</b>     | <b>C-TEC2440 P</b> |
| <b>Model Number</b> | NCPA1034G01001     |

**INPUT**

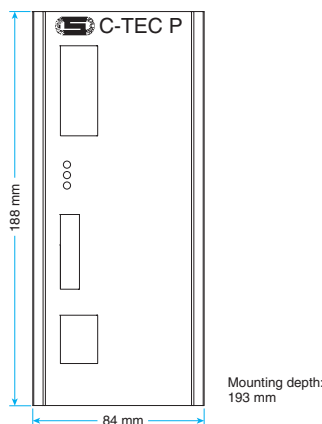
|                                             |                    |
|---------------------------------------------|--------------------|
| NOMINAL INPUT VOLTAGE                       | 24 V DC $\pm$ 10 % |
| MIN NOMINAL INPUT VOLTAGE FOR CHARGING MODE | 23 V DC            |
| MAX NOMINAL INPUT CURRENT                   | 40 A DC            |
| MAX CHARGING CURRENT                        | 6.8 A DC           |

**OUTPUT**

|                                            |                    |
|--------------------------------------------|--------------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 24 V DC $\pm$ 10 % |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 19-25.5 V DC       |
| NOMINAL OUTPUT CURRENT                     | 40 A DC            |
| EFFICIENCY                                 | >90%               |

**GENERAL DATA**

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | 4KJ                                                    |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                |
| DIMENSIONS                      | 188 mm x 84 mm x 194mm (7.4in. x 3.3in. x 7.64in.)     |
| WEIGHT                          | 2Kg. (4.4lbs.)                                         |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950                                     |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01.                            |





- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Microcontroller based charging and discharging of the Ultra Capacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time

|                     |                    |
|---------------------|--------------------|
| <b>Part No.</b>     | <b>C-TEC4815 P</b> |
| <b>Model Number</b> | NCPA1301G20001     |

**INPUT**

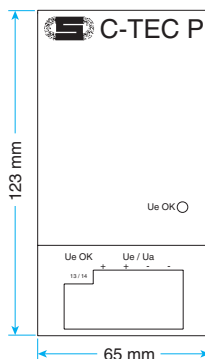
|                                             |                    |
|---------------------------------------------|--------------------|
| NOMINAL INPUT VOLTAGE                       | 48 V DC $\pm 10\%$ |
| MIN NOMINAL INPUT VOLTAGE FOR CHARGING MODE | 44 V DC            |
| MAX NOMINAL INPUT CURRENT                   | 18 A DC            |
| MAX CHARGING CURRENT                        | 3 A DC             |

**OUTPUT**

|                                            |                        |
|--------------------------------------------|------------------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 48 V DC $\pm 10\%$     |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 49 V-38 V DC $\pm 2\%$ |
| NOMINAL OUTPUT CURRENT                     | 15 A DC                |
| EFFICIENCY                                 | >90%                   |

**GENERAL DATA**

|                                 |                                                                                 |
|---------------------------------|---------------------------------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                                           |
| ENERGY CONTENT                  | 1.2 KJ                                                                          |
| DEGREE OF PROTECTION            | IP20                                                                            |
| OPERATING TEMP.                 | -40 to 60 °C                                                                    |
| STORAGE TEMP.                   | -40 to 60 °C                                                                    |
| RELATIVE HUMIDITY               | 95 % non-condensing                                                             |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                                         |
| DIMENSIONS                      | 123 mm x 65 mm x 145 mm (4.84in. x 2.55in. x 5.7in.)                            |
| WEIGHT                          | .8Kg. (1.76lbs.)                                                                |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech)                          |
| NORMS AND REGULATIONS           | EN 50178; EN 60950; EN 61000-6-4;<br>EN 61000-6-2; EN 60068-2-6; EN 600068-2-27 |
| UL LISTING                      | N/A                                                                             |



Mounting depth:  
145mm



- Integrated power supply
- Maintenance-free due to durable ultra capacitors
- Long operational lifetime
- Reduced wiring time due to integrated energy storage and power supply
- Microcontroller based charging and discharging of the ultracapacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Pending

**Part No.****AC-C-TEC1203-1****Model Number**

NCPA0724G10002

**INPUT**

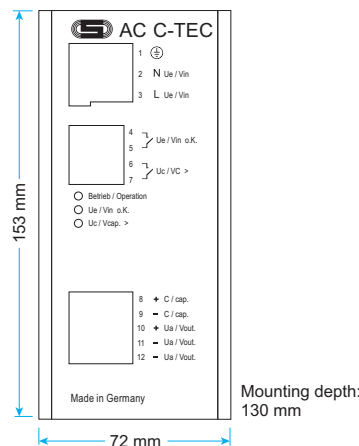
|                           |                                      |
|---------------------------|--------------------------------------|
| NOMINAL INPUT VOLTAGE     | 115-230 V AC $\pm 15\%$              |
| NOMINAL FREQUENCY         | 47-63 Hz                             |
| MAX NOMINAL INPUT CURRENT | 0.84 A - 115 V AC; 0.42 A - 230 V AC |

**OUTPUT**

|                                            |                                                                |
|--------------------------------------------|----------------------------------------------------------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 12.3 V DC $+2\%$ $-4\%$                                        |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 11.5 V DC $+2\%$ $-4\%$                                        |
| NOMINAL OUTPUT CURRENT                     | 2 A DC (with nominal capacity); 3 A DC (with reduced capacity) |
| EFFICIENCY                                 | 88%                                                            |

**GENERAL DATA**

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | 1KJ                                                    |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                 |
| DIMENSIONS                      | 152.5 mm x 72 mm x 130mm (6in. x 2.83in. x 5.11in.)    |
| WEIGHT                          | .85 Kg (1.87lbs.)                                      |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950                                     |
| UL LISTING                      | Pending                                                |





- Integrated power supply
- Maintenance-free due to durable ultra capacitors
- Long operational lifetime
- Reduced wiring time due to integrated energy storage and power supply
- Microcontroller based charging and discharging of the ultracapacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Pending



**Part No.** AC-C-TEC2403-05  
**Model Number** NCPA0724G01001

**INPUT**

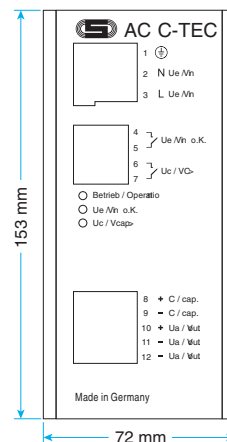
|                           |                                      |
|---------------------------|--------------------------------------|
| NOMINAL INPUT VOLTAGE     | 115-230 V AC $\pm 15\%$              |
| NOMINAL FREQUENCY         | 47-63 Hz                             |
| MAX NOMINAL INPUT CURRENT | 0.84 A - 115 V AC; 0.42 A - 230 V AC |

**OUTPUT**

|                                            |                                                                |
|--------------------------------------------|----------------------------------------------------------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 24.3 V DC $\pm 2\%$                                            |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 23.5 V DC $\pm 2\%$                                            |
| NOMINAL OUTPUT CURRENT                     | 2 A DC (with nominal capacity); 3 A DC (with reduced capacity) |
| EFFICIENCY                                 | 88%                                                            |

**GENERAL DATA**

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | .5KJ                                                   |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                 |
| DIMENSIONS                      | 152.5 mm x 72 mm x 130mm (6in. x 2.83in. x 5.11in.)    |
| WEIGHT                          | .85 Kg (1.87lbs.)                                      |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950                                     |
| UL LISTING                      | Pending                                                |



Mounting depth:  
130 mm



- Integrated power supply
- Maintenance-free due to durable ultra capacitors
- Long operational lifetime
- Reduced wiring time due to integrated energy storage and power supply
- Microcontroller based charging and discharging of the ultracapacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Pending

**Part No.****AC-C-TEC2403-1****Model Number**

NCPA0724G01017

**INPUT**

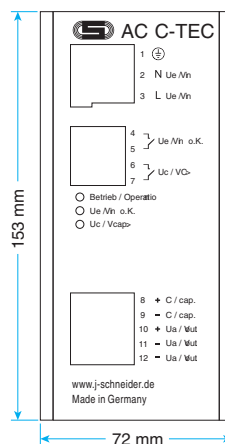
|                           |                                      |
|---------------------------|--------------------------------------|
| NOMINAL INPUT VOLTAGE     | 115-230 V AC $\pm$ 15%               |
| NOMINAL FREQUENCY         | 47-63 Hz                             |
| MAX NOMINAL INPUT CURRENT | 0.84 A - 115 V AC; 0.42 A - 230 V AC |

**OUTPUT**

|                                            |                                                                |
|--------------------------------------------|----------------------------------------------------------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 24.3 V DC $\pm$ 2 %                                            |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 23.5 V DC $\pm$ 2 %                                            |
| NOMINAL OUTPUT CURRENT                     | 2 A DC (with nominal capacity); 3 A DC (with reduced capacity) |
| EFFICIENCY                                 | 88%                                                            |

**GENERAL DATA**

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | 1KJ                                                    |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                 |
| DIMENSIONS                      | 152.5 mm x 72 mm x 130mm (6in. x 2.83in. x 5.11in.)    |
| WEIGHT                          | .85 Kg (1.87lbs.)                                      |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178, EN 60950                                     |
| UL LISTING                      | UL Pending                                             |





- Integrated power supply
- Maintenance-free due to durable ultra capacitors
- Long operational lifetime
- Reduced wiring time due to integrated energy storage and power supply
- Microcontroller based charging and discharging of the ultracapacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Pending



|                     |                           |
|---------------------|---------------------------|
| <b>Part No.</b>     | <b>AC-C-TEC2403-1-400</b> |
| <b>Model Number</b> | NCPA0724G01020            |

**INPUT**

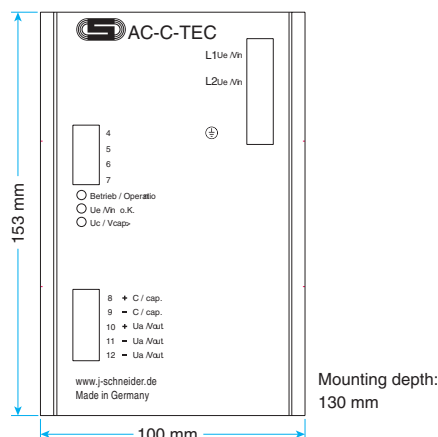
|                           |                                      |
|---------------------------|--------------------------------------|
| NOMINAL INPUT VOLTAGE     | 400 V $\pm$ 15 %                     |
| NOMINAL FREQUENCY         |                                      |
| MAX NOMINAL INPUT CURRENT | 0.84 A – 115 V AC; 0.42 A – 230 V AC |

**OUTPUT**

|                                            |                                                                |
|--------------------------------------------|----------------------------------------------------------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 24.3 V DC $\pm$ 2 %                                            |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 23.5 V DC $\pm$ 2 %                                            |
| NOMINAL OUTPUT CURRENT                     | 2 A DC (with nominal capacity); 3 A DC (with reduced capacity) |
| EFFICIENCY                                 | 88%                                                            |

**GENERAL DATA**

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| ENERGY CONTENT                  | 1KJ                                                    |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | -40 to 60 °C                                           |
| STORAGE TEMP.                   | -40 to 60 °C                                           |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                 |
| DIMENSIONS                      | 152.5 mm x 100 mm x 130 mm (6in. x 2.83in. x 5.11in.)  |
| WEIGHT                          | 1.2 Kg (2.64lbs.)                                      |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950                                     |
| UL LISTING                      | UL Pending                                             |





- 
- USB

**AC C-TEC**

Dimensions: 165 mm (height), 189 mm (width)

**Front View (Left):**

- Terminal 1:  $\oplus$  (Battery / Operation)
- Terminal 2:  $\ominus$  (Netz / Mains)
- Terminal 3:  $\ominus$  (Uz / Vwap)
- Terminal 4:  $\ominus$  (Fehler / Fault)

**Front View (Right):**

- Terminal 1: + Uz / Void
- Terminal 2: - Uz / Void
- Terminal 3: - Uz / Void

**Side View (Top):**

- Pin 1: USB
- Pin 2: Shutdown
- Pin 3: Netz / Mains
- Pin 4: Uz / Vwap
- Pin 5: Fehler / Fault

**Side View (Bottom):**

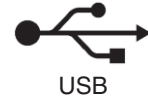
- Pin 1: L
- Pin 2: N
- Pin 3:  $\oplus$

Made in Germany  
www.schneider.de

Mounting depth: 138 mm



- Integrated power supply
- Maintenance-free due to durable ultra capacitors
- Long operational lifetime
- reduced wiring time due to integrated energy storage and power supply
- Microcontroller based charging and discharging of the ultracapacitors
- Input voltage-signal via potential-free contact and LED
- Short overload possible
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL listed
- USB interface



|                     |                       |
|---------------------|-----------------------|
| <b>Part No.</b>     | <b>AC-C-TEC2420-8</b> |
| <b>Model Number</b> | NCPA0746G01003        |

**INPUT**

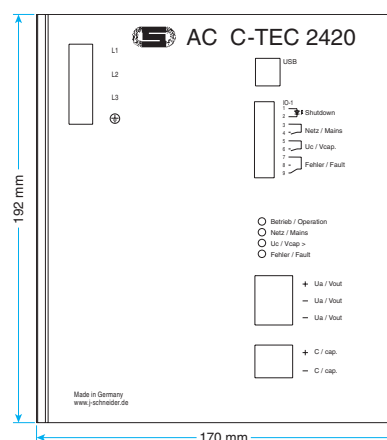
|                           |                               |
|---------------------------|-------------------------------|
| NOMINAL INPUT VOLTAGE     | 3 x 340 – 550 V AC $\pm$ 15 % |
| NOMINAL FREQUENCY         | 45-66 Hz                      |
| MAX INRUSH CURRENT        | 32 A for 10.5 ms              |
| MAX NOMINAL INPUT CURRENT | 0.95 A – (Ue 400 V AC)        |

**OUTPUT**

|                                            |                     |
|--------------------------------------------|---------------------|
| NOMINAL OUTPUT VOLTAGE IN MAINS OPERATION  | 24.8 V DC $\pm$ .5V |
| NOMINAL OUTPUT VOLTAGE IN BUFFER OPERATION | 23.2 V DC           |
| NOMINAL OUTPUT CURRENT                     | 20 A DC             |
| CURRENT LIMITATION                         |                     |
| EFFICIENCY                                 | 90%                 |

**GENERAL DATA**

|                                 |                                                         |
|---------------------------------|---------------------------------------------------------|
| ENERGY CONTENT                  | 8KJ                                                     |
| DEGREE OF PROTECTION            | IP20                                                    |
| OPERATING TEMP.                 | -40 to 60 °C                                            |
| STORAGE TEMP.                   | -25 to 70 °C                                            |
| RELATIVE HUMIDITY               | 95 % non condensating                                   |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                  |
| DIMENSIONS                      | 192.5 mm x 170 mm x 198 mm (7.58in. x 6.64in. x 7.8in.) |
| WEIGHT                          | 3.5 Kg (7.71lbs.)                                       |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech)  |
| NORMS AND REGULATIONS           | EN 50178                                                |
| UL LISTING                      | UL 508 C22.2 No. 107.1-01                               |



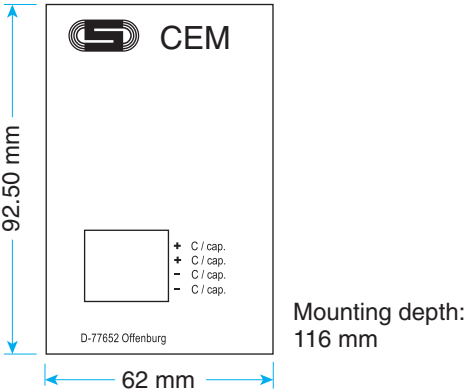
Mounting depth:  
198 mm



- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed



|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| Part No.                        | CEM-1                                                  |
| Model Number                    | NCBA0739G01001                                         |
| <b>INPUT</b>                    |                                                        |
| NOMINAL INPUT VOLTAGE           | 24 V DC                                                |
| VOLTAGE RANGE                   | 0-26.4 V DC                                            |
| <b>GENERAL DATA</b>             |                                                        |
| ENERGY CONTENT                  | 1 KJ                                                   |
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| DEGREE OF PROTECTION            | IP20; 3 AT; (PTC internal)                             |
| OPERATING TEMP.                 | - 40 to 60 °C                                          |
| STORAGE TEMP.                   | - 40 to 60 °C                                          |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                 |
| DIMENSIONS                      | 92.5 mm x 60 mm x 116 mm (3.64in. x 2.36in. x 4.56in.) |
| WEIGHT                          | .85 Kg. (1.87lbs.)                                     |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01                             |

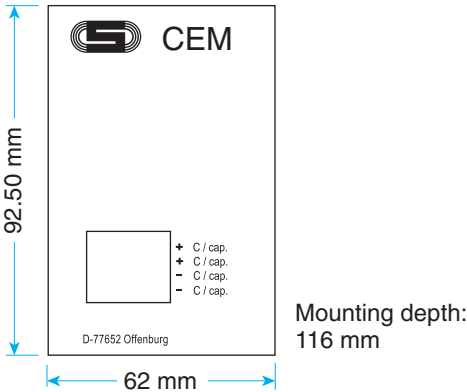




- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed



|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| Part No.                        | CEM-2                                                  |
| Model Number                    | NCBA0739G01002                                         |
| INPUT                           |                                                        |
| NOMINAL INPUT VOLTAGE           | 24 V DC                                                |
| VOLTAGE RANGE                   | 0-26.4 V DC                                            |
| GENERAL DATA                    |                                                        |
| ENERGY CONTENT                  | 2 KJ                                                   |
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| DEGREE OF PROTECTION            | IP20; 3 AT; (PTC internal)                             |
| OPERATING TEMP.                 | - 40 to 60 °C                                          |
| STORAGE TEMP.                   | - 40 to 60 °C                                          |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                 |
| DIMENSIONS                      | 92.5 mm x 60 mm x 116 mm (3.64in. x 2.36in. x 4.56in.) |
| WEIGHT                          | 1 Kg. (2.2lbs.)                                        |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01                             |

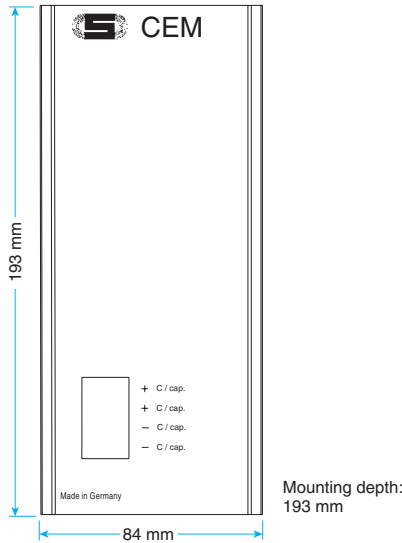




- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed



|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| <b>Part No.</b>                 | <b>CEM-8</b>                                           |
| <b>Model Number</b>             | NCBA0748G10003                                         |
| <b>INPUT</b>                    |                                                        |
| NOMINAL INPUT VOLTAGE           | 24 V DC                                                |
| VOLTAGE RANGE                   | 0-26.4 V DC                                            |
| <b>GENERAL DATA</b>             |                                                        |
| ENERGY CONTENT                  | 8 KJ                                                   |
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| DEGREE OF PROTECTION            | IP20; internal                                         |
| OPERATING TEMP.                 | - 40 to 60 °C                                          |
| STORAGE TEMP.                   | - 40 to 60 °C                                          |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                 |
| DIMENSIONS                      | 193 mm x 82 mm x 193 mm (7.59in. x 3.22in. x 7.59in.)  |
| WEIGHT                          | 2.1 Kg. (4.62lbs.)                                     |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01.                            |

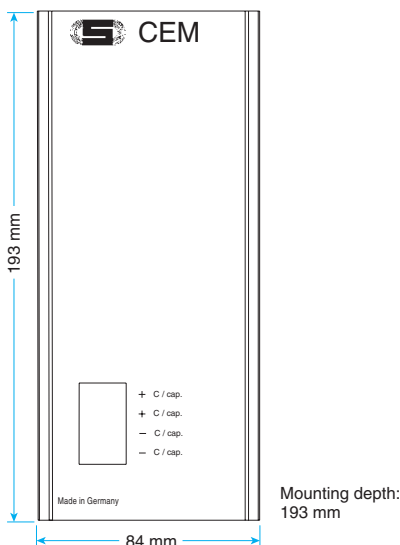




- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
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- Cost effective over time
- UL Listed



|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| <b>Part No.</b>                 | <b>CEM-16</b>                                          |
| Model Number                    | NCBA0748G10001                                         |
| <b>INPUT</b>                    |                                                        |
| NOMINAL INPUT VOLTAGE           | 24 V DC                                                |
| VOLTAGE RANGE                   | 0-26.4 V DC                                            |
| <b>GENERAL DATA</b>             |                                                        |
| ENERGY CONTENT                  | 16 KJ                                                  |
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| DEGREE OF PROTECTION            | IP20; internal                                         |
| OPERATING TEMP.                 | - 40 to 60 °C                                          |
| STORAGE TEMP.                   | - 40 to 60 °C                                          |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                 |
| DIMENSIONS                      | 193 mm x 84 mm x 193 mm (7.59in. x 3.30in. x 7.59in.)  |
| WEIGHT                          | 2.1 Kg. (4.62lbs.)                                     |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01.                            |

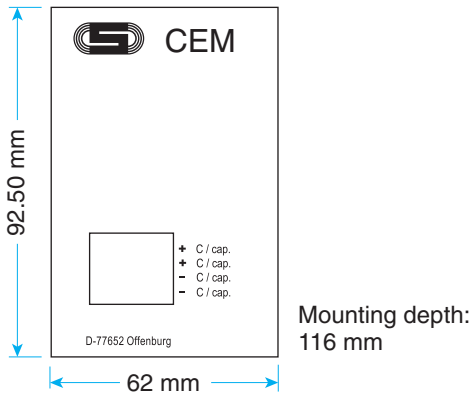




- Maintenance-free due to durable ultra capacitors
- Reduces wiring time due to integrated energy storage
- Vibration secured wiring via spring loaded plugs
- Wide working temperature range
- Seamless switch over
- Long operational life
- Compact and convection cooled
- Environmentally safe and free of toxic chemicals
- Cost effective over time
- UL Listed



|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| Part No.                        | CEM-12-1                                               |
| Model Number                    | NCBA0739G10003                                         |
| INPUT                           |                                                        |
| NOMINAL INPUT VOLTAGE           | 12 V DC                                                |
| VOLTAGE RANGE                   | 0-13.2 VDC                                             |
| GENERAL DATA                    |                                                        |
| ENERGY CONTENT                  | .6 KJ                                                  |
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | - 40 to 60 °C                                          |
| STORAGE TEMP.                   | - 40 to 60 °C                                          |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                 |
| DIMENSIONS                      | 92.5 mm x 60 mm x 116 mm (3.64in. x 2.36in. x 4.53in.) |
| WEIGHT                          | .7 Kg. (1.54lbs.)                                      |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01                             |

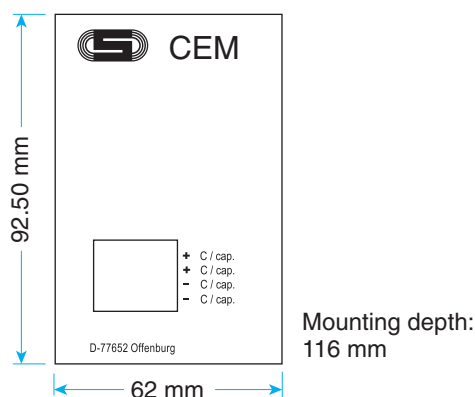




- Maintenance-free due to durable ultra capacitors
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- Vibration secured wiring via spring loaded plugs
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- Long operational life
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- UL Listed



|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| <b>Part No.</b>                 | <b>CEM-12-2</b>                                        |
| <b>Model Number</b>             | NCBA0739G1004                                          |
| <b>INPUT</b>                    |                                                        |
| NOMINAL INPUT VOLTAGE           | 12 V DC                                                |
| VOLTAGE RANGE                   | 0-13.2 VDC                                             |
| <b>GENERAL DATA</b>             |                                                        |
| ENERGY CONTENT                  | 1.2 KJ                                                 |
| BUFFER TIME                     | DEPENDENT ON THE LOAD                                  |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | - 40 to 60 °C                                          |
| STORAGE TEMP.                   | - 40 to 60 °C                                          |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m above sea-level                                 |
| DIMENSIONS                      | 92.5 mm x 60 mm x 116 mm (3.64in. x 2.36in. x 4.53in.) |
| WEIGHT                          | .95 Kg. (2.09lbs.)                                     |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01                             |



## How to Pick a Capacitor Module

1. Choose your output voltage (12, 24 or 48V DC)
2. Pick you required back up current. All suitable modules are listed below the Amperage in the form of back up time in seconds. Altech suggests a time 50% larger than your required back up time.

## Estimated Back Up Times

|                   |            |                    | Required Back Up Current (A) |      |      |      |     |     |     |     |    |     |    |     |  |
|-------------------|------------|--------------------|------------------------------|------|------|------|-----|-----|-----|-----|----|-----|----|-----|--|
|                   |            |                    | 0.5                          | 1    | 1.5  | 2    | 3   | 5   | 8   | 10  | 15 | 20  | 30 | 40  |  |
|                   |            |                    | Time (seconds)               |      |      |      |     |     |     |     |    |     |    |     |  |
| DC Input          | 12V DC     | C-TEC1203-1        | 12                           | 150  | 75   | 50   | 37  | 25  |     |     |    |     |    |     |  |
|                   |            | C-TEC1205-5        | 12                           | 750  | 375  | 250  | 187 | 125 | 75  |     |    |     |    |     |  |
|                   |            | C-TEC1208-20       | 12                           | 3300 | 1650 | 1100 | 830 | 550 | 330 | 200 |    |     |    |     |  |
|                   |            | C-TEC1210-1        | 12                           | 150  | 75   | 50   | 37  | 25  | 16  | 10  |    |     |    |     |  |
|                   |            | C-TEC1210-10       | 12                           | 1650 | 825  | 550  | 415 | 275 | 165 | 100 | 80 |     |    |     |  |
|                   |            | C-TEC1225P         | 12                           | 110  | 55   | 35   | 27  | 18  | 10  | 6   | 5  | 3   | 2  | 1.5 |  |
|                   | 24V DC     | C-TEC2403-05       | 24                           | 40   | 20   | 12   | 10  | 6   |     |     |    |     |    |     |  |
|                   |            | C-TEC2403-1        | 24                           | 75   | 37   | 25   | 19  | 12  |     |     |    |     |    |     |  |
|                   |            | C-TEC2403-1-400    | 24                           | 75   | 37   | 25   | 19  | 12  |     |     |    |     |    |     |  |
|                   |            | C-TEC2405-5        | 24                           | 375  | 187  | 125  | 94  | 62  | 37  |     |    |     |    |     |  |
|                   |            | C-TEC2408-20       | 24                           | 1500 | 750  | 500  | 375 | 250 | 150 | 94  |    |     |    |     |  |
|                   |            | C-TEC2410-1        | 24                           | 75   | 37   | 25   | 18  | 12  | 7   | 4   | 3  |     |    |     |  |
|                   |            | C-TEC2410-10       | 24                           | 750  | 375  | 250  | 187 | 125 | 75  | 45  | 37 |     |    |     |  |
|                   |            | C-TEC2420-8        | 24                           | 600  | 300  | 200  | 150 | 100 | 60  | 37  | 30 | 20  | 15 |     |  |
|                   |            | C-TEC2425P         | 24                           | 115  | 60   | 40   | 30  | 19  | 10  | 6   | 5  | 3   | 2  |     |  |
|                   | C-TEC2440P | 24                 | 333                          | 167  | 111  | 83   | 55  | 33  | 21  | 17  | 11 | 8   | 5  | 4   |  |
|                   | 48V DC     | C-TEC4815P         |                              | 50   | 25   | 17   | 12  | 8   | 4.5 | 3   | 2  | 1.5 |    |     |  |
| AC Input          | 12V DC     | AC-C-TECH1203-1    |                              | 150  | 75   | 50   | 37  | 25  |     |     |    |     |    |     |  |
|                   | 24V DC     | AC-C-TEC2403-05    |                              | 37   | 18   | 12   | 10  | 6   |     |     |    |     |    |     |  |
|                   |            | AC-C-TEC2403-1-400 |                              | 75   | 37   | 25   | 19  | 12  |     |     |    |     |    |     |  |
|                   |            | AC-C-TECH2403-1    |                              | 75   | 37   | 25   | 19  | 12  |     |     |    |     |    |     |  |
|                   |            | AC-C-TEC2410-10    |                              | 750  | 375  | 250  | 187 | 125 | 75  | 45  | 37 |     |    |     |  |
|                   |            | AC-C-TEC2420-8     |                              | 600  | 300  | 200  | 150 | 100 | 60  | 37  | 30 | 20  | 15 |     |  |
| Extension Modules | Part No.   |                    |                              |      |      |      |     |     |     |     |    |     |    |     |  |
|                   |            | *CEM12-1           |                              | 100  | 50   | 30   | 25  | 15  |     |     |    |     |    |     |  |
|                   |            | *CEM12-2           |                              | 200  | 100  | 60   | 50  | 30  | 5   |     |    |     |    |     |  |
|                   |            | *CEM1              |                              | 75   | 37   | 25   | 19  | 12  | 8   |     |    |     |    |     |  |
|                   |            | *CEM2              |                              | 150  | 75   | 50   | 40  | 24  | 16  |     |    |     |    |     |  |
|                   |            | *CEM8              |                              | 600  | 300  | 200  | 150 | 100 | 60  | 37  | 30 | 20  | 15 |     |  |
|                   | *CEM16     |                    | 1200                         | 600  | 400  | 300  | 200 | 120 | 75  | 60  | 40 | 30  |    |     |  |

\* Please add CEM back up times for extended calculations.

For example C-TEC2403-1 @ 0.5A + CEM1 @ 0.5A = 150 sec. total back up time.

**Backup Time can be calculated by the following formula:**

**WS(KJ) / W = Back Up Time**

**C-TECxx** = DC UPS with ultra-capacitors (V DC input)

**AC-TECxx** = DC UPS with ultra capacitors (V AC input)

**CEM** = capacitor extension module for C-TEC and AC-TEC

**Part Number Structure: C-TECxx**

**Example** C-TEC 1203-1  
 C-TEC: capacitor back up, DC input  
 12: input and output 12 V DC  
 3: 3A output current  
 1: kJ energy

**Part Number Structure: AC-C-TECxx**

**Example** AC-TEC 2420-8  
 AC-TEC: capacitor back up unit, AC input  
 24: output 24 V DC  
 20: 20A output current  
 8: 8 kJ energy

**Part Number Structure: CEMxx**

**Example** CEM16  
 CEM - capacitor extension unit  
 16 - 16 kJ energy

## Estimated Charging Time

|                   |          |                   | Charging Current (A) |     |     |    |    |    |  |  |
|-------------------|----------|-------------------|----------------------|-----|-----|----|----|----|--|--|
|                   |          |                   | 3                    | 5   | 8   | 10 | 15 | 20 |  |  |
|                   |          |                   | Time (seconds)       |     |     |    |    |    |  |  |
| DC Input          | 12V DC   | C-TEC1203-1       | 23                   |     |     |    |    |    |  |  |
|                   |          | C-TEC1205-5       | 120                  | 70  |     |    |    |    |  |  |
|                   |          | C-TEC1208-20      | 450                  | 270 | 170 |    |    |    |  |  |
|                   |          | C-TEC1210-1       |                      | 16  | 10  | 8  |    |    |  |  |
|                   |          | C-TEC1210-10      |                      | 140 | 85  | 70 |    |    |  |  |
|                   |          | C-TEC1225P        |                      | 130 | 80  | 65 | 45 | 35 |  |  |
|                   | 24V DC   | C-TEC2403-05      | 6                    |     |     |    |    |    |  |  |
|                   |          | C-TEC2403-1-400   | 12                   |     |     |    |    |    |  |  |
|                   |          | C-TEC2403-1       | 12                   |     |     |    |    |    |  |  |
|                   |          | C-TEC2405-5       | 58                   | 35  |     |    |    |    |  |  |
|                   |          | C-TEC2408-20      | 226                  | 136 | 85  |    |    |    |  |  |
|                   |          | C-TEC2410-1       |                      | 8   | 5   | 4  |    |    |  |  |
|                   |          | C-TEC2410-10      |                      | 68  | 42  | 34 |    |    |  |  |
|                   |          | C-TEC2420-8       |                      | 60  | 37  | 30 | 20 | 15 |  |  |
|                   |          | C-TEC2425P        | 68                   | 42  | 34  | 23 | 18 |    |  |  |
|                   |          | C-TEC2440P        | 110                  | 68  | 55  | 36 | 28 |    |  |  |
|                   | 48V DC   | C-TEC4815P        | 40                   | 25  | 20  | 14 |    |    |  |  |
|                   | AC Input | 12V DC            | AC-TECH1203-1        | 23  |     |    |    |    |  |  |
| 24V DC            |          | AC-TECH2403-05    | 6                    |     |     |    |    |    |  |  |
|                   |          | AC-TECH2403-1     | 12                   |     |     |    |    |    |  |  |
|                   |          | AC-TECH2403-1-400 |                      | 12  |     |    |    |    |  |  |
|                   |          | AC-TEC2410-10     |                      | 68  | 42  | 34 |    |    |  |  |
|                   |          | AC-TEC2420-8      |                      | 60  | 37  | 30 | 20 | 15 |  |  |
| Part No.          |          |                   |                      |     |     |    |    |    |  |  |
| Extension Modules |          | CEM12-1           | 7                    |     |     |    |    |    |  |  |
|                   |          | CEM12-2           | 14                   |     |     |    |    |    |  |  |
|                   |          | CEM1              | 12                   |     |     |    |    |    |  |  |
|                   |          | CEM2              | 25                   |     |     |    |    |    |  |  |
|                   |          | CEM8              |                      | 60  | 37  | 30 | 20 |    |  |  |
|                   |          | CEM16             |                      | 120 | 75  | 60 | 40 | 30 |  |  |

## Recharging time

The ultra-capacitor devices can be charged extremely fast. The table above shows the charging time which are necessary for the recharging of the capacitor units. "Charging current" means the current which is free and available.

Example: A power supply with 10 A max current connected to the C-TEC 2410-10. 3A would supply the load and 7A will be available to charge the unit.

## AKKUTEC / AKKUTEC VdS



Battery back-up modules are an absolute must in many modern industrial applications. **However, an AKKUTEC paired with a battery module is the best back up solution for large power loads over extended periods of time.** An AKKUTEC will ensure the prolonged operation of machinery and controlled processes.

Altech Corporation offers a wide variety of products for DC-UPS systems starting 2 A and up to 40 A along with monitoring / setup software, and comprehensive support.



## KEY FEATURES

- Works primarily in an online parallel configuration
- Controlled shut down functions
- Micro-controller battery management
- Several operating modes
- Protection against wrong battery polarization
- Battery monitoring and testing
- Deep discharge protection
- DIN rail mount and panel mount.\*

The AKKUTEC back-up system from J.Schneider utilizes a separate battery module in such a way that power is always available. In the event of a main power interruption, the AKKUTEC system seamlessly taps into the stored power of the battery. The load is energized by the AKKUTEC until the battery dips below a certain voltage. This feature ensures the battery remains undamaged and effective for future use.

Back up times with the AKKUTEC module are largely dependent on the size of a battery and the load in which they are powering. However, through AKKUTEC's battery management systems and charging techniques, long back up times are achievable and buffer charge times are relatively small. The back-up time for an AKKUTEC and a battery ranges all the way to 96 hours depending on the load and is recommended for applications with larger power demands.

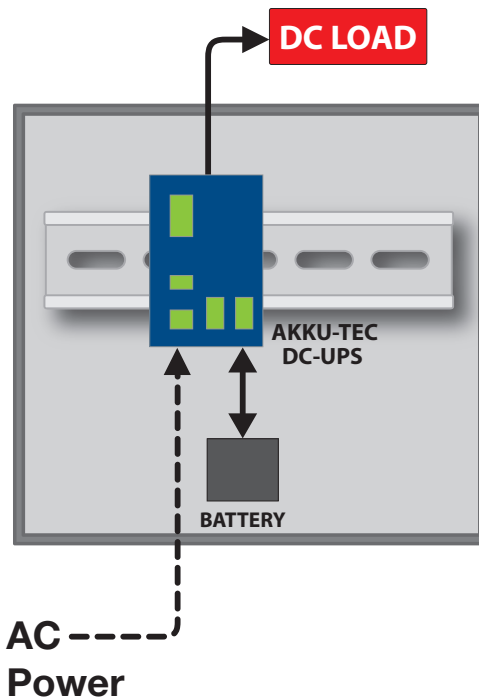


\*Panel mount standard on only four modules.

## DC Power Solutions

### 12, 24 and 48V DC

DC BACK UP with **AC** Input  
(Power Supply with battery built in)



## BACK UP TIME CALCULATION

Back up times can be determined by pairing certain AKKUTEC modules with a variety of battery sizes. A table of back up times and battery sizes have been added for your convenience (pg. 53)

## BENEFITS OF AKKUTEC

- All in one Battery maintenance
- Extended battery life
- Internal Battery testing
- Virtually maintenance free
- Wide operating temperatures
- Compact and convection cooled
- Resists shock and vibrations
- Superior battery and power management
- Seamless switch overs
- Simple installation
- Cost effective over time

## AKKUTEC

The AKKUTEC is a battery buffered DC power supply that works in a stand-by parallel mode with lead-acid batteries. A load is maintained through the AKKUTEC with a safe and continuous DC power supply in the event of main power failure through the attached battery.



|        | Part No.      | Model No.      | Input Voltage                | Output Voltage | Output Current | Max Charging Current |
|--------|---------------|----------------|------------------------------|----------------|----------------|----------------------|
| 12V DC | AKKUTEC1203   | NBPAQ33G1M13   | 115/230 V AC +/- 15%         | 12 V DC        | 3 A            | 2.85 A               |
|        | AKKUTEC1208   | NBPA0616G01006 | 115-230 V AC -0.05           | 12 V DC        | 8 A            | 8 A                  |
| 24V DC | AKKUTEC2402   | NBPAQ33G1M01   | 97-264 V AC                  | 24 V DC        | 2 A            | 2.1 A                |
|        | AKKUTEC2403   | NBPAQ33G1M10   | 230 V AC 0.05                | 24 V DC        | 3 A            | 2.86 A               |
|        | AKKUTEC2403DC | NBUA0523G01003 | 24 V DC                      | 24 V DC        | 3 A            | 2.1 A                |
|        | AKKUTEC2405   | NBPA0616G01101 | 184-264 V AC                 | 24 V DC        | 5 A            | 5.5 A                |
|        | AKKUTEC2410   | NBPAN33G1M01   | 230 V AC                     | 24 V DC        | 10 A           | 11.5 A               |
|        | AKKUTEC2420-1 | NBPA0347G01001 | 230 V AC -0.05               | 24 V DC        | 20 A           | 22 A                 |
|        | AKKUTEC2420-3 | NBPA0313G01002 | 3 X 400 V AC, 500 V AC -0.05 | 24 V DC        | 20 A           | 22 A                 |
|        | AKKUTEC2440   | NBPAP33G1M01   | 3 X 400 V AC, 500 V AC -0.05 | 24 V DC        | 40 A           | 44 A                 |
| 48V DC | AKKUTEC4801   | NBPAQ33G1M19   | 115-230 V AC +/- 15%         | 48 V DC        | 1 A            | 1.1 A                |
|        | AKKUTEC4803   | NBPA0616G01005 | 115-230 V AC +/- 15%         | 48 V DC        | 3 A            | 3.3 A                |
|        | AKKUTEC4810   | NBPA0347G01007 | 230 V AC +/- 15%             | 48 V DC        | 10 A           | 11 A                 |

## AKKUTEC VdS

VdS certified AKKUTEC modules. VdS certifications have an excellent reputation with manufacturers, service providers and correspond with the highest testing standards.



|        | Part No.        | Model No.      | Input Voltage                  | Output Voltage | Output Current | Max Charging Current |
|--------|-----------------|----------------|--------------------------------|----------------|----------------|----------------------|
| 24V DC | AKKUTEC2403 VdS | NBPA0844G01002 | 115-230 V AC (95 V...265 V AC) | 24 V DC        | 3A             | 3A                   |
|        | AKKUTEC2412 VdS | NBPA0812G01002 | 230 V DC -0.05                 | 24 V DC        | 12A            | 12A                  |



# DC UPS APPLICATIONS



Ship Building



Safety Engineering



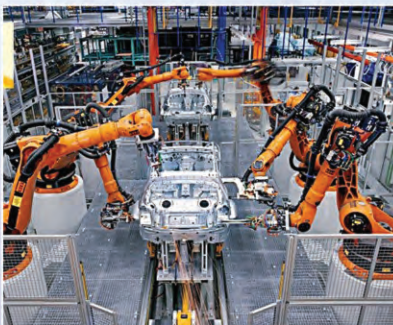
Rail Vehicles



Water Supply



Building Technology



Automation



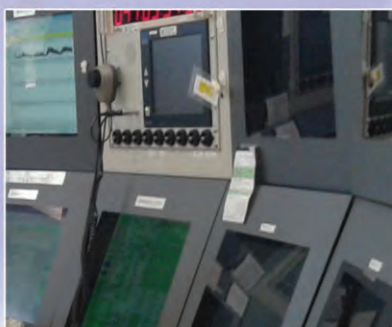
Machinery Construction



Switchgear Production



Power Supply



Stations Control Technology



Photovoltaics



- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- UL Pending



|                     |                    |
|---------------------|--------------------|
| <b>Part No.</b>     | <b>AKKUTEC1203</b> |
| <b>Model Number</b> | NBPAQ33G1M13       |

### INPUT

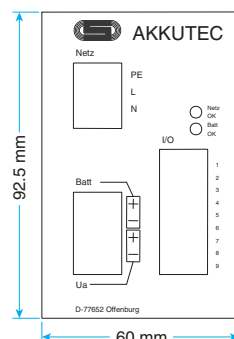
|                       |                       |
|-----------------------|-----------------------|
| NOMINAL INPUT VOLTAGE | 115-230 V AC +/- 15 % |
| NOMINAL FREQUENCY     | 47-63 Hz              |
| SYSTEM VOLTAGE        | 12 V DC               |

### OUTPUT

|                                     |                    |
|-------------------------------------|--------------------|
| MAX CHARGING CURRENT                | 2.85 A             |
| NOMINAL OUTPUT VOLTAGE              | 12 V DC            |
| OUTPUT VOLTAGE WITH TEMP. SENSOR    | 9.9 V DC-13.5 V DC |
| OUTPUT VOLTAGE WITHOUT TEMP. SENSOR | 9.9 V DC-13.2 V DC |
| MAX NOMINAL OUTPUT CURRENT          | 2.85 A DC          |
| EFFICIENCY                          | 83%                |

### GENERAL DATA

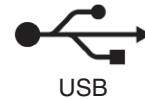
|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                      |
| BATTERY TYPE                    | Pb-Akku                                                |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | 0 to 40 °C                                             |
| STORAGE TEMP.                   | 0 to 50 °C                                             |
| RELATIVE HUMIDITY               | Max. 95 % non-condensing                               |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                |
| DIMENSIONS                      | 92.5 mm x 60 mm x 116 mm (3.64in. x 2.36in. x 4.56in.) |
| WEIGHT                          | .55Kg. (1.21lbs.)                                      |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950; EN 50082-1; EN 55011; EN 61000-4-2 |
| UL LISTING                      | UL PENDING                                             |



Mounting depth:  
116 mm



- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- USB Interface



|                     |                    |
|---------------------|--------------------|
| <b>Part No.</b>     | <b>AKKUTEC1208</b> |
| <b>Model Number</b> | NBPA0616G01006     |

**INPUT**

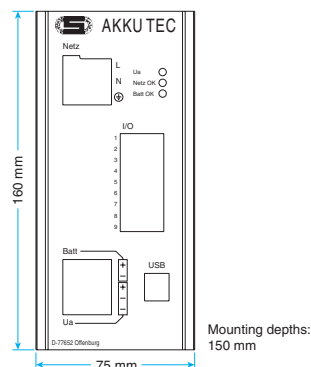
|                       |                       |
|-----------------------|-----------------------|
| NOMINAL INPUT VOLTAGE | 115-230 V AC +/- 15 % |
| NOMINAL FREQUENCY     | 47-63 Hz              |
| SYSTEM VOLTAGE        | 12 V DC               |

**OUTPUT**

|                                     |         |
|-------------------------------------|---------|
| MAX CHARGING CURRENT                | 8 A     |
| NOMINAL OUTPUT VOLTAGE              | 12 V DC |
| OUTPUT VOLTAGE WITH TEMP. SENSOR    | NA      |
| OUTPUT VOLTAGE WITHOUT TEMP. SENSOR | NA      |
| MAX NOMINAL OUTPUT CURRENT          | 8 A DC  |
| EFFICIENCY                          | 88%     |

**GENERAL DATA**

|                                 |                                                                                                      |
|---------------------------------|------------------------------------------------------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                                                                    |
| BATTERY TYPE                    | Pb-Akku                                                                                              |
| DEGREE OF PROTECTION            | IP20                                                                                                 |
| OPERATING TEMP.                 | 0 to 40 °C                                                                                           |
| STORAGE TEMP.                   | 0 to 50 °C                                                                                           |
| RELATIVE HUMIDITY               | Max. 95 % non-condensing                                                                             |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                                                              |
| DIMENSIONS                      | 160 mm x 75 mm x 150mm (6.29in. x 2.95in. x 5.9in.)                                                  |
| WEIGHT                          | 1Kg. (2.2lbs.)                                                                                       |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech)                                               |
| NORMS AND REGULATIONS           | EN 61558 2-17; EN 61000-3-2,3; EN 55011<br>EN 61000-6-2; EN61000-4-2,3,4,5,6,11; EN 50178 / EN 60950 |
| UL LISTING                      | N/A.                                                                                                 |

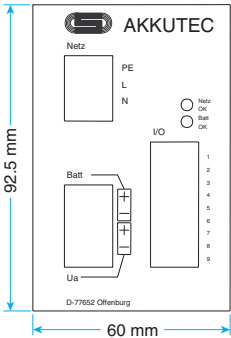




- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- UL Listed



|                                     |                                                                      |
|-------------------------------------|----------------------------------------------------------------------|
| Part No.                            | AKKUTEC2402                                                          |
| Model Number                        | NBPAQ33G1M01                                                         |
| <b>INPUT</b>                        |                                                                      |
| NOMINAL INPUT VOLTAGE               | 115-230 V AC +/- 15 %                                                |
| NOMINAL FREQUENCY                   | 47-63 Hz                                                             |
| SYSTEM VOLTAGE                      | 24 V DC                                                              |
| <b>OUTPUT</b>                       |                                                                      |
| MAX CHARGING CURRENT                | 2.1 A                                                                |
| NOMINAL OUTPUT VOLTAGE              | 24 V DC                                                              |
| OUTPUT VOLTAGE WITH TEMP. SENSOR    | 19.8 V DC-27.8 V DC                                                  |
| OUTPUT VOLTAGE WITHOUT TEMP. SENSOR | 19.8 V DC-26.8 V DC                                                  |
| MAX NOMINAL OUTPUT CURRENT          | 2 A at 100% ED                                                       |
| EFFICIENCY                          | N/A                                                                  |
| <b>GENERAL DATA</b>                 |                                                                      |
| BUFFER TIME                         | DEPENDENT ON BATTERY AND THE LOAD                                    |
| BATTERY TYPE                        | Pb-Akku                                                              |
| DEGREE OF PROTECTION                | IP20                                                                 |
| OPERATING TEMP.                     | 0 to 45 °C                                                           |
| STORAGE TEMP.                       | 0 to 50 °C                                                           |
| RELATIVE HUMIDITY                   | Max. 95 % non-condensing                                             |
| MAX ALTITUDE (without derating)     | 2000 m. above sea-level                                              |
| DIMENSIONS                          | 92.5 mm x 60 mm x 116 mm (3.64in. x 2.36in. x 4.56in.)               |
| WEIGHT                              | .55Kg. (1.21lbs.)                                                    |
| MOUNTING                            | 35 mm DIN Rail (panel mount available, contact Altech)               |
| NORMS AND REGULATIONS               | EN 50178; EN 60950; EN 61000-6-4; EN 61000-6-2; EN 50082-1; EN 55011 |
| UL LISTING                          | UL 508; C22.2 No. 107.1-01                                           |

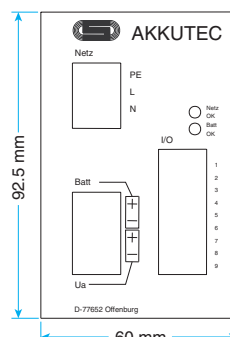


Mounting depth:  
116 mm



- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time

|                                     |                                                        |
|-------------------------------------|--------------------------------------------------------|
| <b>Part No.</b>                     | <b>AKKUTEC2403</b>                                     |
| <b>Model Number</b>                 | NBPAQ33G1M10                                           |
| <b>INPUT</b>                        |                                                        |
| NOMINAL INPUT VOLTAGE               | 230 V AC +15% -10%                                     |
| NOMINAL FREQUENCY                   | 47-63 Hz                                               |
| SYSTEM VOLTAGE                      | 24 V DC                                                |
| <b>OUTPUT</b>                       |                                                        |
| MAX CHARGING CURRENT                | 2.85 A                                                 |
| NOMINAL OUTPUT VOLTAGE              | 24 V DC                                                |
| OUTPUT VOLTAGE WITH TEMP. SENSOR    | 19.8 V DC-27.8 V DC                                    |
| OUTPUT VOLTAGE WITHOUT TEMP. SENSOR | 19.8 V DC-26.8 V DC                                    |
| MAX NOMINAL OUTPUT CURRENT          | 2.85 A DC                                              |
| EFFICIENCY                          | 87%                                                    |
| <b>GENERAL DATA</b>                 |                                                        |
| BUFFER TIME                         | DEPENDENT ON BATTERY AND THE LOAD                      |
| BATTERY TYPE                        | Pb-Akku                                                |
| DEGREE OF PROTECTION                | IP20                                                   |
| OPERATING TEMP.                     | 0 to 45 °C                                             |
| STORAGE TEMP.                       | 0 to 50 °C                                             |
| RELATIVE HUMIDITY                   | Max. 95 % non-condensing                               |
| MAX ALTITUDE (without derating)     | 2000 m. above sea-level                                |
| DIMENSIONS                          | 92.5 mm x 60 mm x 116 mm (3.64in. x 2.36in. x 4.56in.) |
| WEIGHT                              | .55Kg. (1.21lbs.)                                      |
| MOUNTING                            | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS               | EN 50178; EN 60950; EN 55011; EN 50082-1; EN 61000-4-2 |
| UL LISTING                          | N/A                                                    |



Mounting depth:  
116 mm



- DC Input
- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- UL Pending



|                     |                      |
|---------------------|----------------------|
| <b>Part No.</b>     | <b>AKKUTEC2403DC</b> |
| <b>Model Number</b> | NBUA0523G01003       |

### INPUT

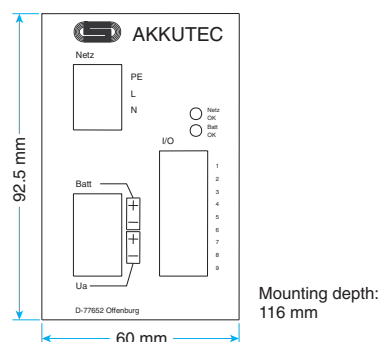
|                       |         |
|-----------------------|---------|
| NOMINAL INPUT VOLTAGE | 24 V DC |
| SYSTEM VOLTAGE        | 24 V    |
| NOMINAL INPUT CURRENT | 3.7 A   |

### OUTPUT

|                                    |                       |
|------------------------------------|-----------------------|
| MAX CHARGING CURRENT               | 2.1 A                 |
| NOMINAL OUTPUT VOLTAGE             | 24 V DC               |
| OUTPUT VOLTAGE WITH TEMP. SENSOR   | 19.8 V DC - 27.8 V DC |
| OUTPUT VOLTAGE WITHOUT TEMP SENSOR | 19.8 V DC - 26.8 V DC |
| MAX NOMINAL OUTPUT CURRENT         | 2.85 A DC             |
| EFFICIENCY                         | 85%                   |

### GENERAL DATA

|                                 |                                                                                                   |
|---------------------------------|---------------------------------------------------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                                                                 |
| BATTERY TYPE                    | Pb-Akku                                                                                           |
| DEGREE OF PROTECTION            | IP20                                                                                              |
| OPERATING TEMP.                 | 0 to 40 °C                                                                                        |
| STORAGE TEMP.                   | 0 to 50 °C                                                                                        |
| RELATIVE HUMIDITY               | Max. 95 % non-condensing                                                                          |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                                                           |
| DIMENSIONS                      | 92.5 mm x 60 mm x 116 mm (3.64in. x 2.36in. x 4.56in.)                                            |
| WEIGHT                          | .55Kg. (1.21lbs.)                                                                                 |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech)                                            |
| NORMS AND REGULATIONS           | EN 55011; 1998 Class B; EN 61000-3-2; EN 61000-3-3 Class A<br>EN 50082-2 1995; EN 50178; EN 60950 |
| UL LISTING                      | Pending                                                                                           |





- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- USB Interface
- UL Listed



|                     |                    |
|---------------------|--------------------|
| <b>Part No.</b>     | <b>AKKUTEC2405</b> |
| <b>Model Number</b> | NBPA0616G01101     |

**INPUT**

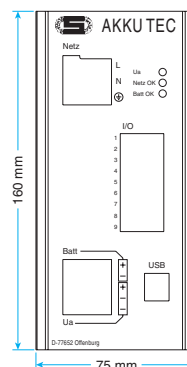
|                       |                          |
|-----------------------|--------------------------|
| NOMINAL INPUT VOLTAGE | 115 - 230 V AC -15% +10% |
| NOMINAL FREQUENCY     | 47-63 Hz                 |
| SYSTEM VOLTAGE        | 24 V DC                  |
| NOMINAL INPUT CURRENT |                          |

**OUTPUT**

|                                    |                       |
|------------------------------------|-----------------------|
| MAX CHARGING CURRENT               | 5.5 A                 |
| NOMINAL OUTPUT VOLTAGE             | 24 V DC               |
| OUTPUT VOLTAGE WITH TEMP. SENSOR   | 19.8 V DC - 27.8 V DC |
| OUTPUT VOLTAGE WITHOUT TEMP SENSOR | 19.8 V DC - 26.8 V DC |
| MAX NOMINAL OUTPUT CURRENT         | 5 A DC                |
| EFFICIENCY                         | 88%                   |

**GENERAL DATA**

|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                      |
| BATTERY TYPE                    | Pb-Akku                                                |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | 0 to 40 °C                                             |
| STORAGE TEMP.                   | 0 to 50 °C                                             |
| RELATIVE HUMIDITY               | N/A                                                    |
| MAX ALTITUDE (without derating) | N/A                                                    |
| DIMENSIONS                      | 160 mm x 75 mm x 150 mm (6.29in. x 2.95in. x 5.9in.)   |
| WEIGHT                          | 1.6Kg. (3.52lbs.)                                      |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178 EN60950; EN 55011; EN 50082-1; EN 61000-4-2   |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01                             |



Mounting depths:  
150 mm



- Battery charger with I/U-charging characteristics
- Active power factor correction (PFC)
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- UL Listed



### Part No.

**AKKUTEC2410**

### Model Number

NBPAN33G1M01

### INPUT

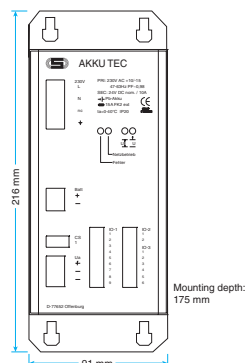
|                       |                      |
|-----------------------|----------------------|
| NOMINAL INPUT VOLTAGE | 230 V AC -15 % +10 % |
| NOMINAL FREQUENCY     | 50/60 Hz             |
| SYSTEM VOLTAGE        | 24 V DC              |
| NOMINAL INPUT CURRENT | 1.4 A AC             |

### OUTPUT

|                                    |                       |
|------------------------------------|-----------------------|
| MAX CHARGING CURRENT               | 11.5 A                |
| NOMINAL OUTPUT VOLTAGE             | 24 V DC               |
| OUTPUT VOLTAGE WITH TEMP. SENSOR   | 19.8 V DC - 27.8 V DC |
| OUTPUT VOLTAGE WITHOUT TEMP SENSOR | 19.8 V DC - 26.8 V DC |
| MAX NOMINAL OUTPUT CURRENT         | 10 A DC               |
| EFFICIENCY                         |                       |

### GENERAL DATA

|                                 |                                                      |
|---------------------------------|------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                    |
| BATTERY TYPE                    | Pb-Akku                                              |
| DEGREE OF PROTECTION            | IP20                                                 |
| OPERATING TEMP.                 | 0 to 40 °C                                           |
| STORAGE TEMP.                   | 0 to 50 °C                                           |
| RELATIVE HUMIDITY               | N/A                                                  |
| MAX ALTITUDE (without derating) | N/A                                                  |
| DIMENSIONS                      | 216 mm x 91 mm x 175 mm (8.5in. x 3.58in. x 6.88in.) |
| WEIGHT                          | 1.6Kg. (3.52lbs.)                                    |
| MOUNTING                        | Panel Mount                                          |
| NORMS AND REGULATIONS           | EN 50178; EN60950; EN 55011; EN 50082-1              |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01.                          |





- Battery charger with I/U-charging characteristics
- Active power factor correction (PFC)
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time

**Part No.****AKKUTEC2420****Model Number**

NBPA0347G01001

**INPUT**

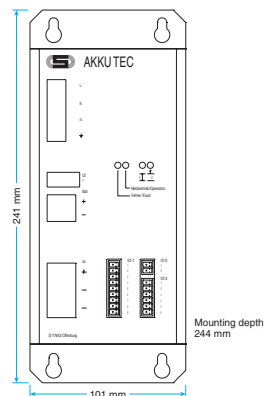
|                       |                      |
|-----------------------|----------------------|
| NOMINAL INPUT VOLTAGE | 230 V AC -15 % +10 % |
| NOMINAL FREQUENCY     | 50/60 Hz             |
| SYSTEM VOLTAGE        | 24 V DC              |
| NOMINAL INPUT CURRENT | 2.7 A                |

**OUTPUT**

|                                    |                       |
|------------------------------------|-----------------------|
| MAX CHARGING CURRENT               | 22 A                  |
| NOMINAL OUTPUT VOLTAGE             | 24 V DC               |
| OUTPUT VOLTAGE WITH TEMP. SENSOR   | 19.8 V DC - 27.8 V DC |
| OUTPUT VOLTAGE WITHOUT TEMP SENSOR | 19.8 V DC - 26.8 V DC |
| MAX NOMINAL OUTPUT CURRENT         | 20 A DC               |
| EFFICIENCY                         | 88.80%                |

**GENERAL DATA**

|                                 |                                                     |
|---------------------------------|-----------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                   |
| BATTERY TYPE                    | Pb-Akku                                             |
| DEGREE OF PROTECTION            | IP20                                                |
| OPERATING TEMP.                 | 0 to 40 °C                                          |
| STORAGE TEMP.                   | 0 to 50 °C                                          |
| RELATIVE HUMIDITY               | Max. 95 % non-condensing                            |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                             |
| DIMENSIONS                      | 241mm x 101mm x 244 mm (9.48in. x 3.97in. x 9.6in.) |
| WEIGHT                          | 2.4Kg. (5.29lbs.)                                   |
| MOUNTING                        | Panel Mount                                         |
| NORMS AND REGULATIONS           | EN 50178; EN 55011; EN 50082-1                      |
| UL LISTING                      | N/A                                                 |





- Battery charger with I/U-charging characteristics
- Active power factor correction (PFC)
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- UL Pending

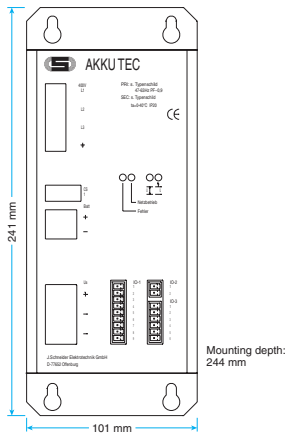


|              |                |
|--------------|----------------|
| Part No.     | AKKUTEC2420-3  |
| Model Number | NBPA0313G01002 |

|                       |                                    |
|-----------------------|------------------------------------|
| <b>INPUT</b>          |                                    |
| NOMINAL INPUT VOLTAGE | 3 x 400 V -500 V AC -15 % / + 10 % |
| NOMINAL FREQUENCY     | 45-65 Hz                           |
| SYSTEM VOLTAGE        | 24 V DC                            |

|                                     |                       |
|-------------------------------------|-----------------------|
| <b>OUTPUT</b>                       |                       |
| MAX CHARGING CURRENT                | 22 A                  |
| NOMINAL OUTPUT VOLTAGE              | 24 V DC               |
| OUTPUT VOLTAGE WITH TEMP. SENSOR    | 19.8 V DC - 27.8 V DC |
| OUTPUT VOLTAGE WITHOUT TEMP. SENSOR | 19.8 V DC - 26.8 V DC |
| MAX NOMINAL OUTPUT CURRENT          | 20 A DC               |
| EFFICIENCY                          | N/A                   |

|                                 |                                                       |
|---------------------------------|-------------------------------------------------------|
| <b>GENERAL DATA</b>             |                                                       |
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                     |
| BATTERY TYPE                    | Pb-Akku                                               |
| DEGREE OF PROTECTION            | IP20                                                  |
| OPERATING TEMP.                 | 0 to 40 °C                                            |
| STORAGE TEMP.                   | 0 to 50 °C                                            |
| RELATIVE HUMIDITY               | N/A                                                   |
| MAX ALTITUDE (without derating) | N/A                                                   |
| DIMENSIONS                      | 241 mm x 101 mm x 244 mm (9.48in. x 3.97in. x 9.6in.) |
| WEIGHT                          | 2.6Kg. (5.73lbs.)                                     |
| MOUNTING                        | Panel Mount                                           |
| NORMS AND REGULATIONS           | EN 50178; EN 55011; EN 50082-2; EN 61000-3-2          |
| UL LISTING                      | Pending                                               |





- Primary switched power supply with I/U-charging characteristics
- Active power factor correction (PFC)
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Cost effective over time
- UL Listed



|                     |                     |
|---------------------|---------------------|
| <b>Part No.</b>     | <b>AKKUTEC2440</b>  |
| <b>Model Number</b> | <b>NBPAP33G1M01</b> |

## INPUT

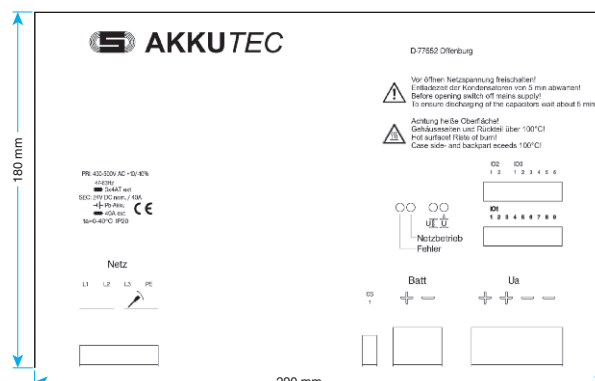
|                              |                                    |
|------------------------------|------------------------------------|
| <b>NOMINAL INPUT VOLTAGE</b> | 3 x 400 V -500 V AC -15 % / + 10 % |
| <b>NOMINAL FREQUENCY</b>     | 45- 65 Hz                          |
| <b>SYSTEM VOLTAGE</b>        | 24 V DC                            |

## OUTPUT

|                                            |                       |
|--------------------------------------------|-----------------------|
| <b>MAX CHARGING CURRENT</b>                | 44 A                  |
| <b>NOMINAL OUTPUT VOLTAGE</b>              | 24 V DC               |
| <b>OUTPUT VOLTAGE WITH TEMP. SENSOR</b>    | 19.8 V DC - 27.8 V DC |
| <b>OUTPUT VOLTAGE WITHOUT TEMP. SENSOR</b> | 19.8 V DC - 26.8 V DC |
| <b>MAX NOMINAL OUTPUT CURRENT</b>          | 40 A DC               |
| <b>EFFICIENCY</b>                          | 91.50%                |

## GENERAL DATA

|                                        |                                                         |
|----------------------------------------|---------------------------------------------------------|
| <b>BUFFER TIME</b>                     | DEPENDENT ON BATTERY AND THE LOAD                       |
| <b>BATTERY TYPE</b>                    | Pb-Akku                                                 |
| <b>DEGREE OF PROTECTION</b>            | IP20                                                    |
| <b>OPERATING TEMP.</b>                 | 0 to 40 °C                                              |
| <b>STORAGE TEMP.</b>                   | 0 to 50 °C                                              |
| <b>RELATIVE HUMIDITY</b>               | N/A                                                     |
| <b>MAX ALTITUDE (without derating)</b> | N/A                                                     |
| <b>DIMENSIONS</b>                      | 180 mm x 290 mm x 147 mm (7.08in. x 11.41in. x 5.78in.) |
| <b>WEIGHT</b>                          | 3.3Kg. (7.27lbs.)                                       |
| <b>MOUNTING</b>                        | 35 mm DIN Rail (panel mount available, contact Altech)  |
| <b>NORMS AND REGULATIONS</b>           | EN 55011; EN 50082-2; EN 61000-6-2                      |
| <b>UL LISTING</b>                      | UL 508; C22.2 No. 107.1-01                              |





- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- UL Listed



|              |              |
|--------------|--------------|
| Part No.     | AKKUTEC4801  |
| Model Number | NBPAQ33G1M19 |

INPUT

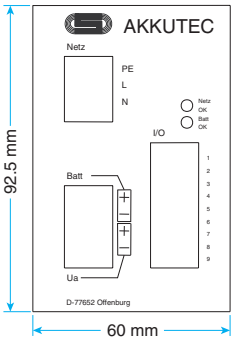
|                       |                          |
|-----------------------|--------------------------|
| NOMINAL INPUT VOLTAGE | 115- 230 V AC $\pm$ 15 % |
| NOMINAL FREQUENCY     | 47- 63 Hz                |
| SYSTEM VOLTAGE        | 48 V DC                  |

OUTPUT

|                                     |                     |
|-------------------------------------|---------------------|
| MAX CHARGING CURRENT                | 1.1 A               |
| NOMINAL OUTPUT VOLTAGE              | 48 V DC             |
| OUTPUT VOLTAGE WITH TEMP. SENSOR    | 39.6 V DC-55.6 V DC |
| OUTPUT VOLTAGE WITHOUT TEMP. SENSOR | 39.6 V DC-53.6 V DC |
| MAX NOMINAL OUTPUT CURRENT          | 1.1 A DC            |
| EFFICIENCY                          | 87%                 |

GENERAL DATA

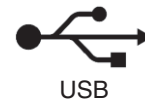
|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                      |
| BATTERY TYPE                    | Pb-Akku                                                |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | 0 to 40 °C                                             |
| STORAGE TEMP.                   | 0 to 50 °C                                             |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                |
| DIMENSIONS                      | 92.5 mm x 60 mm x 116 mm (3.64in. x 2.36in. x 4.56in.) |
| WEIGHT                          | .55Kg. (1.21lbs.)                                      |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 50178; EN 60950; EN 55011; EN 50082-2; EN 61000-6-2 |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01                             |



Mounting depth:  
116 mm



- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- USB Interface
- UL Pending



|                     |                    |
|---------------------|--------------------|
| <b>Part No.</b>     | <b>AKKUTEC4803</b> |
| <b>Model Number</b> | NBPA0616G01005     |

### INPUT

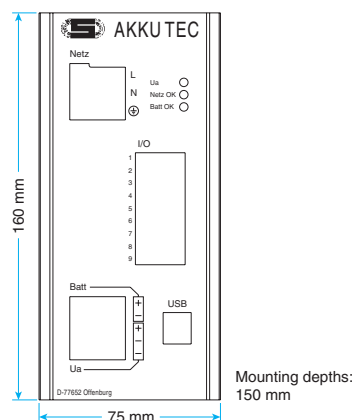
|                       |                              |
|-----------------------|------------------------------|
| NOMINAL INPUT VOLTAGE | 115 ... 230 V AC -15 % +10 % |
| NOMINAL FREQUENCY     | 47- 63 Hz                    |
| SYSTEM VOLTAGE        | 48 V DC                      |

### OUTPUT

|                                     |                     |
|-------------------------------------|---------------------|
| MAX CHARGING CURRENT                | 3.3 A               |
| NOMINAL OUTPUT VOLTAGE              | 48 V DC             |
| OUTPUT VOLTAGE WITH TEMP. SENSOR    | 39.6 V DC-55.6 V DC |
| OUTPUT VOLTAGE WITHOUT TEMP. SENSOR | 39.6 V DC-53.6 V DC |
| MAX NOMINAL OUTPUT CURRENT          | —                   |
| EFFICIENCY                          | —                   |

### GENERAL DATA

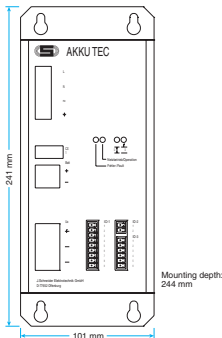
|                                 |                                                        |
|---------------------------------|--------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                      |
| BATTERY TYPE                    | Pb-Akku                                                |
| DEGREE OF PROTECTION            | IP20                                                   |
| OPERATING TEMP.                 | 0 to 40 °C                                             |
| STORAGE TEMP.                   | 0 to 50 °C                                             |
| RELATIVE HUMIDITY               | 95 % non-condensing                                    |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                |
| DIMENSIONS                      | 160 mm x 75 mm x 150 mm (6.29in. x 2.95in. x 5.9in.)   |
| WEIGHT                          | 1 Kg. (2.2lbs.)                                        |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech) |
| NORMS AND REGULATIONS           | EN 55011; EN 50082-1; EN 61000-4-2; EN 50178; EN 60950 |
| UL LISTING                      | UL Pending                                             |





- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time

|                                     |                                                                                                     |
|-------------------------------------|-----------------------------------------------------------------------------------------------------|
| Part No.                            | AKKUTEC4810                                                                                         |
| Model Number                        | NBPA0347G01007                                                                                      |
| INPUT                               |                                                                                                     |
| NOMINAL INPUT VOLTAGE               | 230 V AC -15%+10%                                                                                   |
| NOMINAL FREQUENCY                   | 47-63 Hz                                                                                            |
| SYSTEM VOLTAGE                      | 48 V DC                                                                                             |
| MAX NOMINAL INPUT CURRENT           | —                                                                                                   |
| OUTPUT                              |                                                                                                     |
| MA X CHARGING CURRENT               | 11 A                                                                                                |
| NOMINAL OUTPUT VOLTAGE              | 48 V DC                                                                                             |
| OUTPUT VOLTAGE WITH TEMP. SENSOR    | 39.6 V DC – 52.8 V DC                                                                               |
| OUTPUT VOLTAGE WITHOUT TEMP. SENSOR | 39.6 V DC- 57.2 V DC                                                                                |
| MAX NOMINAL OUTPUT CURRENT          | 10 A                                                                                                |
| EFFICIENCY                          | —                                                                                                   |
| GENERAL DATA                        |                                                                                                     |
| BUFFER TIME                         | DEPENDENT ON BATTERY AND THE LOAD                                                                   |
| BATTERY TYPE                        | Pb-Akku                                                                                             |
| DEGREE OF PROTECTION                | IP20                                                                                                |
| OPERATING TEMP.                     | 0 °C to 40 °C                                                                                       |
| STORAGE TEMP.                       | 0 °C to 50 °C                                                                                       |
| RELATIVE HUMIDITY                   | 95% non-condensing                                                                                  |
| MAX ALTITUDE (without derating)     | 2000 m. above sea-level                                                                             |
| DIMENSIONS                          | 100.5mm x 240.5mm x 244mm 3.95in. x 9.46in. x 9.60in.                                               |
| WEIGHT                              | 2.4 Kg, (5.29lbs.)                                                                                  |
| MOUNTING                            | Panel Mount                                                                                         |
| NORMS AND REGULATIONS               | EN61558 2-17; EN55011../..1998; EN 61000-3-2 EN61000-3-3<br>EN50082-2/03.95; EN 60068-2-6; EN 50178 |
| UL LISTING                          | N/A                                                                                                 |





- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- UL Listed
- VdS certified



|                     |                        |
|---------------------|------------------------|
| <b>Part No.</b>     | <b>AKKUTEC2403 VdS</b> |
| <b>Model Number</b> | NBPA0844G01002         |

**INPUT**

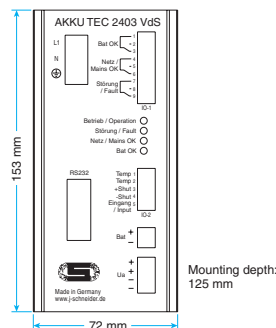
|                           |                               |
|---------------------------|-------------------------------|
| NOMINAL INPUT VOLTAGE     | 110/230 V AC (95 V- 265 V AC) |
| NOMINAL FREQUENCY         | 47- 63 Hz                     |
| SYSTEM VOLTAGE            | —                             |
| MAX NOMINAL INPUT CURRENT | .5 A                          |

**OUTPUT**

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| MAX CHARGING CURRENT                | 3 A                               |
| NOMINAL OUTPUT VOLTAGE              | 24 V DC (21.6-28.3 V $\pm 0.4$ %) |
| OUTPUT VOLTAGE WITH TEMP. SENSOR    | 26.4 V DC - 28.6 V DC             |
| OUTPUT VOLTAGE WITHOUT TEMP. SENSOR | 26.4 V DC                         |
| MAX NOMINAL OUTPUT CURRENT          | 3 A                               |
| EFFICIENCY                          | 85%                               |

**GENERAL DATA**

|                                 |                                                                                                     |
|---------------------------------|-----------------------------------------------------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                                                                   |
| BATTERY TYPE                    | Pb-Akku                                                                                             |
| DEGREE OF PROTECTION            | IP20                                                                                                |
| OPERATING TEMP.                 | -10 °C to 50 °C                                                                                     |
| STORAGE TEMP.                   | -10 °C to 50 °C                                                                                     |
| RELATIVE HUMIDITY               | 95 % non-condensing                                                                                 |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                                                             |
| DIMENSIONS                      | 153 mm x 72 mm x 125 mm (6in. x 2.83in. x 4.92in.)                                                  |
| WEIGHT                          | 1 Kg. (2.2lbs.)                                                                                     |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech)                                              |
| NORMS AND REGULATIONS           | EN 50178:1998; EN 54-4:1997+A1:2002+A2:2006<br>EN 12101-10:2006+B1:2009; EN 61000-6-4; EN 61000-6-2 |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01                                                                          |
| VdS APPROVALS                   | VdS 2541:1998; VdS-2344                                                                             |





- Battery charger with I/U-charging characteristics
- Battery management by micro-controller
- Battery voltage tracking of the charging voltage by external sensor module (optional)
- The AKKUTEC is virtually maintenance free
- Internal battery testing and extended battery life
- Wide operating temperatures
- Compact and convection cooled
- Resists shocks and vibrations
- Seamless switch overs
- Simple installation
- Cost effective over time
- VdS certified
- UL Listed



E178172



### Part No. AKKUTEC2412 VdS

Model Number NBPA0812G01002

#### INPUT

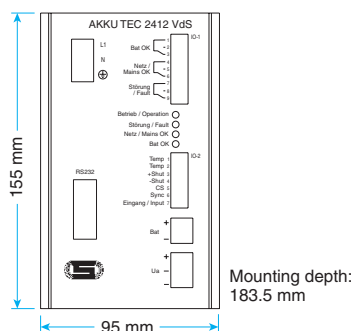
|                           |                        |
|---------------------------|------------------------|
| NOMINAL INPUT VOLTAGE     | 230 V AC $\pm$ 15 %    |
| NOMINAL FREQUENCY         | 47- 63 Hz              |
| SYSTEM VOLTAGE            | 24V DC                 |
| MAX NOMINAL INPUT CURRENT | 1.8 A (at 12 A output) |

#### OUTPUT

|                                     |                       |
|-------------------------------------|-----------------------|
| MAX CHARGING CURRENT                | —                     |
| NOMINAL OUTPUT VOLTAGE              | 24 V DC               |
| OUTPUT VOLTAGE WITH TEMP. SENSOR    | 20.46 V DC -28.3 V DC |
| OUTPUT VOLTAGE WITHOUT TEMP. SENSOR | 26.46 V DC            |
| MAX NOMINAL OUTPUT CURRENT          | 12 A                  |
| EFFICIENCY                          | 89%                   |

#### GENERAL DATA

|                                 |                                                                                                     |
|---------------------------------|-----------------------------------------------------------------------------------------------------|
| BUFFER TIME                     | DEPENDENT ON BATTERY AND THE LOAD                                                                   |
| BATTERY TYPE                    | Pb-Akku                                                                                             |
| DEGREE OF PROTECTION            | IP20                                                                                                |
| OPERATING TEMP.                 | -10 °C to 50 °C                                                                                     |
| STORAGE TEMP.                   | -10 °C to 50 °C                                                                                     |
| RELATIVE HUMIDITY               | 95 % non-condensing                                                                                 |
| MAX ALTITUDE (without derating) | 2000 m. above sea-level                                                                             |
| DIMENSIONS                      | 155 mm x 95 mm x 183.5 mm (8.98in. x 3.74in. x 7.22in.)                                             |
| WEIGHT                          | 2.5 Kg. (5.5lbs.)                                                                                   |
| MOUNTING                        | 35 mm DIN Rail (panel mount available, contact Altech)                                              |
| NORMS AND REGULATIONS           | EN 50178:1998; EN 54-4:1997+A1:2002+A2:2006<br>EN 12101-10:2006+B1:2009; EN 61000-6-4; EN 61000-6-2 |
| UL LISTING                      | UL 508; C22.2 No. 107.1-01.                                                                         |
| VdS APPROVALS                   | VdS 2541:1998                                                                                       |



Examples of different AKKUTEC modules paired with different battery sizes.

### Back Up Time: Available Current vs. Estimated Back Up Time in Minutes

| DC-UPS<br>Part No. | No. of 12V<br>Batteries | Battery<br>Size | Required Back Up Current (A) |      |      |     |     |     |     |     |     |     |    |
|--------------------|-------------------------|-----------------|------------------------------|------|------|-----|-----|-----|-----|-----|-----|-----|----|
|                    |                         |                 | 0.5                          | 1    | 2    | 3   | 5   | 8   | 10  | 12  | 15  | 20  | 40 |
|                    |                         |                 | Time (minutes)               |      |      |     |     |     |     |     |     |     |    |
| AKKUTEC 1203       | 1                       | 7.2 AH          | 360                          | 180  | 90   | 60  |     |     |     |     |     |     |    |
| AKKUTEC 1203       | 1                       | 12 AH           | 600                          | 300  | 150  | 100 |     |     |     |     |     |     |    |
| AKKUTEC 1208       | 1                       | 12 AH           | 600                          | 300  | 150  | 100 | 60  | 37  |     |     |     |     |    |
| AKKUTEC 1208       | 1                       | 20 AH           | 1000                         | 500  | 250  | 166 | 100 | 62  |     |     |     |     |    |
| AKKUTEC 1210       | 1                       | 12 AH           | 600                          | 300  | 150  | 100 | 60  | 37  | 36  |     |     |     |    |
| AKKUTEC 1210       | 1                       | 20 AH           | 1000                         | 500  | 250  | 166 | 100 | 62  | 50  |     |     |     |    |
| AKKUTEC 2402       | 2                       | 1.2 AH          | 60                           | 30   | 15   |     |     |     |     |     |     |     |    |
| AKKUTEC 2402       | 2                       | 2.4 AH          | 120                          | 60   | 30   |     |     |     |     |     |     |     |    |
| AKKUTEC 2402       | 2                       | 7.2 AH          | 360                          | 180  | 90   |     |     |     |     |     |     |     |    |
| AKKUTEC 2403       | 2                       | 2.4 AH          | 120                          | 60   | 30   | 20  |     |     |     |     |     |     |    |
| AKKUTEC 2403       | 2                       | 7.2 AH          | 360                          | 180  | 90   | 60  |     |     |     |     |     |     |    |
| AKKUTEC 2403       | 2                       | 12 AH           | 600                          | 300  | 150  | 100 |     |     |     |     |     |     |    |
| AKKUTEC 2405       | 2                       | 2.4 AH          | 120                          | 60   | 30   | 20  | 12  |     |     |     |     |     |    |
| AKKUTEC 2405       | 2                       | 7.2 AH          | 360                          | 180  | 90   | 60  | 36  |     |     |     |     |     |    |
| AKKUTEC 2405       | 2                       | 12 AH           | 600                          | 300  | 150  | 100 | 60  |     |     |     |     |     |    |
| AKKUTEC 2410       | 2                       | 7.2 AH          | 360                          | 180  | 90   | 60  | 36  | 22  | 18  |     |     |     |    |
| AKKUTEC 2410       | 2                       | 12 AH           | 600                          | 300  | 150  | 100 | 60  | 37  | 36  |     |     |     |    |
| AKKUTEC 2410       | 2                       | 20 AH           | 1000                         | 500  | 250  | 333 | 100 | 62  | 50  |     |     |     |    |
| AKKUTEC 2412 VdS   | 2                       | 7.2 AH          | 360                          | 180  | 90   | 60  | 36  | 22  | 18  | 15  |     |     |    |
| AKKUTEC 2412 VdS   | 2                       | 12 AH           | 600                          | 300  | 150  | 100 | 60  | 37  | 36  | 25  |     |     |    |
| AKKUTEC 2412 VdS   | 2                       | 20 AH           | 1000                         | 500  | 250  | 333 | 100 | 62  | 50  | 41  |     |     |    |
| AKKUTEC 2420       | 2                       | 12AH            | 600                          | 300  | 150  | 100 | 60  | 37  | 36  | 25  | 20  | 15  |    |
| AKKUTEC 2420       | 2                       | 20AH            | 1000                         | 500  | 250  | 166 | 100 | 62  | 50  | 41  | 33  | 25  |    |
| AKKUTEC 2420       | 2                       | 40AH            | 2000                         | 1000 | 500  | 333 | 200 | 125 | 100 | 83  | 65  | 50  |    |
| AKKUTEC 2440       | 2                       | 12AH            | 600                          | 300  | 150  | 100 | 60  | 37  | 36  | 25  | 20  | 15  |    |
| AKKUTEC 2440       | 2                       | 20AH            | 1000                         | 500  | 250  | 166 | 100 | 62  | 50  | 41  | 33  | 25  | 13 |
| AKKUTEC 2440       | 2                       | 40AH            | 2000                         | 1000 | 500  | 333 | 200 | 125 | 100 | 83  | 65  | 50  | 25 |
| AKKUTEC 2440       | 2                       | 100AH           | 5000                         | 2500 | 1250 | 833 | 500 | 312 | 250 | 208 | 200 | 150 | 75 |
| AKKUTEC 4801       | 4                       | 2.4 AH          | 120                          | 60   |      |     |     |     |     |     |     |     |    |
| AKKUTEC 4801       | 4                       | 7.2 AH          | 360                          | 180  |      |     |     |     |     |     |     |     |    |
| AKKUTEC 4803       | 4                       | 7.2 AH          | 360                          | 180  | 90   | 60  |     |     |     |     |     |     |    |
| AKKUTEC 4803       | 4                       | 12 AH           | 600                          | 300  | 150  | 100 |     |     |     |     |     |     |    |
| AKKUTEC 4810       | 4                       | 12 AH           | 600                          | 300  | 150  | 100 | 60  | 37  | 36  |     |     |     |    |
| AKKUTEC 4810       | 4                       | 20 AH           | 1000                         | 500  | 250  | 166 | 100 | 62  | 50  |     |     |     |    |

\* Battery performance may vary by battery, manufacturer and type.

## Software

A multitude of DC-UPS and AKKUTEC systems come with a variety of online control software. These programs allow for increased adaptability making the UPS system tailored to its application. This customization ensures maximum efficiency and seamless operation.

### TEC Control

Shut-Down Software- TECControl for DC-UPS and AKKUTEC systems.

The TEC Control software continuously monitors both a computer network and the status of the available UPS energy storage system.

In case of mains failure, the Industrial PC shuts itself down through the TECControl after a preset time. In this time, the UPS and the Industrial PC will then be switched off in a safe and controlled manner. The UPS system will provide the power for the controlled shutdown. This prevents damage to computer systems and the devices they may operate and prevents the loss of critical data or work. Once mains power is restored, the UPS releases the output voltage. The system will then restart automatically.

- Works with a variety of Windows operating systems.

Usable with:

- AC C-TEC 2403 • AC C-TEC 2420 • AKKUTEC 1208 • AKKUTEC 2403 • AKKUTEC 2405 • AKKUTEC 4803
- AKKUTEC 4810 • AKKUTEC 2410 • AKKUTEC 2420 • AKKUTEC 2420-3 • AKKUTEC 2440 • C-TEC 2403
- C-TEC 2405 • C-TEC 2408 • C-TEC 2410 • C-TEC 2420

### paraTEC

Software that allows the user to customize specific functions in the C-TEC or AKKUTEC module to meet special requirements.

- ParaTEC software allows the user to make adjustments to their DC UPS system.
- Real time system monitoring (Voltage, Current, Errors, Etc.)
- Works with Windows XP and 7 Operating Systems

Usable with:

- AKKUTEC 1208 • AKKUTEC 2405 • AC C-TEC 2420 • AKKUTEC 4803
- CTEC 2405 • C-TEC 2410 • CTEC 2408 • C-TEC 2420

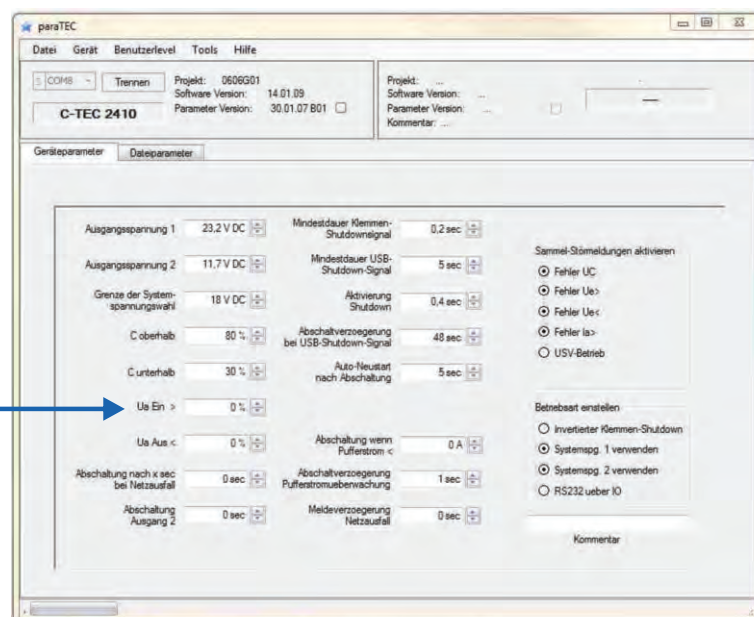
### paraTEC VdS

- paraTEC software for the AKKUTEC 2412VdS.
- Works with a variety of Windows Operating Systems

### ParaTEC Software

The software is used to set up or change the characteristics of the C-TEC units.

It is possible to adjust C-TEC devices in the way that the release of input and load is effected only if the total capacity is available.



(Part information and corresponding hardware on page 56)

## AKKUTEC Temperature Sensors

These sensors are for use in battery voltage tracking. The life span of batteries is indicated at a temperature of 20°C. Temperatures over 20°C lead to a drastic reduction of the working life of typical sealed lead acid batteries. Through the temperature-sensor, charging voltage is adjusted to ensure that battery isn't over charged or heated up.

- Battery measurement every minute
- Announcement via LED and potential free contacts at exceeding the limit temperature
- Possible to display the temperature on the control and indicator panel (optional)
- Connected at IO clamp 1 and 2

Part No.

### MTIAL33G5M01

Usable with:

- AKKUTEC 2410 • AKKUTEC 2420 • AKKUTEC 2440
- AKKUTEC 1210 • AKKUTEC 4810



Part No.

### MTIAQ33G3M01

Usable with:

- AKKUTEC 2402 • AKKUTEC 2403 • AKKUTEC 2405 • AKKUTEC 2412
- AKKUTEC 1203 • AKKUTEC 1208 • AKKUTEC 4801 • AKKUTEC 4803
- AKKUTEC 4803 VdS



## AKKUTEC Display/Control Panel

Part No.

### PBDEL33G4M01

- Clear two-line, 20-digit, backlit alphanumeric LCD display
- Separate settings for contrast and brightness
- Power supply and data transmission by 2-wire bus cable to reduce wiring-up work to a minimum
- Parameters for charging and monitoring functions can be both displayed and entered
- Status messages shown in plain language
- Beeper to draw attention to warnings and faults (can be disabled)
- Operating parameters of redundant systems as well can be displayed on a single unit
- Easy-to-follow operator prompts
- 3-key setting processes
- Function levels protected by passwords
- Suitable for mounting in doors of electrical cabinets (IP54 protection)

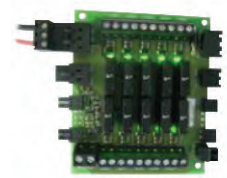
Usable with:

- AKKUTEC 2410-2440



## Fuse Boards

Fuse boards designed for the distribution and protection of the 12/24V outputs of the AKKUTEC series or any other DC source.



| Part No.       | Type         | Description                                                                                                                                  |
|----------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| NBP20849G02003 | FB 2405-5    | fuse board designed for FKS-fuses with max. 6,3 A, equipped with 5 fuses à 1 A / extension for IP31 cabinet 3 A                              |
| NBP20848G02005 | FB 2410-10   | fuse board designed for FKS-fuses with max. 15 A, equipped with 10 fuses à 1 A / extension for IP31 cabinet 12 A                             |
| NBP20902G02004 | FB 2405-5 P  | fuse board designed for FKS-fuses with max. 6,3 A, equipped with 5 fuses à 1 A / base for IP54 cabinet, snap-on mounting for supporting rail |
| NBP20901G02003 | FB 2410-10 P | fuse board designed for FKS-fuses with max. 15 A, equipped with 10 fuses à 1 A / base for IP54 cabinet, snap-on mounting for supporting rail |

## Accessories

|                 |                               |                                                                                                                                                                 |
|-----------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PSXX-0441601003 | paraTEC License               | control software for a number of DC-UPS modules                                                                                                                 |
| PSXX-0441G01002 | TEC-Control License           | shutdown software for all AKKUTEC, C-TEC and AC C-TEC equipment as license                                                                                      |
| PSXX-0441G01001 | TEC-Control CD                | shutdown software for all AKKUTEC, C-TEC and AC C-TEC equipment as CD. Works with a number of modules and is compatible with several Windows operating systems. |
| PSDP-0324G01004 | Module Cable A                | Interface for AKKUTEC 2402/2403, AKKUTEC 2405 and all C-TEC devices*                                                                                            |
| n.n.            | AKKUTEC Cable B               | 9 Pol Sub D 1 : 1 for AKKUTEC 2403 DC*                                                                                                                          |
| PSDP-0324G01002 | AKKUTEC Cable C 1             | Interface cable for AKKUTEC 2410 - 2440 1,2 M*                                                                                                                  |
| PSDP-0324G01003 | AKKUTEC Cable C 2             | Interface cable for AKKUTEC 2410 - 2440 5 M*                                                                                                                    |
| PSDP-0324G01005 | AKKUTEC Cable C 3             | Interface cable for AKKUTEC 2410- 2440 10 M*                                                                                                                    |
| 3019.25         | MODULE USB cable              | for C-TEC, AC C-TEC, USB 5.0 cable, A to B with ferrite, 0,5 m length*                                                                                          |
| RBSM0429G01001  | AKKUTEC IPC switch module     | for AKKUTEC 2410/2420/2402/2403                                                                                                                                 |
| PBDEL33G4M01    | AKKUTEC Display/Control Panel | for AKKUTEC 2410-2440-monitor and control AKKUTEC functions                                                                                                     |
| MTIAL33G5M01    | AKKUTEC Temperature sensor    | for AKKUTEC --helps to maintain optimal battery performance through temperature and battery monitoring                                                          |
| MTIAQ33G3M01    | AKKUTEC Temperature sensor    | for AKKUTEC --helps to maintain optimal battery performance through temperature and battery monitoring                                                          |
| 59610.1         | KGEK002S003M92                | decoupling module 2 x 25 A 100 V                                                                                                                                |
| 59610.2         | KGEK006S001M92                | decoupling module 2 x 50 A 45 V                                                                                                                                 |

\* For use with TEC Control and paraTEC software.

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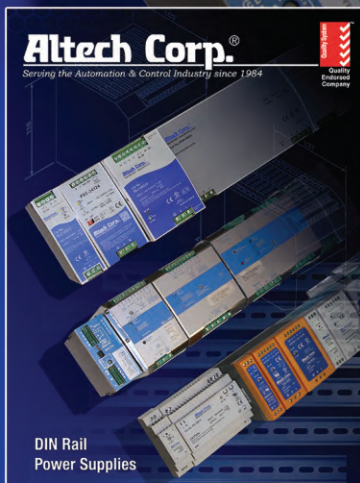
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### PSA Flex Series (1 Phase)

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- System start from battery function



### PS-S Slim line Series

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- 10W to 100W rated power
- Universal single phase input



### CB Battery Chargers

- Intelligent battery chargers
- Suitable for most common battery types
- Adjustable charging current
- 2 VDC and 24VDC single output
- 110-220-277 VAC input



### PS Low Profile Series

- Low profile Design, plastic housing
- UL 60950-1 Recognized
- Isolation Class II
- 10W to 100W rated power
- Universal single phase input

### Accessories

- Redundancy diode module
- UPS controller module
- Battery holders and enclosures
- Ultra capacitor modules

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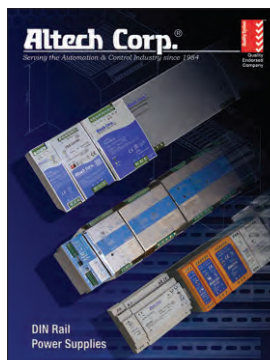
### Motor Disconnect Switches



Altech's line of Motor Disconnect Switches are UL 508 listed as Manual Motor Controllers for AC Motor Starting Across-the-line and AC General use. This new 16 page catalog includes the 3 different handle designs, which are all available in gray/black or yellow/red housings. Electrical ratings are 25-150A / 600V. The switches are non-fused DIN Rail mountable. Neat features include: snap-on auxiliary switches, door mounting kit and a retrofit 30A fuse holder. Also featured are Enclosed Motor Disconnect Switches & Fused Enclosed Motor Disconnect Switch (30A) in plastic or stainless housings.

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