TABLE OF CONTENTS


Custom application shown


Custom solution shown

Traditional lead-acid batteries rely on aging technology and toxic chemicals for energy storage. While adequate for many applications, they have limitations for emerging applications that require safe, dependable, quick-back up power, over long periods of time. Ultra-capacitors in DC-UPS applications, ensure that critical information and functions are available when supply voltage dips, sags, drops out or surges, or during a battery changeover. Working in conjunction with a complementary power supply, ultra-capacitors modules reliably supply energy in peak power demand conditions, short power outages and reducing stress on the primary power supply and extending its usable life.

Uninterruptable DC-power supplies (DC-UPS) ensure the continuous operation of any machinery or any controlled process in case of power outages or in case if power dips or sags.

Altech Corporation offers a wide variety of products for DC-UPS-systems from 2 A and up to 900 A or larger, a monitoring and set up software, comprehensive support.

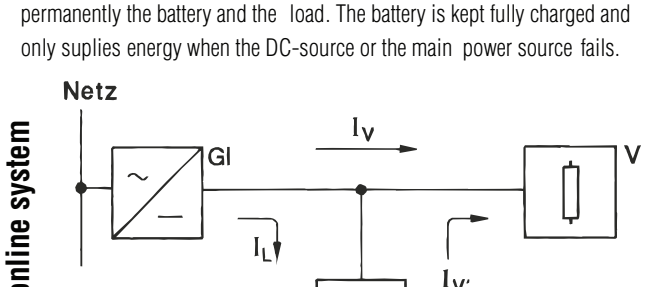
Key features:

- the systems work mainly in parallel operation (online)
- standard for every system up to 40 A low discharge protection through load rejection
- battery control by real measurement of battery voltage
- permanent battery test
- shut-down function
- adjustable switch over time
- short delivery times (many systems from factory stock)
- high flexibility in case of custom systems requirements

The following operation modes are recomended depending on system and application requirements:

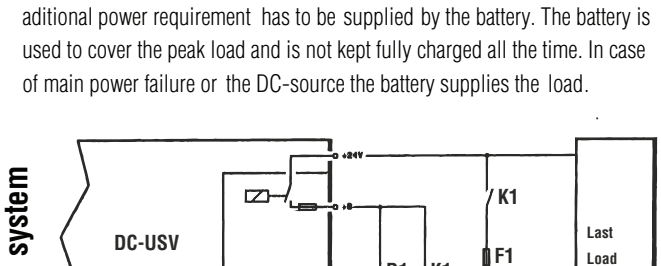
Parallel operation

DC power source and battery connected permanenty in parallel. In case of standby-parallel mode (Online-mode) the DC-source must be able to supply permanently the battery and the load. The battery is kept fully charged and only suplies energy when the DC-source or the main power source fails.



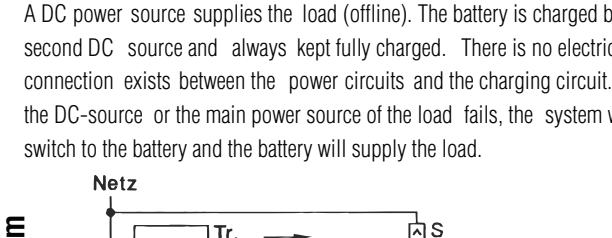
Buffer-battery system

The load exceeds the rated power of the DC power source, in this case the aditional power requirement has to be supplied by the battery. The battery is used to cover the peak load and is not kept fully charged all the time. In case of main power failure or the DC-source the battery supplies the load.



Switching mode

A DC power source supplies the load (offline). The battery is charged by a second DC source and always kept fully charged. There is no electrical connection exists between the power circuits and the charging circuit. If the DC-source or the main power source of the load fails, the system will switch to the battery and the battery will supply the load.



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The DC Back-Up module C-TEC works with Ultracapacitors as energy storage inside the housing. In case of an interruption of the main power source, the energy of the Ultra-capacitors is released. The load is energised from the buffer module, until it is discharged. The back-up time depends on the state of charge of the capacitors and on the discharge current.

Highlights

- compact design, assembled in one housing
- maintenance-free
- deep discharge protection, thus inlimited storage possible
- operation in extreme temperatures possible (extremely high, extremely low)
- no gas emission, use in enclosed housings possible
- fast availability because of short recharge time after discharge

Back-up times

Compared with standard buffer modules the ultra capacitor units are capable of longer back-up time and fast discharge. Back-up time depends on the energy of the capacitors and can be calculated as follows:

$$\text{Back Up time} = \frac{\text{energy}}{\text{voltage x current}}$$

Examples:
with full charged capacitors:

$$\frac{\text{10000 Joule}}{\text{24 V x 10 A}} = \text{50 seconds}$$

Benefits

- Environmentally safe
- No toxic chemicals
- Virtually maintenance free
- Lasts up to 15 years
- Operating temperature range -40°C to +65°C
- Higher energy vs. electrolytic capacitors
- Higher power vs. batteries
- Resists shock and vibration

BACK-UP TIME: AVAILABLE CURRENT VS. BACK-UP TIME IN SECONDS

Required Back up Curent (A) ⟶			0.5	1	1.5	2	3	5	8	10	15	20	30	40
Part No.	**Extension Module Part No.**		**Time (s)**											
C-TEC1203-1			150	75	50	37	25							
AC-TEC1203-1			150	75	50	37	25							
C-TEC2403-1			75	37	25	19	12							
AC-TEC2403-1			75	37	25	19	12							
C-TEC2403-1	+	**CEM1**	150	75	50	38	25							
AC-TEC2403-1	+	**CEM1**	150	75	50	38	25							
C-TEC2403-1	+	**CEM2**	225	112	75	57	37							
AC-TEC2403-1	+	**CEM2**	225	112	75	57	37							
C-TEC2405-5			375	187	125	94	62	37						
C-TEC2408-20			1500	750	500	375	250	150	94					
C-TEC2410-1			75	37	25	18	12	7	4	3				
C-TEC2410-10			750	375	250	187	125	75	45	37				
AC-TEC2410-10			750	375	250	187	125	75	45	37				
C-TEC2420-8			600	300	200	150	100	60	37	30	20	15		
AC-TEC2420-8			600	300	200	150	100	60	37	30	20	15		
C-TEC2420-8	+	**CEM8**	1200	600	400	300	200	120	75	60	40	30		
AC-TEC2420-8	+	**CEM8**	1200	600	400	300	200	120	75	60	40	30		
C-TEC2420-8	+	**CEM16**	1800	900	600	450	300	180	112	90	60	45		
AC-TEC2420-8	+	**CEM16**	1800	900	600	450	300	180	112	90	60	45		
C-TEC2440P			333	167	111	83	55	33	21	17	11	8	5	4
C-TEC2440P	+	**CEM8**	666	333	222	167	111	66	42	33	22	17	11	8
C-TEC2440P	+	**CEM16**	999	500	333	250	166	99	63	50	33	25	16	12
C-TEC1225P			110	55	35	27	18	10	6	5	3	2	1.5	
C-TEC2425P			115	60	40	30	19	10	6	5	3	2		
C-TEC4815P			50	25	17	12	8	4.5	3	2	1.5			
		CEM1	150	75	50	38	25							
		CEM2	300	150	100	77	50							
		CEM8	600	300	200	150	100	60	37	30	20	15		
		CEM16	1200	600	400	300	200	120	75	60	40	30		

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

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Charging Curent (A) →	3	5	8	10	15	20
Part No.	**Time (s)**					
C-TEC1203-1 AC-TEC1203-1	23 23					
C-TEC2403-1 AC-TEC2403-1	12 12					
C-TEC2405-5		35				
C-TEC2408-20			85			
C-TEC2410-1				4		
C-TEC2410-10 AC-TEC2410-10				34 34		
C-TEC2420-8 AC-TEC2420-8				30 30	20 20	15 15
C-TEC2440P				55	36	28
C-TEC1225P				65	45	35
C-TEC2425P				34	23	18
C-TEC4815P				20	14	
CEM1	12					
CEM2	25					
CEM8				30	20	
CEM16				60	40	30

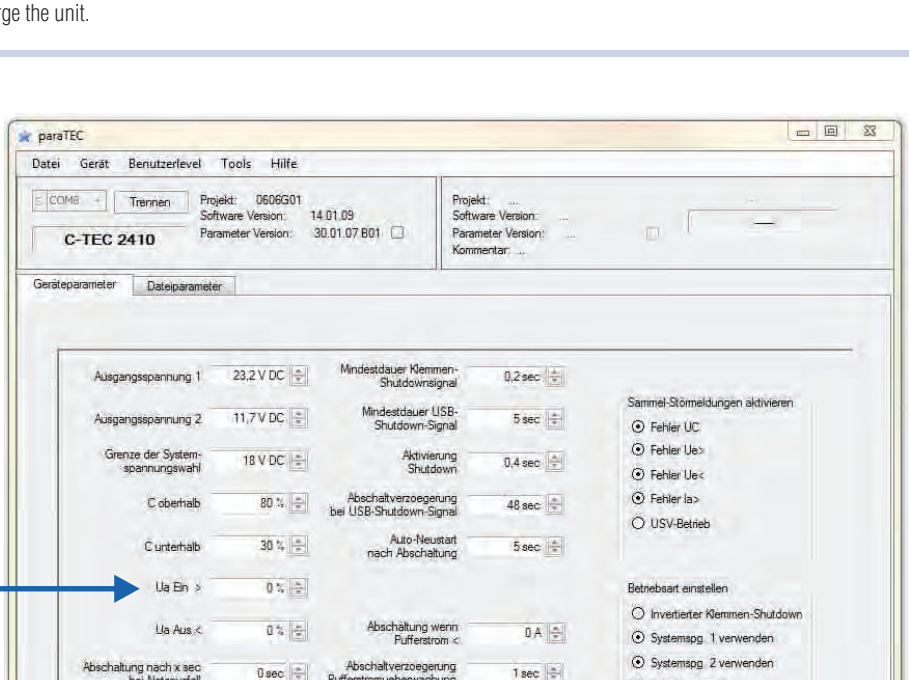
Recharging time

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.

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.



ULTRA-CAPACITOR MODULES, DC INPUT

		c UL us	c UL us	c UL us	UL pending
	Part No.	**C-TEC2403-05** [1/3/4]	**C-TEC2403-1** [1/3/4]	**C-TEC2420-8** [1]	**C-TEC1203-1** [1/3]
with DC-input	nominal input voltage	24 V DC +/- 20%	24 V DC +/- 20%	24 V DC	12 V DC +/- 20%
	accumulated energy in Ws	500	1000	8000	1000
	output voltage in buffer-operation [2]	23 V +/- 2 %	23 V +/- 2 %	23.2 V	11,5 V +/- 2 %
	nominal output current	3 A	3 A	20 A	3 A
	switch off when overload	yes	yes		yes
	current limitation	1,05...1,2 x I_{Nenn}	1,05...1,2 x I_{Nenn}		1,05...1,2 x I_{Nenn}
	efficiency Ua=23,5 V DC, Ia= Inom	> 90 %	> 90 %	approx. 90 %	> 90 %
	General data				
	type of connection input U_E	1 mm²	1 mm²	4 mm²	2,5 mm²
	type of connection out U_A	1 mm²	1 mm²	4 mm²	2,5 mm²
	type of connection measurements I/O	1 mm²	1 mm²	1.5 mm²	1 mm²
	type of protection	IP 20	IP 20	IP 20	IP 20
	weight	0,5 kg	0,58 kg	2.2 kg	0,55 kg
	storage temperature	-40 /+60° C	-40 /+60° C	-40 /+60° C	-40 /+60° C
	environmental temperature	-40 /+60° C	-40 /+60° C	-40 /+60° C	-40 /+60° C
	dimensions in mm	93x60x116	93x60x116	192x84x192	93x60x116

All units are compatible with TEC-Control shut-down-software, USB and serial interface.

		c UL us	UL pending	c UL us	c UL us
	Pat No.	**C-TEC2405-5 / C-TEC1205-5**	**C-TEC2408-20 / C-TEC1208-20**	**C-TEC2410-1 / C-TEC1210-1**	**C-TEC2410-10 / C-TEC1210-10**
with DC-input	nominal input voltage	24 / 12 V DC	24 / 12 V DC	24 / 12 V DC	24 / 12 V DC
	accumulated energy in Ws	5000	20000	1000	10000
	output voltage in buffer-operation	23,5 V / 11,7 V	23,5 V / 11,7 V	23,5 V / 11,7 V	23,5 V / 11,7 V
	nominal output current	5 A	8 A	10 A	10 A
	switch off when overload	after 1,5 sec	after 1,5 sec	after 1,5 sec	after 1,5 sec
	current limitation			1,05...1,2 x I_{Nenn}	
	efficiency Ua=23,5 V DC, Ia= Inom	> 90 %	> 90 %	> 90 %	> 90 %
	General data				
	type of connection input U_E	2,5 mm²	2,5 mm²	2,5 mm²	2,5 mm²
	type of connection output U_A	2,5 mm²	2,5 mm²	2,5 mm²	2,5 mm²
	type of connection messages I/O	1 mm²	1 mm²	1 mm²	1 mm²
	type of protection	IP 20	IP 20	IP 20	IP 20
	weight	1,7 kg	3,5 kg	1,2 kg	2,1 kg
	storage temperature	-40 /+60° C	-40 /+60° C	-40 /+60° C	-40 /+60° C
	environmental temperature	-40 /+60° C	-40 /+60° C	-40 /+60° C	-40 /+60° C
	dimensions in mm	165x114x145	165x184x145	165x70x138	165x114x145

1) expandable with capacitor module **2) adjustable look at page 6** **3) without USB** **4) special types for industrial pc available**

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		UL pending	UL pending
with AC-input	**Part No.**	**AC-TEC2403-1** [1/2]	**AC-TEC1203-1** [1/2]
	Input		
	nominal input voltage	115-230 V AC	115-230 V AC
	accumulated energy in Ws	1000	1000
	Output		
	output voltage in buffer-operation	23,5 V	11,5 V
	nominal output current	3 A	3 A
	current limitation	1,05...1,2 x I_{Nenn}	1,05...1,2 x I_{Nenn}
	efficiency Ua=23, V DC, Ia= Inom	approx. 90 %	approx. 90 %
	General data		
	type of connection input UE	2,5 mm²	2,5 mm²
	type of connection output UA	2,5 mm²	2,5 mm²
	type of connection messages I/O	1 mm²	1 mm²
	type of protection	IP 20	IP 20
	weight	0,9 kg	0,86 kg
	storage temperature	-40 /+60° C	-40 /+60° C
	environmental temperature	-40 /+60°	-40 /+60°
	dimensions in mm	153x72x130	153x72x130

c UL us

	Part No.	**AC-TEC2410-10**	**AC-TEC2420-8**
with AC-input	**Input**		
	nominal input voltage	100 - 240 V AC	3x 400 - 500 V AC
	accumulated energy in Ws	10000	8000
	Output		
	output voltage in buffer-operation	23,5 V	23,0 V
	nominal output current	10 A	20 A
	current limitation	1,05...1,2 x I_{Nenn}	1,05...1,2 x I_{Nenn}
	efficiency Ua=23, V DC, Ia= Inom	approx. 90 %	approx. 90 %
	General data		
	type of connection input UE	2,5 mm²	2,5 mm²
	type of connection output UA	2,5 mm²	4 mm²
	type of connection messages I/O	1 mm²	1,5 mm²
	type of protection	IP 20	IP 20
	weight	3,0 kg	3,5 kg
	storage temperature	-40 /+70° C	-40 /+70° C
	environmental temperature	-25 /+60° C	-25 /+60° C
	dimensions in mm	165x184x145	192x170x198

1) optionally available with 400 V

2) also available with 500 Joule

	Part No.	C-TEC2425 P	C-TEC2440 P
with DC-input	**Input**		
	Nominal Input voltage	24 V DC +/- 10%	24 V DC +/- 20%
	Min. charging voltage	22 V DC	23 V DC
	Max nominal current (input)	28 A	40 A
	Output		
	Output voltage (in mains operation)	24 V DC +/- 10%	24 V DC +/- 10%
	Output voltage (in back-up operation)	24,5 - 19 V DC	25,5 - 19 V DC
	Max. nominal output current	25 A DC	40 A DC
	Peak currents if mains present	50 A DC	40 A DC
	Back-up times (with new capacitors)	47 sec. @ 1 A 1 sec. @ 20 A	170 sec. @ 1 A 4 sec. @ 40 A
	energy	1,2 kJ	4 kJ
	efficiency	> 90%	> 90%
	dimensions [mm]	125x65x135	188x84x194
	weight	0,75 kg	2,0 kg

Capacitor extension modules

	Part No.	CEM-1	CEM-2	CEM-8	CEM-16
DC-input	**Input**				
	nominal input voltage	24 V DC	24 V DC	24 V DC	24 V DC
	input voltage range	0 V - 26,4 V DC	0 V - 26,4 V DC	0 V - 26,4 V DC	0 V - 26,4 V DC
	accumulated energy in Ws	1 kJ, 1000 Ws	2 kJ, 2000 Ws	8 kJ, 8000 Ws	16 kJ, 16000 Ws
	General Data				
	nominal output current	3 A DC	3 A DC	20 A DC	20 A DC
	protection	3 A T	3 A T	internal	internal
	inrush and output	(PTC internal)	(PTC internal)		
	type of protection input	1,5 mm²	1,5 mm²	4 mm²	4 mm²
	input and output C+/C-				
	type of protection	IP20	IP20	IP20	IP20
	storage temperature	-40 ... + 60 ° C	-40 ... + 60 ° C	-40 ... + 60 ° C	-40 ... + 60 ° C
	environmental temperature	-40 ... + 60 ° C	-40 ... + 60 ° C	-40 ... + 60 ° C	-40 ... + 60 ° C
	dimensions in mm	92,5x60x116	92,5x60x116	192x84x192	192x84x192
	weight	0,52 kg	0,65 kg	1,85 kg	2,54 kg

Capacitor extension modules

	Part No.	CEM12-1	CEM12-2
DC-input	**Input**		
	nominal input voltage	12 V DC	12 V DC
	input voltage range	0 V - 26,4 V DC	0 V - 26,4 V DC
	accumulated energy in Ws	1 kJ, 1000 Ws	2 kJ, 2000 Ws
	General Data		
	nominal output current	3 A DC	3 A DC
	protection	3 A T	3 A T
	inrush and output	(PTC internal)	(PTC internal)
	type of protection input	1,5 mm²	1,5 mm²
	input and output C+/C-		
	type of protection	IP20	IP20
	storage temperature	-40 ... + 60 ° C	-40 ... + 60 ° C
	environmental temperature	-40 ... + 60 ° C	-40 ... + 60 ° C
	dimensions in mm	92,5x60x116	92,5x60x116
	weight	0,52 kg	0,65 kg

Project engineering table

With the help of the project engineering table you can find the correct equipment for your application easily. The data consider of a load time of approx. 10 hours after complete discharge and at the same time 100 % load.

Back Up time: Available current vs. Average back up time in minutes

Required Back up Curent (A) →			0.5	1	2	5	10	15	20	40	80
Part No.	**Number of 12V Batteries**	**Battery Size**	**Time (min)**								
AKKUTEC 2402	2	1.2 AH	60	30	15						
AKKUTEC 2402	2	2.4 AH	120		30	12					
AKKUTEC 2402	2	7.2 AH	360	180	90	36	18	15	9		
AKKUTEC 2405	2	2.4 AH	120	60	30	12					
AKKUTEC 2405	2	7.2 AH	360	180	90	36	18	15	9		
AKKUTEC 2405	2	12 AH	600	300	150	60	36	30	18		
AKKUTEC 2412	2	7.2 AH	360	180	90	36	18	15	9		
AKKUTEC 2412	2	12 AH	600	300	150	60	36	30	18		
AKKUTEC 2412	2	20 AH	1000	500	250	100	50	33	25	13	
AKKUTEC 2420	2	12AH	600	300	150	60	36	30	18		
AKKUTEC 2420	2	20AH	1000	500	250	100	50	33	25	13	
AKKUTEC 2420	2	40AH	2000	1000	500	200	100	65	50	25	13
AKKUTEC 2440	2	12AH	600	300	150	60	36	30	18		
AKKUTEC 2440	2	20AH	1000	500	250	100	50	33	25	13	
AKKUTEC 2440	2	40AH	2000	1000	500	200	100	65	50	25	13
AKKUTEC 2440	2	100AH	5000	2500	1250	500	250	200	150	75	40
AKKUTEC 1203	1	7.2 AH	360	180	90	36	18	15	9		
AKKUTEC 1203	1	12 AH	600	300	150	60	36	30	18		
AKKUTEC 1208	1	12 AH	600	300	150	60	36	30	18		
AKKUTEC 1208	1	20 AH	1000	500	250	100	50	33	25	13	
AKKUTEC 1210	1	12 AH	600	300	150	60	36	30	18		
AKKUTEC 1210	1	20 AH	1000	500	250	100	50	33	25	13	
AKKUTEC 4801	4	1.2 AH	60	30	15						
AKKUTEC 4801	4	2.4 AH	120	60	30	12					
AKKUTEC 4801	4	7.2 AH	360	180	90	36	18	15	9		

Battery performance may vary by battery manufacturer and type. Always check performance with the battery manufacturer.
Other battery configurations are available, contact factory for more information.

General Information

- Possible operation modes: stand-by-parallel operation buffer-battery system
- Completely wired
- Master-Slave-operation to increase rating[1] redundant-operation possible[1]
- Battery management by micro-controller
- Shut-down-input referring to ground
- Boost charge can be activated by control input referring to ground[1]
- Detection of battery wire break and battery test
- Potential free control output and LED:
  - for mains operation
  - for general error
  - battery voltage control window for voltage within/above[1]
- Protection against wrong battery polarization
- Display-Panel-connection[1]

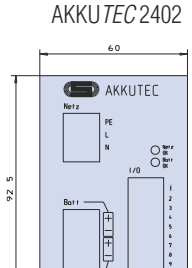
single, two and three phase input

Part No.	AKKUTEC2402	AKKUTEC2405	AKKUTEC2410-0	AKKUTEC2412 VdS	AKKUTEC2420	AKKUTEC2440
	UL pending	c UL us	c UL us	c UL us		c UL us
Input						
rated voltage range	115-230 V AC +/- 15%	115-230 V AC +/- 15%	230 V AC -15% /+10%	230 V AC +/-15%	230 V AC -15% /+10%	3 x 400 - 500 V AC +/- 10%
mains frequency	47 ... 63 Hz					45 ... 63 Hz
output						
rated voltage	24 V DC					24 V DC
at battery operation	26,8 ...19,8 V DC			28,62...21,60VDC	26,8 ... 19,8 V DC	26,8 ... 19,8 V DC
final charging voltage	26,8 V DC +/- 0,4 %			27,4VDC+/-0,4%	26,8 V DC +/- 0,4%	26,8 V DC +/- 0,4%
max. load current	2 A	5 A	10 A	12 A	20 A	40 A
max. charg. current	2,1 A	5,5 A	11 A	12 A	22 A	44 A
leakanse current	< 3,5 mA					
battery						
bridging time[2]	depends on type and battery					
data						
output characteristic	I/U DIN 41773-1					
rated temperature range	40°C with derating up to 50°C					
low discharge protection (load rejection at 19,8 V)	yes					
standards						
input/output isolation	according EN 61558-2-17					
class of protection	I	I	I	I	I	I
type of protection	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
EMV according EN 55011, EN 50082-2	yes	yes	yes	EN 50178, 1998; EN 54-4:1997+ A1:2002+ A2:2006; EN 1210110: 2006+B1:2009; EN 61000-6-4; EN 61000-6-2	yes	yes
mechanical data						
weight approx.	0,55 kg	1,26 kg	1,6 kg	1,56 kg without batteries	2,87 kg	3,6 kg

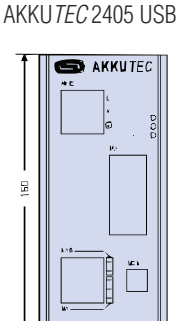
1) not for AKKU *TEC* 2402, 2403, 2405

Dimensions

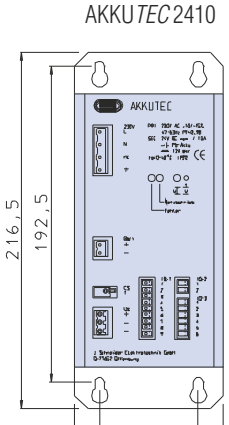
AKKU*TEC* 2402



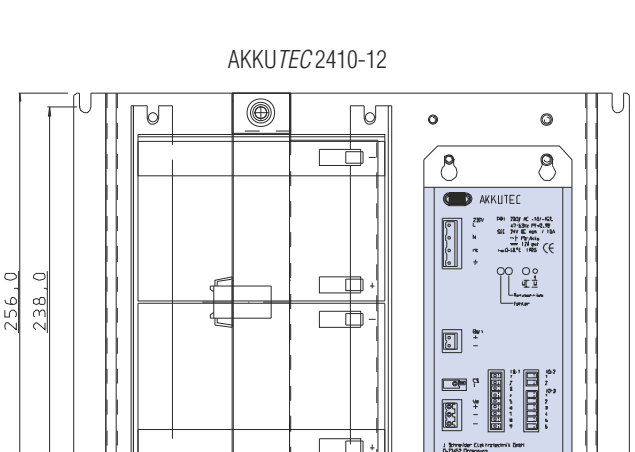
AKKU*TEC* 2405 USB



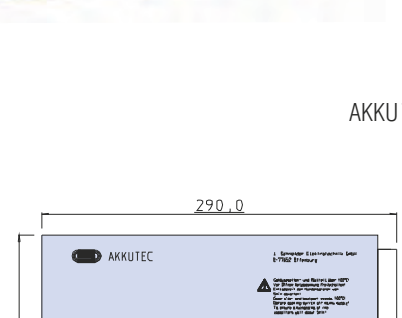
AKKU*TEC* 2410

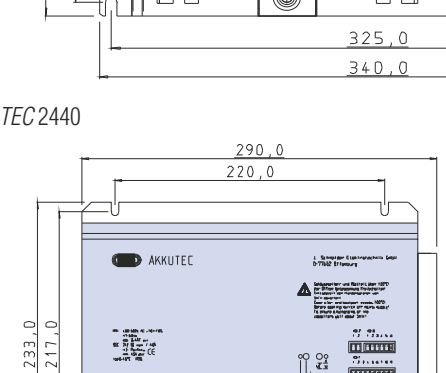


AKKU*TEC* 2410-12



AKKU*TEC* 2440





UL pending

output • 12 V

Part No.	AKKUTEC1203	AKKUTEC1208	AKKUTEC1210
Input			
rated voltage range	115 - 230 V AC +/- 15 %		115 - 230 V AC -15/+10%
mains frequency	47 ... 63 Hz		
output			
rated voltage	12 V DC		
at battery operation	13,2 ... 9,9 V DC	13,4 ... 9,9 V DC	13,2 ... 9,9 V DC
final charging voltage	13,2 V +/- 0,4 %	13,4 V +/- 0,4 %	13,2 V +/- 0,4 %
max. load current	2,85 A	8 A	10 A
max. charg. current	2,85 A	8 A	11 A
leakanse current	< 3,5 mA		
battery			
bridging time	depends on type and batter y		
data			
output characteristic	I/U DIN 41773-1		
rated temperature range	40°C with derating up to 50°C		
battery	20°C		
low discharge protection (load rejection at 9,9V)	ja / yes		
standards			
input/output isolation	according EN 61558-2-17		
class of protection	I		
type of protection	IP20		
EMV according EN 55011, EN 50082-2	yes		
mechanical data			
weight approx.	0,35 kg	1,1 kg	1,6 kg

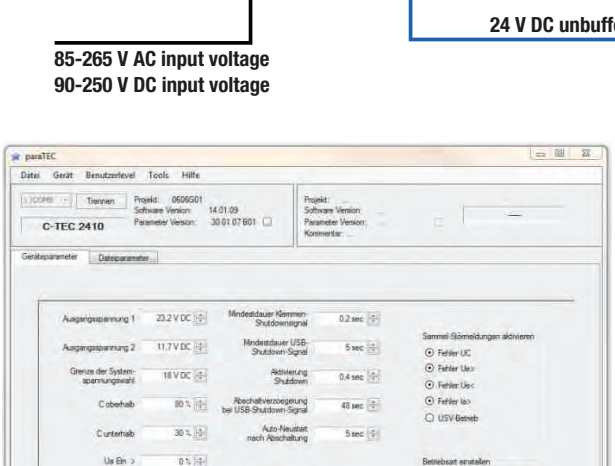
UL pending

output • 48 V

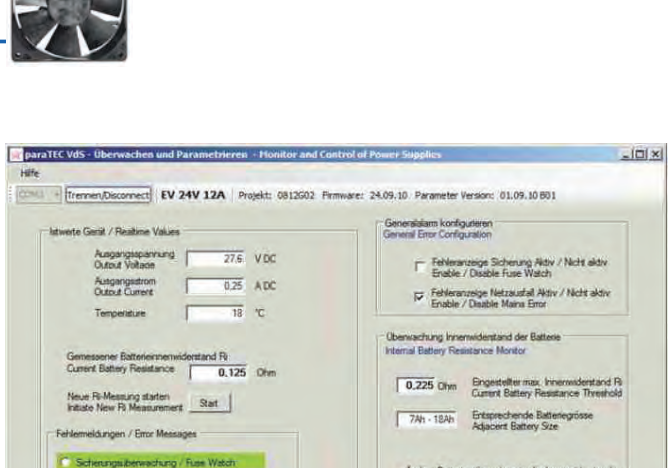
Part No.	AKKUTEC4801
Input	
rated voltage range	115 - 230 V AC +/- 15%
mains frequency	47 ... 63 Hz
output	
rated voltage	48 V DC
at battery operation	52,8 ... 39,6 V DC
final charging voltage	52,8 V +/- 0,4 %
max. load current	1 A
max. charg. current	1 A
leakanse current	< 3,5 mA
battery	
bridging time	depends on type and batter y
data	
output characteristic	I/U DIN 41773-1
rated temperature range	40°C with derating up to 50°C
battery	20°C
low discharge protection (load rejection at 9,9V)	yes
standards	
input/output isolation	according EN 61558-2-17
class of protection	I
type of protection	IP20
EMV according EN 55011, EN 50082-2	yes
mechanical data	
weight approx.	0,35 kg

The TEC*Control*software continuously monitors both the network and the charge status of the UPS energy storage system. In case of mains failure, the IPC shuts the system down after a predefinable time. Both the UPS and the PC will then be switched off. Once mains power is restored, the UPS releases the output voltage, allowing the system to restart.

paraTEC Monitoring Software



para*TEC*Software
With the para *TEC* Software the Schneider DC-UPS systems can be adjusted to special customer requirements.



para*TEC*VdS Software
With the para *TEC* VdS Software the AKKUTEC VdS systems (not AKKU *TEC* 2401VdS) can be adapted to special customer requirements. The status of voltage, current and error is also monitored with this software.

options

TEC*Control* licence	Shutdown Software as licence
TEC*Control* CD-ROM	Shutdown Software as CD-ROM
Cable A	for AKK UTEC 2402/2403 & AKK UTEC 2405 & C -TEC 2405/2408/2410 in series
Cable B	9 Pol Sub D 1:1 for AKK UTEC 2403 DC
Cable C1	cable for AKK UTEC 2410-2440 1,2 M
Cable C2	cable for AKK UTEC 2410-2440 5 M
Cable C3	cable for AKK UTEC 2410-2440 10 M
USB 2.0 cable	for C-*TEC*, AC C-*TEC*, from A to B with Ferrit, 0,5 m length
IPC switch module	for AKK U *TEC* 2402, 2403, 2410
display, control & indicator panel	for AKK U *TEC* 2410-2440
temperature sensor	for AKK U *TEC* 2410-2440
	for AKK U *TEC* 2402/2403 & AKK U *TEC* 2405 in series
fuse board	for FKS-fuses with max. 5 A , equipped with 5 fuses à 1 A , extension for IP31 cabinet 3 A
	for FKS-fuses with max. 15 A , equipped with 10 fuses à 1 A , extension for IP31 cabinet 12 A
	for FKS-fuses with max. 5 A , equipped with 5 fuses à 1 A , extension for IP54 cabinet, snap-on mounting for supporting rail
	for FKS-fuses with max. 15 A , equipped with 10 fuses à 1 A , extension for IP54 cabinet, snap-on mounting for supporting rail

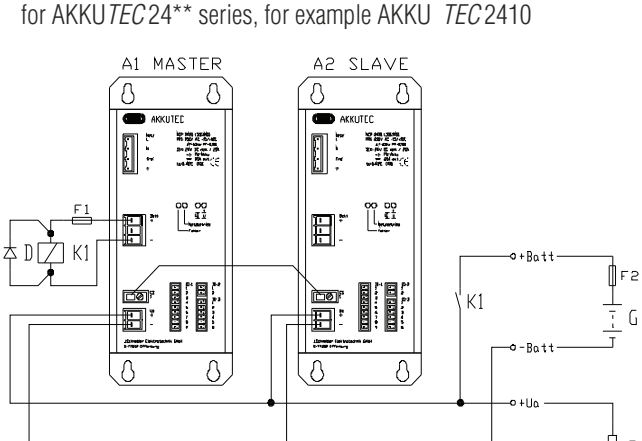
Decoupling module

Decoupling diode set, consisting of a double Schottky diode on a potential-free cooler with cover against direct contact and top-hat rail clamb.

Part No.	Type	Limiting average on state current at 45° C [A]	increase voltage diode [V]	height [mm]	width [mm]	depth [mm]
59610.1	KGEK002S003M92	2 x 25 A	100 V	75	40	90
59610.2	KGEK006S001M92	2 x 50 A	45 V	100	80	110

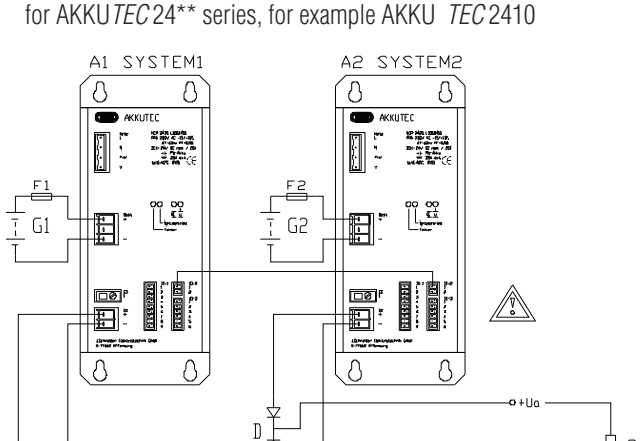
Master-slave operation (increase of rating)

for AKKU*TEC* 24** series, for example AKKU *TEC* 2410



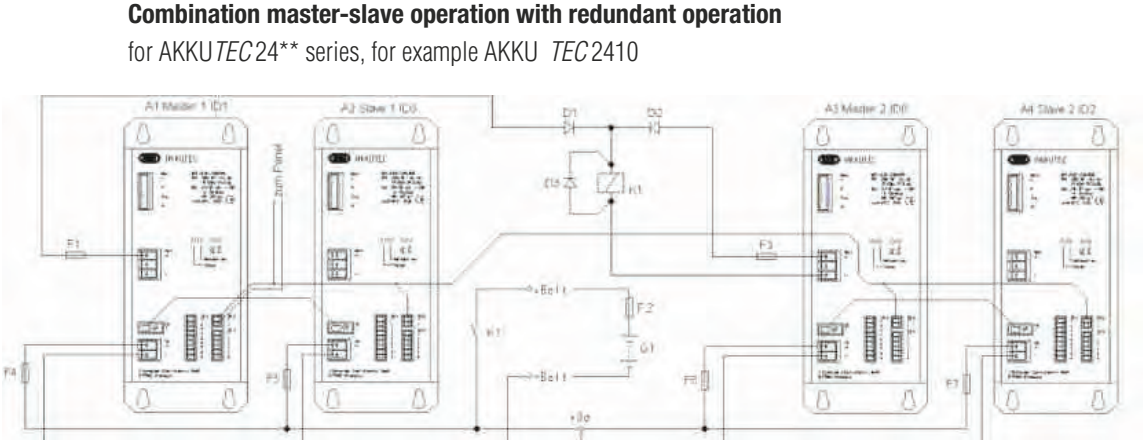
Redundant operation (increase of reliability of the system)

for AKKU*TEC* 24** series, for example AKKU *TEC* 2410



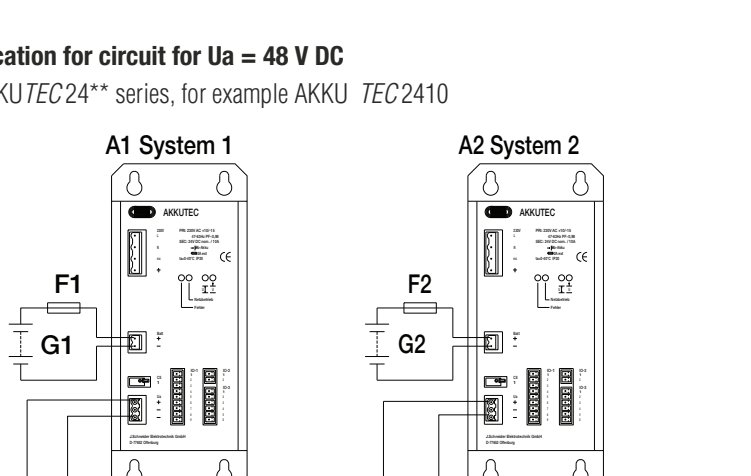
Combination master-slave operation with redundant operation

for AKKU*TEC* 24** series, for example AKKU *TEC* 2410



Application for circuit for Ua = 48 V DC

for AKKU*TEC* 24** series, for example AKKU *TEC* 2410



Applications

- Assembly Production
- Electronic Automation
- Molding Machines
- Automotive Industry
- Plastic Packaging
- Feeding Systems, Stall Facilities
- Steel Productions
- Textile Machinery Construction
- Photovoltaik / Inverter
- Packaging Machines

- Wind Turbines
- Disability Asssitance
- Tunneling Machines
- Switchgear Prodcution
- Automation
- Stations Control Technology
- Machinery Construction
- Rail Vehicles
- Water Supply
- Drilling Systems Woodwork