DC-UPS systems / battery systems

CONTENT

1 C-*TEC* / AC C-*TEC*

1.1 In General

CAP*TEC*									2410-14
C-*TEC*	1203-1	2403-1	+ CEM 1	+ CEM 2	2 kJ	2410 kJ	2 kg	2 kg	
AC-*TEC*	1203-1	2403-1	+ CEM 1	+ CEM 2					
Current [A]	**Time in seconds**								
0,5	150	75	150	225	169	464	1061	2069	1160
1	75		75		89	247	564	1116	583
1,5	50	25	50	75	60	165	380	761	388
2		19	38	57	44	124	288	578	300
3	25		25		29	80	190	385	195
5					16	42	111	227	113
8					9	18	65	107	62
10					7	9	49	86	47

C-*TEC*	2420-8	+ CEM 8	+ CEM 16	2440 P	+ CEM 8	+ CEM 16	1225 P	2425 P	4815 P
AC-*TEC*	2420-8	+ CEM 8	+ CEM 16	*			*	*	*
Current [A]	**Time in seconds**								
0,5	600	1200	1800	333	666	999	110	115	50
1	300	600	900	167	333	500	55	60	25
1,5	200	400	600	111	222	333	35	40	17
2	150	300	450	83	167	250		30	
3	100	200	300		111		18		8
5	60	120	180	33	66	99	10		4,5
8		75		21	42	63	6	6,5	3
10	30	60	90	17	33	50	5	5	2
15	20	40	60	11	22	33	3	3,5	1,5
20	15	30	45	8	17	25	2	2	
30				5,5	11		1,5		
40				4	8	12			

Compared with standard used capacitor modules the new C-*TEC* realizes longer back-up times.
They are depending on the energy of the capacitors and can be calculated as follows. Example:

$$\text{Buffer time} = \frac{\text{energy}}{\text{voltage x current}} = \frac{\text{1.000 Joule x 0,9}}{\text{24 V x 1 A}} = \text{seconds}$$

1.2 Selection of the right C-*TEC* / AC C-*TEC*

AC C-TEC 2403-1

- energy in kJ = kWs (1 kJ = 1000 Ws)
- current in A (3 A)
- output voltage (24 V DC)
- product family
- input voltage (AC = 230 V / 400), C-*TEC* only DC input

Already the most important information of the respective device are defined in the type reference:

"AC" stands for AC power supply for single- or three-phase grids.

"C-*TEC*" indicates an unit which is an ultra-capacitor based energy storage.

"2403" stands for the output voltage and current of the C-*TEC* (in this case 24 V DC, 3 A)

"-1" indicates the stored energy of the C-*TEC* in kWs, (1000 Watt seconds = 1 kJ). The AC C-*TEC* UPS-systems are designed for applications which need a maintenance-free system, even at high ambient temperatures or in completely sealed cabinets (IP54) and need to be protected against power failures.

1.3 C-*TEC*

The DC-buffer module C-*TEC* works with integrated ultra-capacitors as an energy storage. In case of an interruption of the DC-supply, the energy of the ultra-capacitors will be released. The load will be energized from the buffer module, till it is discharged. The back-up time depends on the state of charge of the capacitors and on the discharge current.

1.3.1 C-*TEC* 12 V DC input / 12 V DC output

Type C-*TEC*	Item. No. NCPA	Prim V	Sec V	Output A	Energy kJ	H x W x D (mm)	Weight kg	/
1203		12	12	3	1,5	16	0,5	
1210	NCPA0609G01002	12	12	10	2	172 x 189 x	1,3	
1210		12	12	10			1,8	
1210	NCPA0606G01001	12	12	10		x 116 x 145	2,2	
1210		12	12	10		170 x 189 x	3,6	
1225 P	NCPA1301G30001	12	12	25	0,5	123 x 65 x 145	0,7	

HS Code: 85044083 **Typical energy with new capacitors at 2 A / V DC

1.3.2 C-*TEC* 24 V DC input / 24 V DC output

Type C-*TEC*	Item no. NCPA / NCPK	Prim. V	Sec. V	Output A	Energy kJ	Dimensions H x W x D (mm)	Weight kg	/
2403*		24	24	3		x 60 x 116	0,5	
2403	NCPA0727G01002	24	24	3		x 60 x 116	0,58	
2403 USB		24	24	3				
2403K*	NCPK0727G01001	24	24	3	0,5	x x 190	0,55	
2410		24	24	10	2			
2410	NCPA0608G01001	24	24	10	5,8	x 116 x 143	1,8	
2410		24	24	10				
2410	NCPA0607G01001	24	24	10		170 x 189 x		
2420		24	24	20	8	192 x 84 x 192		
2425P	NCPA1301G10001	24	24	25	1,2	123 x 65 x 145	0,8	
2440P	NCPA1034G01001	24	24	40	4	188 x 84 x 194	2	

HS Code: 85044083 *minimum order quantity 50 s

1.3.3 CAP*TEC* 24 V DC input / 24 V DC output

Type CAP*TEC*	Item no. NCPA	Prim. V	Sec. V	Output A	Energy kJ	Dimensions H x W x D (mm)	Weight kg	/
2410	1905G01001	24/12	24/12	10	14	141 x 165 x 167	2,0	

HS Code: 85044083

1.4 C-*TEC* P DC input / DC output, Passive

The DC buffer module of the **C-***TEC* **P** series is equipped with integrated ultra-capacitors for the storage of energy. During normal operation capacitors are charged by an internal charger which is supplied by an external, regulated DC power supply. If the DC supply is interrupted, the energy of the ultra- capacitors will be released in an unregulated process to 19 V DC). The load will be supplied by the buffer module until the voltage is ≤ 19 V DC. The buffer time depends on the state of charge of the capacitors and the discharging current. As further function the **C-***TEC* **P** series can provide a higher current for a certain time.

Type C-*TEC*	Item no. NCPA	Prim. V	Sec. V	Output A	Energy kJ	Dimensions H x W x D (mm)	Weight kg	/
1225 P	1301G30001	12	12	25		123 x 65 x 145		
2425 P	1301G10001	24	24	25	1,2	123 x 65 x 145	0,8	
2440 P	1034G01001	24	24	40	4	188 x 84 x 194	2	
4815 P	1301G20001	48	48	15	1	123 x 65 x 145	0,8	

HS Code: 85044083

1.5 AC C-*TEC* AC input / DC output

The DC-buffer module AC C-*TEC* works with integrated ultra-capacitors as an energy storage. In case of an interruption of the DC-supply, the energy of the ultra-capacitors will be released. The load will be energized from the buffer module, till it is discharged. The back-up time depends on the state of charge of the capacitors and on the discharge current.

Type AC C-*TEC*	Item no. NCPA	Prim. V	Sec. V	Output A	Energy kJ	Dimensions H x W x D (mm)	Weight kg	/
1203	0724G10002	230	12	3	1	153 x 72 x 130	0,86	
2403*	0724G01001	230	24	3	0,5	153 x 72 x 130	0,86	
2403	0724G01017	230	24	3	1,5	153 x 72 x 130	0,90	
2403-400	0724G01020	400	24	3	1,5	153 x 102 x 130	2,20	
2410	1430G01001	230	24	10		163 x 189 x 138	3,00	
2420	0746G01003	400	24	20	8	192 x 170 x 198	3,50	

HS Code: 85044083 * minimum order quantity 50 s

1.5.1 AC CAP*TEC* 110/230 V AC input / 24 V DC output and 12 V DC output

Type AC CAP*TEC*	Item no. NCPA	Prim. V	Sec. V	Output A	Energy kJ	Dimensions H x W x D (mm)	Weight kg	/
2401	1906G01001		24	1		91 x 106 x 62	0,3	
1202	1906G10001	110/230	12	2	0,6	91 x 106 x 62	0,3	

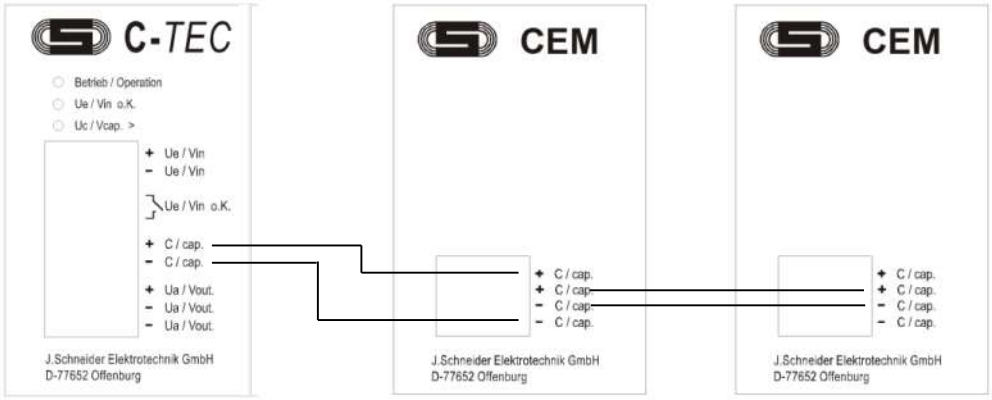
HS Code: 85044083

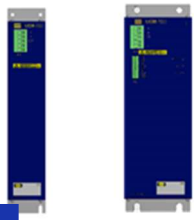
1.6 CEM Capacitor Extension Module

The **CEM**-Module is used to increase the back-up time of the **AC C**-*TEC* and **C**-*TEC* series.
Charging and discharging of the extension module is controlled by the **AC C**-*TEC* and **C**-*TEC*.

Type CEM	Item no. NCBA	Prim. V	Sec. V	Output A	Energy kJ	Dimensions H x W x D (mm)	Weight kg	/
24-1		24	24	3		x 60 x 116	0,52	
24-3	0739G01002	24	24	3	3	x 60 x 116	0,65	
24-8		24	24	20	8	193 x 84 x 193	1,85	
24-16	0748G10001	24	24	20	16	193 x 84 x 193	2,54	

HS Code: 85044083





1.7 UCM-TEC Buffermodules

Type C-*TEC* F	voltage. V	capacity F	monitoring	dimensions H x B x T (mm)	weight kg	/	stock	class
UCM-*TEC* 100-10 P	100	10	no	475 x 88 x 171	4,5		M	CT
UCM-*TEC* 100-10 PM	100	10	yes	475 x 88 x 171	4,5	1.	M	CT
UCM-*TEC* 100-20 P	100	20	no	476 x 157 x 171	9,5	1.	M	CT
UCM-*TEC* 100-20 PM	100	20	yes	476 x 157 x 171	9,5	1.	M	CT
UCM-*TEC* 30-250 P_L	30	250	no			1.	M	CT
UCM-*TEC* 30-250 P_R	30	250	no			1.	M	CT
UCM-*TEC* 30-250PM	30	250	yes			1.	M	CT

1.8 C-*TEC* F customer specific ultra-capacitors, open frame

Type C-*TEC* F	Nom. V	Capacity F	Energy between kJ	I_{max} A	Dimensions H x W x D (mm)	/
C-*TEC* **25-36 F**	24	36	(25 V … 18V)	50	x 190 x 70	
C-*TEC* **25-36 F**	24	72	(25 V … 18V)	50	x 190 x 70	
C-*TEC* **25-36 F**	24		V … 18 V)	50	x 190 x 70	
C-*TEC* **25-36 F**	24	65	V … 18 V)	50	x 190 x 70	
C-*TEC* **25-36 F**	36		(40 V … 28 V)	50	x 190 x 70	
C-*TEC* **25-36 F**	72	12	20 (75 V … 48 V)	70	70 x 202 x 385	
C-*TEC* **25-36 F**	72		21 (85 V … 54 V)	50	300 x 223 x 70	
C-*TEC* **25-36 F**	48	32	25 (55 V … 38 V)	140	70 x 202 x 385	
C-*TEC* **25-36 F**	120	7,5	27 (120 V … 80 V)	70	70 x 202 x 385	

HS Code: 85044083

1.9 UCC-*TEC* (capacitor charger)

The **UCC**-*TEC*, developed as a charging and monitoring device for ultra-capacitor-modules. Up to 5 ultra-capacitor-modules with programmable voltage 0 – 450 V can be charged and monitored separately from **UCC**-*TEC*

Type	Item no. NCPA	Prim. V	Sec. V DC	Output A	Dimensions H x W x D (mm)	Weight kg	/
UCC-*TEC*	0936G10001	400	90 … 450		230 x 125 x 255	7,0	

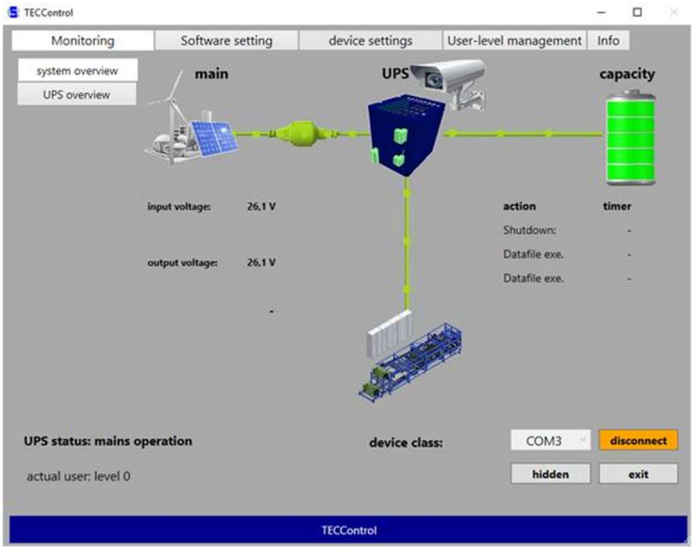
HS Code: 85044083

2 Software

2.1 TEC*Control* Software

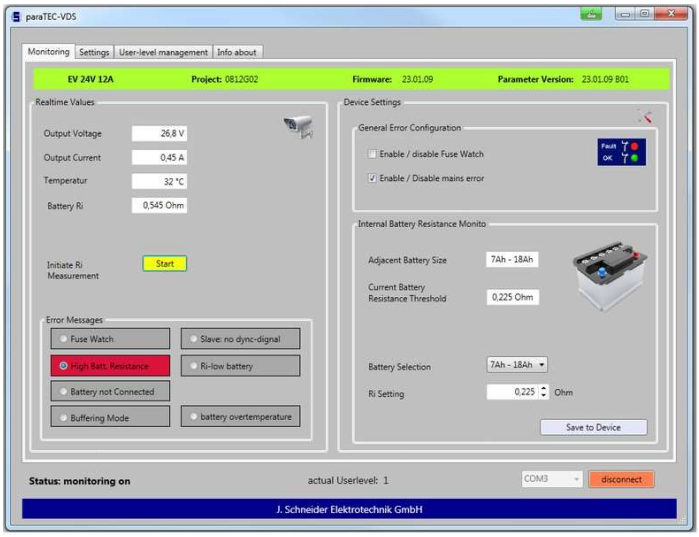
The **TEC***Control* software monitors continuously both, the mains voltage and the charge status of the UPS energy storage system. In case of a mains failure, the IPC shuts down the system after a selected time. Both, the UPS and the IPC will then be switched off. Once mains power is back again, the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

With the software the Schneider DC-UPS systems can be programmed to special customer requirements.



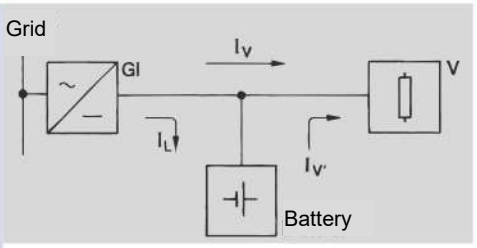
2.2 para*TEC* VdS Software

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

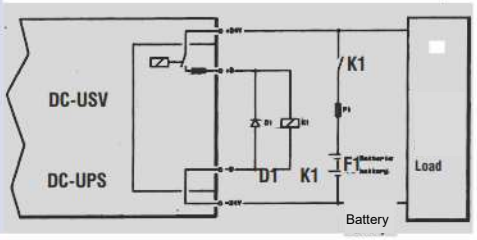


3 AKKU*TEC*

online



In case of **parallel operation** the consumer, DC-source and battery are working permanent in parallel. In case of standby-parallel mode (Online-mode) the DC-source must be able to supply permanently the battery and the consumer. The battery will be continuously fully charged and only releases the energy when the DC-source or the mains fails.



In **buffer-mode** the consumer power exceeds the rated power of the DC-source, so that the lacking power has to be summon up by the battery. The battery is used to cover the peak load and is not continuously fully charged all the time. In case of a failure of the DC-source the battery will be switched to engergize the consumers.

3.1 Configuration Guide

Current \ Time	2 min	5 min	10 min	15 min	30 min	1 h	3 h	5 h	10 h	20 h
0,5 A	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2402	AKKU*TEC* 2402 + NBBH 2402	AKKU*TEC* 2402 + NBBH 2407	AKKU*TEC* 2402 + NBBH 2412
1A	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2402	AKKU*TEC* 2402 + NBBH 2407	AKKU*TEC* 2402 + NBBH 2407	AKKU*TEC* 2402 + NBBH 2412	AKKU*TEC* 2403 + NBBH 2417
2 A	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2401	AKKU*TEC* 2402 + NBBH 2402	AKKU*TEC* 2402 + NBBH 2407	AKKU*TEC* 2403+ NBBH 2407	AKKU*TEC* 2403 + NBBH 2412	AKKU*TEC* 2405-0 NBBH 2417	AKKU*TEC* 2405-0 NBBH 2440
5 A	AKKU*TEC* 2405 + NBBH 2401	AKKU*TEC* 2405 + NBBH 2402	AKKU*TEC* 2405 + NBBH 2402	AKKU*TEC* 2405-07	AKKU*TEC* 2405-07	AKKU*TEC* 2405-12	AKKU*TEC* 2410-0 + NBBH 2417	AKKU*TEC* 2410-0 + NBBH 2426	AKKU*TEC* 2410-0 + NBBH 2465	AKKU*TEC* 2420-0 + 2x SB 100-12
10 A	AKKU*TEC* 2410 + NBBH 2402	AKKU*TEC* 2410-07	AKKU*TEC* 2410-07	AKKU*TEC* 2410-07	AKKU*TEC* 2410-12	AKKU*TEC* 2410-0 + NBBH 2417	AKKU*TEC* 2410-0 + NBBH 2440	AKKU*TEC* 2420-0 + NBBH 2417	AKKU*TEC* 2420-0 + 2x SB 100-12	2 x AKKU*TEC* 2420-0 + 4x SB 100-12
15 A	AKKU*TEC* 2420-07	AKKU*TEC* 2420-07	AKKU*TEC* 2420-07	AKKU*TEC* 2420-12	AKKU*TEC* 2420-12	AKKU*TEC* 2420-0 + NBBH 2417	AKKU*TEC* 2420-0 + NBBH 2465	AKKU*TEC* 2420-0 + 2xSB 100-12	1xAKKU*TEC* 2440-0 + 2xSB 150-12	1xAKKU*TEC* 2440-0 + 4xSB 150-12
20 A	AKKU*TEC* 2420-07	AKKU*TEC* 2420-07	AKKU*TEC* 2420-12	AKKU*TEC* 2420-12	AKKU*TEC* 2420-0 + NBBH 2417	AKKU*TEC* 2420-0 + NBBH 2440	AKKU*TEC* 2420-0 + NBBH 2465	1xAKKU*TEC* 2440-0 + 2xSB 100-12	1xAKKU*TEC* 2440-0 + 4xSB 100-12	
40 A	1xAKKU*TEC* 2440-0 + NBBH2407HI	1xAKKU*TEC* 2440-0 + NBBH 2417	1xAKKU*TEC* 2440-0 + NBBH 2417	1xAKKU*TEC* 2440-0 + NBBH 2417	1xAKKU*TEC* 2440-0 + NBBH 2440	1xAKKU*TEC* 2440-0 + NBBH 2465	1xAKKU*TEC* 2440-0 + 2xSB 150-12	1xAKKU*TEC* 2440-0 + 4xSB 100-12	2xAKKU*TEC* 2440-0 + 4xSB 200-12	
80 A	2xAKKU*TEC* 2440-0 + NBBH 2417	2xAKKU*TEC* 2440-0 + NBBH 2417	2xAKKU*TEC* 2440-0 + NBBH 2440	2xAKKU*TEC* 2440-0 + NBBH 2465	2xAKKU*TEC* 2440-0 + 2xSB 100-12	2xAKKU*TEC* 2440-0 + 2xSB 150-12	2xAKKU*TEC* 2440-0 + 4xSB 150-12	2xAKKU*TEC* 2440-0 + 4xSB 200-12		

With the help of the configuration guide you can easily find the correct equipment for your application. The calculation is considering a recharge time of approx. 10 hours after complete discharge and 100 % load at the same time.

3.2 In General

The battery buffered DC power supply of the **AKKU***TEC* family is working according the stand-by parallel mode and ensures in connection with a lead-acid accumulator a safe continuous DC power supply in case of mains failures.
The power supply has the following features:

- Primary switched power supply with I/U-charging characteristics
- active power factor correction (PFC)
- Battery management by micro-controller
- Temperature controlled charging by external temperature sensor (option)
- Display- and control panel for mount in cabinet door or module (option)

3.3 AKKU*TEC* stand alone versions

AKKU*TEC*	Item no.	Prim. V	Sec. V	Output A	Dimensions H x W x D (mm)	Weight kg	/
2402	NBPAQ33G1M01	115-230	24		x 60 x 116	0,55	
2403	NBPAQ33G1M10	230	24	2,85	x 60 x 116	0,55	
2403 VdS	NBPA0844G01002	115-230	24	3	153 x 72 x 125	0,95	
2403 DC	NBUA0523G01003	24	24	2,85	x 60 x 116	0,60	
1203	NBPAQ33G1M13	230	12		x 60 x 116	0,55	
4801	NBPAQ33G1M19	230	48	1,2	x 60 x 116	0,55	
2405 USB	NBPA0616G01101		24	5	160 x 75 x 150	1,26	
1208 USB	NBPA0616G01006	115-230	12	8	160 x 75 x 150	1,26	
4803 USB	NBPA0616G01005	115-230	48	3	160 x 75 x 150	1,26	
4810	NBPA0347G01007	230	48	11	241 x 101 x 244	2,40	
2410	NBPAN33G1M01	230	24	11	216 x 91 x 175	1,60	
4806	NBPA1630G01002	230	48	6	x 60 x 116	1,5	
2412 VdS	NBPA0812G01002		24	12	155 x 95 x 183	1,56	
1220	NBPA0347G01002	115-230	12	20	241 x 101 x 244	2,9	
2420	NBPA0347G01001	230	24	22	241 x 101 x 244	2,87	
2420	NBPA0313G01002	400	24	22	241 x 101 x 244	2,54	
2440	NBPAP33G1M01	400	24	44	180 x 290 x 150	3,60	

HS Code: 85044083

The battery buffered DC power supply of the **AKKU***TEC* family assembled on mounting plate incl. fuses. Temperature sensor optional.

3.4 Assembled on mounting plate

AKKU*TEC*	Item no. NBPC	Prim. V	Sec. V	Output A	Ah	Auton. min.	Dimensions H x W x D (mm)	Weight kg	/
240	Q33G1M03	230	24	2,85	3,4	60	150 x 245 x 121	3,9	
2405-07	N33G1M05		24			40	256 x 340 x 183	6,5	
2405-12	N33G1M06	115-230	24	5,0	12	90	256 x 340 x 183	9,1	
2410-07	N33G1M01	230	24			15	256 x 340 x 183	8,8	
2410-12	N33G1M02	230	24		12	35	256 x 340 x 183	9,1	
2420-07	L33G1M01	230	24			5	256 x 340 x 252	8,4	
2420-12	L33G1M02	230	24		12	12	256 x 340 x 252		
2420-07	L33G1M03	400	24			5	256 x 340 x 252	8,4	
2420-12	L33G1M04	400	24		12	12	256 x 340 x 252		

HS Code: 85044083

3.5 AKKU*TEC* 19”-version

Type AKKU*TEC*	Item no.	Prim. V	Sec. V	Output A	Ah	Auton. min.	Dimensions H x W x D (mm)	Weight kg	/
19-2403K		230	24	3	-	0	19” 3HE 12TE	3,5	
19-2403-07	NBPRQ33G1M03	230	24	3	7	130	19” 3HE 84TE	9,5	
19-2403-12		230	24	3	12	240	19” 3HE 84TE		
19-2420-0	NBPRL33G1M04	230	24	22	-	0	19” 3HE 84TE	3,6	
19-2420-07		230	24	22		5	19” 3HE 84TE	9,6	
19-2420-12	NBPRL33G1M06	230	24	22	12	12	19” 3HE 84TE		1

HS Code: 85044083

3.6 AKKUTEC SVC (battery charger)

The AKKUTEC SVC (Special Voltage Charger) is a charger for lead-acid batteries, which has several connection possibilities.
Maximum 32 s of 12 Volt blocks with a total voltage of 450 Volt can be charged.

Scope of supply: Software **para***TEC*-UCC

Type AKKU*TEC*	Item no. NCPA	Prim. V	V 0°C	V 30°C	Output A	Dimensions H x W x D (mm)	Weight kg	/
SVC 60	0936G20010	400	70	68		230 x 125 x 255	7	
SVC 72	0936G20011	400	84	80	2,0	230 x 125 x 255	7	
SVC 110	0936G20012	400	126	122		230 x 125 x 255	7	
SVC 220	0936G20013	400	254	244	2,0	230 x 125 x 255	7	
SVC 450	0936G20014	400	450	434	2,0	230 x 125 x 255	7	

HS Code: 85044083

3.7 UPSO*TEC* with DC input

UPSO*TEC*	Item no. NBUA	Prim. V	Sec. V	Output A	Dimensions H x W x D (mm)	Weight kg	/
2403	0523G01003	24	24		x 60 x 116	0,6	
2420	1530G10001	24	24	20	123 x 65 x 141	0,8	
2440	1531G10001	24	24	40	123 x 85 x 143		**HS**

Code: 85044083

3.8 AKKU*TEC* with VdS certification

VdS is an independent institution which has been ensuring safety and trust in the fields of fire protection and security for many decades and develops advanced safety concepts for significant industrial and commercial enterprises and leading manufacturers.

VdS certified products are mandatory for applications in fire alarm systems, smoke and heat exhaust systems, voice alarm systems.

J. Schneider Elektrotechnik is offering **AKKU***TEC* UPS systems as single units and complete cabinets equipped with **AKKU***TEC* VdS units and batteries.

The cabinet versions of the VdS series are equipped with fuse board (2403 = 5 fuses; 2412 = 10 fuses).

Type	Item no.	Prim.	Sec.	Output	Dimensions	Weight without batteries	
AKKU*TEC*		V	V	A	H x W x D (mm)	kg	per
2403 VdS		115-230	24		153 x 72 x 125	0,95	
2412 VdS	NBPA0812G01002	230	24		155 x 95 x 183	1,56	
2403C		115-230	24		362 x 464 x 145	8,5 [1)]	
2403P	NBPG0903G01011	115-230	24	3,0	500 x 500 x 300	[3)]	
2412C		230	24		608 x 464 x 213	[2)]	
2412P	NBPG0901G01002	230	24		500 x 500 x 300	[3)]	1
2412P	NBPG0901G01012	230	24		1000 x 800 x 300	[4)]	1

HS Code: 85044083 ** batteries are not included

suitable for batteries:

1 Ah – 26 Ah batteries
2 Ah – 65 Ah batteries
3 Ah – 40 Ah batteries
4 Ah – 170 Ah batteries

Weight of batteries on page

14 C Version with IP31
P Version with IP54

3.9 AKKU*TEC* for wall mounting

The AKKUTEC for wall mounting are available in different versions and sizes.

C version = Chassis IP31 P version = Cabinet IP54

The weight is depending on the selected batteries; batteries are not included in the s (except 2401).

Type AKKU*TEC*	Item no. NBPG	Prim. V	Sec. V	Output A	Capacity Ah	Dimensions H x W x D (mm)	Weight kg	/
2401-2 C*	1008G20103	230	24			204 x 200 x 80		
2403C	0844G01011	110/230	24		7,2-26	362 x 464 x 145	8,5	
2412C	0812G01011	230	24		65	608 x 464 x 213		
1203P	0903G01001	230	12		7,2-80	500 x 500 x 300		
2403P	0903G01011	230	24		40	500 x 500 x 300		
4801P	0904G01001	230	48		7,2-18	500 x 500 x 300		
1205P	0903G01002	115-230	12		80	500 x 500 x 300		
2405P	0905G01001	115-230	24		7,2-40	500 x 500 x 300		
4803P	0904G01002	115-230	48		18	500 x 500 x 300		
4810P	1007A01001	115-230	48		7,2-18	500 x 500 x 300		1.
4810P	1007A02001	115-230	48		85	1000 x 800 x 300	1.	
1210P	0903G03003	115-230	12		7,2-40	500 x 500 x 300		
2412P	0901G01002	230	24		40	500 x 500 x 300	1.	
2412P	0901G01012	230	24		7,2-170	1000 x 800 x 300		1.
2420P	1007A03001	230	24		40	500 x 500 x 300	1.	
2420P	1007A04001	230	24		7,2-170	1000 x 800 x 300		1.
2424P	0901G01022	230	24		170	1000 x 800 x 300	1.	
2440P	1007A05001	400	24		7,2-170	1000 x 800 x 300		2.

HS Code: 85044083 *Batteries included

4 ACCUMULATORS

4.1 Lead-acid Accumulators

Type	Item no.	Voltage V	Capacity Ah	Dimensions H x W x D (mm)	Weight kg	/
1,2-12	452011.47	12		59 x 97 x 43	0,85	
2,3-12	452011.20	12		67 x 178 x 35	1,05	
7,0-12	452011.36	12		94 x 151 x 65	2,65	
12-12	452011.22	12	12	94 x 151 x 98	4,1	
17-12	452011.2	12	17	167 x 76 x 181	6,1	
24-12	452011.4	12	24	125 x 175 x 166	7,8	
40-12	452011.8	12	40	170 x 165 x 197		
45-12	452011.165	12	45	170 x 165 x 197		
65-12	452011.9	12	65	174 x 166 x 350	24	
80-12	452011.60	12	80	180 x 167 x 350		
100-12	452011.40	12	100	222 x 172 x 330		
120-12	452011.53	12	120	222 x 172 x 330		
150-12	452011.59	12	150	240 x 172 x 485	47	
200-12	452011.6	12	200	223 x 240 x 522	65	

HS Code: 85072080

The s of units with lead are calculated on a lead o $/kg. The invoiced will be calculated on the del notes of the day of order.

4.2 Pure Lead Accumulators

Type	Item no.	Voltage V	Capacity Ah	Dimensions H x W x D (mm)	Weight kg	/
12EP13	452011.118	12	13	129 x 83 x 175	4,9	
12EP16		12	16	167 x 76 x 181	6,1	
12EP26	452011.148	12	24	125 x 175 x 166		
12EP42	452011.145	12	40	170 x 165 x 197		
12EP70		12	63	176 x 168 x 331		
Leoch 12-40FT(A) V0		12	38	184x280x97		
Leoch 12-260FT(A) V0		12	62	267x280x97		
Leoch 12-330 V0		12	80	211x260x168		
Leoch 12-360 V0		12	90	210x306x168	30	
Leoch 12-400FT(A) V0		12	100	287x375x108		
Leoch 12-420 V0		12	100	216x341x170		
Leoch 12-450FT(A) V0		12	110	227x517x125		
Leoch PLX12-500 V0		12	125	276x341x170		
Leoch 12-540 V0		12	135	276x341x170		
Leoch 12-620 V0		12	150	276x341x170		
Leoch 12-620FT(A) V0		12	150	277x516x125		
Leoch 12-730FT(A) V0		12	200	320x540x125	61	

4.3 Accumulator Modules NBBH (assembled)

Type NBBH	Item no. NBBH	Fuse	Voltage V	Capacity Ah	Dimensions H x W x D (mm)	Weight kg	/
2401	Q33G1M01	with fuse	24		96 x 69 x 105	2	
2402	Q33G1M04	with fuse	24	2,2	96 x 178 x 105	3,8	
2407	L33G1M01	with fuse	24	7	115 x 175 x 159	6	
2412	L33G1M02	with fuse	24	12	115 x 241 x 159	9,4	
2417	0336G01001	fuse bridge	24	17	170 x 215 x 182		
2424	0336G01002	fuse bridge	24	24	165 x 397 x 202	20	
2440	0336G01003	fuse bridge	24	40	200 x 400 x 210	33	
2465	0336G01004	fuse bridge	24	65	2*(170 x 397 x 200)	2 x 26	
2480	0336G01015	Fusebridge	24	80	2*(170 x 397 x 200)	2 x 28	
24100	0336G01010	fuse bridge	24	100	2*(170 x 397 x 200)	2 x 31	
24120	0336G01017	fuse bridge	24	120	2*(170 x 397 x 200)	2 x 34	

Fusebridge

Type	Item. No NBP		/
Fusebridge	40848G01003	With fuses 5 A, 15 A, 25 A, 30A	

6 Options for C-*TEC* / AC C-*TEC* / AKKU*TEC*

Type	Item No	Description	/
TEC-Control Licence	PSXX-0441G01002	Shutdown software for all **AKKU***TEC* and **C**-*TEC* as well as **AC C**-*TEC* devices as licence	
TEC-Control CD /DVD	PSXX-0441G01001	Shutdown software for all **AKKU***TEC* and **C**-*TEC* as well as **AC C**-*TEC* devices as CD	
Cable RS232-USB	PSDP-0324G01013	for **AKKU***TEC* 2403 VdS and 2412 VdS, m	
Cable A	PSDP-0324G01004	for **AKKU***TEC* 2402/2403 as well as **AKKU***TEC* 2405 and **C-***TEC* 2403/2410 serial	
Cable B	n.n.	9 Pol Sub D 1 : 1 for **AKKU***TEC* 2403 DC	
Cable C 1	PSDP-0324G01002	cable for **AKKU***TEC* 2410 - 2440 M	
Cable C 2	PSDP-0324G01003	cable for **AKKU***TEC* 2410 - 2440 5 M	
Cable C 3	PSDP-0324G01005	cable for **AKKU***TEC* 2410- 2440 10 M	
USB cable	3019.25	for **C**-*TEC* as well as **AC C**-*TEC,* USB 2.0 cable, A to B with Ferrit m length	8,20
IPC switch module	RBSM0429G01001	for **AKKU***TEC* 2410/2420/2402/2403	
Display and control	PBDEL33G4M01	for **AKKU***TEC* 2410-2440	
Temperature sensor	MTIAL33G5M01	for **AKKU***TEC* 2410 / 2420 / 2440	
Temperature sensor	MTIAQ33G3M01	for **AKKU***TEC* 2402/2403 as well as **AKKU***TEC* 2405 and **UPSO***TEC*	
Temperature sensor	MTIAQ33G3M04	for **AKKU***TEC* 2402/2403 as well as **AKKU***TEC* 2405 and **UPSO***TEC* m	
KGEK002S003M92	59610.1	Decoupling module 2 x 25 A 100 V	
KGEK006S001M92	59610.2	Decoupling module 2 x 50 A 45 V	
Fusebridge	NBP40848G01003	With fuses 5 A, 15 A, 25 A, 30 A	
FB 2405-5	NBP20849G02003	Fuse board, designed for FKS-fuses with max A, equipped with 5 fuses à 1 A / extension for IP31 cabinet 3 A	
FB 2410-10	NBP20848G02005	Fuse board, designed for FKS-fuses with max. 15 A, equipped with 10 fuses à 1 A / extension for IP31 cabinet 12 A	
FB 2405-5 P	NBP20902G02004	Fuse board, designed for FKS-fuses with max A, equipped with 5 fuses à 1 A / extension for IP54 cabinet, for snap-mounting on DIN rail	
FB 2410-10 P	NBP20901G02003	Fuse board, designed for FKS-fuses with max. 15 A, equipped with 10 fuses à 1 A / extension for IP54 cabinet, for snap-mounting on DIN rail	
Gateway	PMDV1710G01001	Ethernet connection for **AKKU***TEC* and **C**-*TEC* devices	
Mounting brackets	NBP40812G01003	For **C**-*TEC* 2 **AC C**-*TEC* 120 40 403-05 **AKKU***TEC* 2403 VdS, 2 412 VdS	7,20
Mounting brackets	NBP40812G01004	For **C**-*TEC* 242 CEM 2 4-16	7,20
Mounting brackets	147201.254	For **C**-*TEC* 1225P, 2425P, 4815P	7,20
Mounting brackets	NBP4P33G1M01	For **AKKU***TEC* 2440	7,20

7 Power Supplies

7.1 Schneider Power Supplies regulated

Made in EU

7.1.1 Single-phase

Power supply with integrated active PFC function, short-circuit proof, overload protection, overvoltage protection, overtemperature protection, air cooled, for mounting an DIN rail, 100% load burn in test, LED for power supply "on".

Type UNO*TEC*	Item. No.	Prim. V AC	V DC	Output A	W	Dimensions H x W x D in mm	Weight kg	/
2405	NFPG1311G01001	85-265	24		120	123 x 50 x 138	0,66	
2410	NFPG1311G02001	85-265	24	10*	240	123 x 65 x 138	0,85	
2420	NFPG1311G03001	85-265	24	20*	480	123 x 85 x 138	1,26	

*at 45°C ambient temperature

7.1.2 Three-phase

Power supply with integrated active PFC function, short-circuit proof, overload protection, overvoltage protection, overtemperature protection, air cooled, for mounting an DIN rail, 100% load burn in test, LED for power supply "on".

Type TRE*TEC*	Item. No	Prim. V AC	Sec. V	Output A	W	Dimensions H x W x D in mm	Weight kg	/
2406 N	NFPG1529G01001		24			143 x 50 x 143		
2412 N	NFPG1529G02001	360 x 500	24	12 *	288	143 x 65 x 143	0,77	
2424 N	NFPG1529G03001		24			143 x 65 x 167	1,2	
2448 N	NFPG1529G04001	360 x 500	24	48 *	1152	138 x 109 x 182	2,7	

* at 45° C ambient temperature

8 Transformers

Single-Phase Single Voltage Transformers; Control- , Separation- or Safety-Transformers

Type ECED	Item. No.	Prim. V AC	Sec. V AC	Rating in VA IEC	Rating in VA UL5085	Dimensions H x W x D in mm	Weight kg	/
0.09B	990101T2	**230**	230	63	63	78 x 73 x 89	1,2	
0.09B	990101T1	**230**	24	63	63	78 x 73 x 89	1,2	
0.09B	990101T4	**400**	230	63	63	78 x 73 x 89	1,2	
0.09B	990101T3	**400**	24	63	63	78 x 73 x 89	1,2	
0.18B	990101T6	**230**	230	100	100	84 x 83 x 93	2,1	
0.18B	990101T5	**230**	24	100	100	84 x 83 x 93	2,1	
0.18B	990101T8	**400**	230	100	100	84 x 83 x 93	2,1	
0.18B	990101T7	**400**	24	100	100	84 x 83 x 93	2,1	
0.18B	990101T9	**115**	230	100	100	84 x 83 x 93	2,1	
0.3B	990101U1	**230**	230	160	150	96 x 91 x 104	2,8	
0.3B	990101T0	**230**	24	160	150	96 x 91 x 104	2,8	
0.3B	990101U3	**400**	230	160	150	96 x 91 x 104	2,8	
0.3B	990101U2	**400**	24	160	150	96 x 91 x 104	2,8	
0.4B	990101U5	**230**	230	200	185	96 x 106 x 104	3,6	
0.4B	990101U4	**230**	24	200	185	96 x 106 x 104	3,6	
0.4B	990101U7	**400**	230	200	185	96 x 106 x 104	3,6	
0.4B	990101U6	**400**	24	200	185	96 x 106 x 104	3,6	
0.4B	990101U9	**230**	230	250	200	96 x 106 x 104	3,6	
0.4B	990101U8	**230**	24	250	200	96 x 106 x 104	3,6	
0.4B	990101V2	**400**	230	250	200	96 x 106 x 104	3,6	
0.4B	990101U0	**400**	24	250	200	96 x 106 x 104	3,6	
0.4B	990101V1	**115**	230	250	200	96 x 106 x 104	3,6	
0.5B	990101V4	**230**	230	320	260	120 x 103 x 121	4,4	
0.5B	990101V3	**230**	24	320	260	120 x 103 x 121	4,4	
0.5B	990101V6	**400**	230	320	260	120 x 103 x 121	4,4	
0.5B	990101V5	**400**	24	320	260	120 x 103 x 121	4,4	
0.65B	990101V8	**230**	230	400	320	120 x 116 x 121	5,3	
0.65B	990101V7	**230**	24	400	320	120 x 116 x 121	5,3	
0.65B	990101V0	**400**	230	400	320	120 x 116 x 121	5,3	
0.65B	990101V9	**400**	24	400	320	120 x 116 x 121	5,3	
0.65B	990102T1	**115**	230	400	320	120 x 116 x 121	5,3	

s plus daily copper note

Transformers

Single-phase, Single-voltage Transformers; Control-, Separation-, or Safety Transformers

Type	Item. No	Prim.	Sec.	Rating in VA		Dimensions	Weight	CU-weight	/
ECED		V AC	V AC	IEC	UL5085	H x B x T in mm	kg	kg	
0.8B	990102T3	**230**	230	500	410	120 x 135 x 121	6,9	1,080	
0.8B	990102T2	**230**	24	500	410	120 x 135 x 121	6,9	1,015	
0.8B	990102T5	**400**	230	500	410	120 x 135 x 121		0	
0.8B	990102T4	**400**	24	500	410	120 x 135 x 121	6,9	1,080	
1.0B	990102T7	**230**	230	630	510	150 x 113 x 145	7,9	1,750	
1.0B	990102T6	**230**	24	630	510	150 x 113 x 145		0	
1.0B	990102T9	**400**	230	630	510	150 x 113 x 145	7,9	1,800	
1.0B	990102T8	**400**	24	630	510	150 x 113 x 145	7,9	1,870	
1.3B	990102U1	**230**	230	800	640	150 x 130 x 145	10	0	
1.3B	990102T0	**230**	24	800	640	150 x 130 x 145	10	2,190	
1.3B	990102U3	**400**	230	800	640	150 x 130 x 145	10	0	
1.3B	990102U2	**400**	24	800	640	150 x 130 x 145	10	2,110	
1.8B	990102U5	**230**	230	1000	770	150 x 156 x 145		2,310	
1.8B	990102U4	**230**	24	1000	770	150 x 156 x 145		2,080	
1.8B	990102U7	**400**	230	1000	770	150 x 156 x 145		2,180	
1.8B	990102U6	**400**	24	1000	770	150 x 156 x 145		0	
3.0B	990102U8	**230**	230	1600	1260	174 x 160 x 173		3,600	
3.0B	990102U9	**400**	230	1600	1260	174 x 160 x 173		3,530	
4.0B	990102U0	**230**	230	2000	1600	192 x 182 x 180		4,250	
4.0B	990102V1	**400**	230	2000	1600	192 x 182 x 180		4,450	
4.0B	990102V2	**230**	230	2500	2250	192 x 182 x 180		0	
4.0B	990102V3	**400**	230	2500	2250	192 x 182 x 180		4,320	

s plus daily copper note

Transformers

Single-phase-Multivoltage-transformers

Primary: 200/230/240/380/400/415/440/460/480/500 Volt
Secondary: 115/230 Volt

Type EUED	Item. No	Prim. V AC	Sec. V AC	Rating in VA IEC	Rating in VA UL5085	Dimensions H x B x T in mm	Weight kg	CU-Weight kg	/
	990102V4	s.o.	s.o.	100	100	96 x 81 x 104		0	
0.3B	990102V5	s.o.	s.o.	160	150	390 x 96 x 91	2,8	0,480	
	990102V6	s.o.	s.o.	250	200	120 x 103 x 121	4,4	0,710	
0.8B	990102V7	s.o.	s.o.	400	320	120 x 135 x 121	6,9	0,870	
1.3B	990102V8	s.o.	s.o.	630	510	150 x 130 x 145		1,830	
	990102V9	s.o.	s.o.		770	174 x 130 x 173		2,760	
4.0B	990102V0	s.o.	s.o.	1600	1260	194 x 182 x 180		3,500	
4.0B	990103T1	s.o.	s.o.	2000	1600	194 x 182 x 180		0	s

plus daily copper note

Control-, Separation- or Mains connection transformers special voltage

Primary: 110/550 Volt
Sekundary: 115/230 Volt

Type ECES / ELES	Item. No	Prim. V AC	Sec. V AC	Rating in VA IEC	Rating in VA UL5085	Dimensions H x B x T in mm	Weight kg	CU-weight kg	/
	n.n.	s.o	s.o.	63	63	78 x 73 x 89			
0.18B	n.n.	s.o.	s.o.	100	100	84 x 83 x 93	2,1	0,28	
	n.n.	s.o.	s.o.	160	150	96 x 91 x 104	2,8	0,36	
0.40B	n.n.	s.o.	s.o.	200	185	96 x 106 x 104	3,6	0,44	
	n.n.	s.o.	s.o.	250	200	96 x 106 x 104			
0.50B	n.n.	s.o.	s.o.	320	260	120 x 103 x 121	4,4	0,89	
	n.n.	s.o.	s.o.	400	320	120 x 116 x 121	5,3	0,98	
0.80B	n.n.	s.o.	s.o.	500	410	120 x 135 x 121	6,9	1,08	
1.0B	n.n.	s.o.	s.o.	630	510	150 x 113 x 145			
1.3B	n.n.	s.o.	s.o.	800	640	150 x 130 x 145		2,13	
1.8B	n.n.	s.o.	s.o.		770	150 x 156 x 145		2,31	
3.0B	n.n.	s.o.	s.o.	1600	1260	174 x 160 x 173		3,6	
4.0B	n.n.	s.o.	s.o.		1600	192 x 182 x 180			
4.0B	n.n.	s.o.	s.o.	2500	2250	192 x 182 x 180		4,8	