

FLEX50048A



- Input: single-phase: 115 - 230 Vac
- Output: 48 Vdc 60 °C
- Efficiency up to 92%
- Strong overload without switch-off, up to 50%
- Flexible Power continuity : from 480 to 600W
- "Power Good" Relay
- Tree type of modality protections:
 - 1) Hiccup mode
 - 2) Continuous Out Mode
 - 3) Manual Reset
- DIN Rail Mountable
- Extremely small size
- 3 Year warranty

Input Data

Nominal Input Voltage (2 x Vac)	115 – 230 Vac
Manual select Input from 115 to 230	
Input Voltage range (Vac)	90 – 135 (115) 180 – 264 (230)
Inrush Current (Vn and In Load) I ² t	≤ 16 A ≤ 5 msec.
Frequency	47 – 63 Hz ±6%
Input Current (115 – 230 Vac)	8 – 4.2 A
Internal Fuse	T 10 A
External Fuse (recommended)	16 A (curve B)

Output Data

Output Voltage (Vn) Factory Setting ±3%	48 Vdc
Adjustment range (Vadj)	41 – 55 Vdc
Start up with Strong Load (capacitive load)	≤50.000µF
Turn-On delay after applying mains voltage	1 sec. (max)
Continuous Current at 48 V < 40°C (In)	12 A (permanent)
Continuous Current at 48 V < 50°C (In)	11 A (permanent)
Continuous Current at 48 V < 60°C (In)	10 A (permanent)
Power Boost Current at 48 Vdc 60°C(In)	In 60°C x 1.5 ≥ 3 min.
Current max. Overload ≅ 4Vdc (permanent)	I _{max} =In60°Cx(1.8 -2.2)
Current Short Circuit I _{cc}	
Max 2 sec.: Hiccup mode	In 60°C x 3
Permanent : Continuous Mode	
Hold-up Time (min. Vac) 48Vdc 5A	Typ. 20 msec
Residual Ripple	≤ 80 mV _{pp}
Efficiency	≥ 92 %
Over temperature Protection	Yes. Shut-down output and automatic restart.
Short-circuit protection	1° Hiccup Mode 2° Continuous Mode 3° Manual Reset
Dissipation power load max (W)	54
Over Load protection	Yes
Over Voltage Output protection	Yes (typ. 72 Vdc)
Parallel connection	Yes. "Easy Parallel"
Power Good Contact rating (EN60947.4.1): Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A Min. 1mA at 5 Vdc	Resistive load Min permissive load

Climatic Data

Ambient Temperature operation	-25 up to +70 °C (>60°derating 2.5% °C)
Ambient Temperature Storage	-40 up to +85 °C
Humidity at 25 °C, no condensation	95 % to 25 °C

General Data

Isolation Voltage (In / Out)	3000 Vac
Isolation Voltage (In / PE)	1605 Vac
Isolation Voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP 20
Reliability: MTBF IEC 61709	> 500.000 h
Pollution Degree Environment	2
Connection Terminal Blocks Screw Type	4 mm (30-10 AWG)
Protection class	I with PE connected
Dimension (w-h-d)	85x120x140 mm
Weight	0.75 kg approx.

Norms and certifications

The CE mark in According to EMC 2004/108/EC and Low voltage directive 2006/95/EC.

Electrical Safety

In compliance to UL508.

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The unit must be installed according to IEC/EN 60950. Input / Output separation: SELV EN60950-1 and PELV EN 60204-1. Double or reinforced insulation.

EMC Immunity

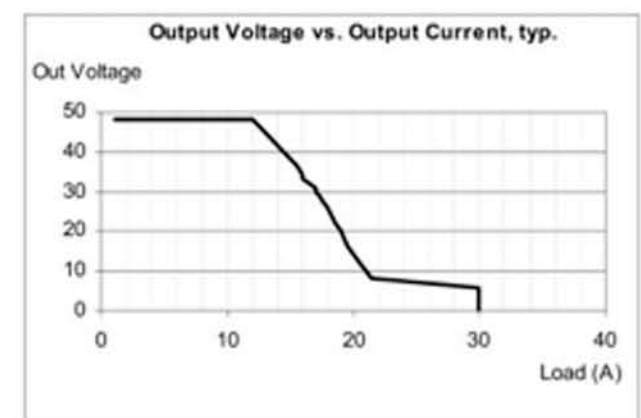
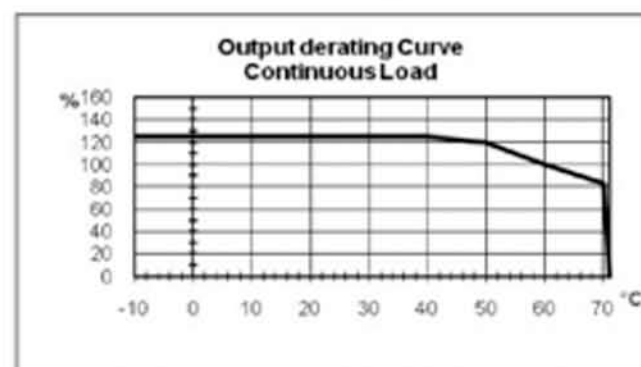
EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-6-2

EMC Emission:

EN61000-6-4

Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines



FLEX28012A



- Input: 115 - 230 Vac
- Output: 12 Vdc 60 °C
- Efficiency up to 91%
- Strong overload without switch-off, up to 50%
- Flexible Power continuity : from 240 to 336 W
- "Power Good" Relay
- Tree mode of output protections:
 - 1) Hiccup mode
 - 2) Continuous Out Mode
 - 3) Manual Reset
- DIN Rail Mountable
- Extremely small size
- 3 Year warranty

Input Data

Nominal Input Voltage (2 x Vac)	115 - 230 Vac
Manual select Input from 115 to 230	
Input Voltage range (Vac)	90 - 135 (115) 180 - 264 (230)
Inrush Current (Vn and In Load) I _r	≤ 16 A ≤ 5 msec.
Frequency	47 - 63 Hz ±6%
Input Current (115 - 230 Vac)	3.3 - 2.2 A
Internal Fuse	T 6.3 A
External Fuse (recommended)	16 A (MCB curve B)

Output Data

Output Voltage (Vn) Factory Setting ±3%	12 Vdc
Adjustment range (Vadj)	10 - 14 Vdc
Start up with Strong Load (capacitive load)	≤ 50.000 μF
Turn-On delay after applying mains voltage	1 sec. (max)
Rated Current at 12 V 40 °C (In)	16 A (permanent)
Rated Current at 12 V 50 °C (In)	15 A (permanent)
Rated Current at 12 V 60 °C (In)	14 A (permanent)
Power Boost Current at 12 Vdc 60 °C (In)	In 60 °C x 1.5 ≥ 3 min.
Current max. Overload ≥ 4Vdc (permanent)	I _{max} = In 60 °C x (1.8 - 2.2)
Current Short Circuit I _{cc}	30 A
Max 2 sec.: Hiccup mode	
Permanent : Continuous Mode	
Hold-up Time (min. Vac) 12Vdc 5A	Typ. 20 msec
Residual Ripple	≤ 80 mV _{pp}
Efficiency	≥ 91 %
Over temperature Protection	Yes. Shut-down output and automatic restart.
Short-circuit protection	1° Hiccup Mode 2° Continuous mode 3° Manual Reset
Dissipation power load max (W)	28
Over Load protection	Yes
Over Voltage Output protection	Yes (typ. 35 Vdc)
Parallel connection	Yes. "Easy Parallel"
Power Good Contact rating (EN60947.4.1):	
Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A	Resistive load
Min. 1mA at 5 Vdc	Min permissive load

Climatic Data

Ambient Temperature operation	-25 up to +70 °C (>60 °C derating 2.5% °C)
Ambient Temperature Storage	-40 up to +85 °C
Humidity at 25 °C, no condensation	95 % to 25 °C

General Data

Isolation Voltage (In / Out)	3000 Vac
Isolation Voltage (In / PE)	1605 Vac
Isolation Voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP 20
Reliability: MTBF IEC 61709	> 500.000 h
Pollution Degree Environment	2
Connection Terminal Blocks Screw Type	2,5 mm (24 - 14 AWG)
Protection class	I with PE connected
Dimension (w-h-d)	72x115x135 mm
Weight	0.65 kg approx.

Norms and certifications

The CE mark in According to EMC 2004/108/EC and Low voltage directive 2006/95/EC.

Electrical Safety

In compliance to UL508.

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The unit must be installed according to IEC/EN 60950. Input / Output separation: SELV EN60950-1 and PELV EN 60204-1. Double or reinforced insulation.

EMC Immunity

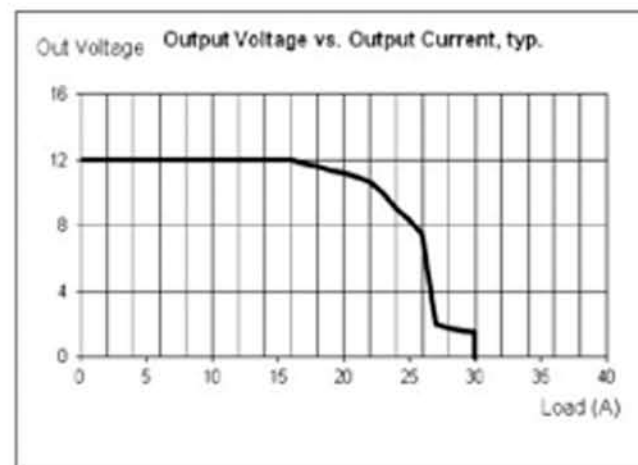
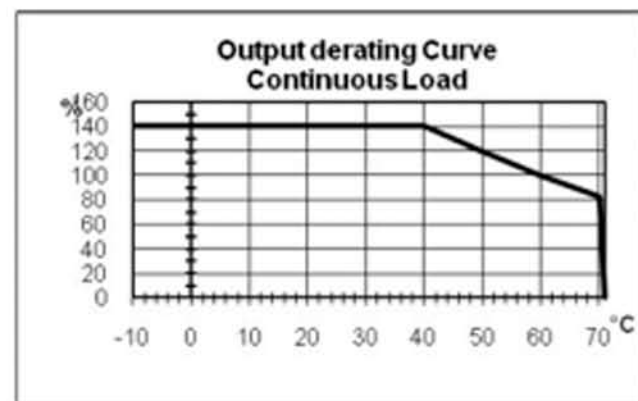
EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-6-2

EMC Emission:

EN61000-6-4,

Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines



FLEX6012A



Input: single-phase: 115 - 230 Vac
Output: 12 Vdc 60 °C
Efficiency up to 88%
Strong overload without switch-off
Flexible Power continuity : from 36 to 72 W
DIN Rail Mountable
Extremely small size
3 Year warranty

Features

Input Data

Nominal Input Voltage (2 x Vac)	115 – 230 Vac
Input Voltage range (Vac)	90 – 264
Inrush Current (Vn and In Load) I ² t	≤ 7 A ≤ 5 msec.
Frequency	47 – 63 Hz ±6%
Input Current (115 – 230 Vac)	1 – 0.7 A
Internal Fuse	T 4 A
External Fuse (recommended)	6 A (MCB curve B)

Output Data

Output Voltage (Vn) Factory Setting ±3%	12 Vdc
Adjustment range (Vadj)	10 – 15.5 Vdc
Start up with Strong Load (capacitive load)	≤ 50.000µF
Turn-On delay after applying mains voltage	1 sec. (max)
Continuous Current at 12 V up to 40°C (In)	4 A (115) 6 A (230)
Continuous Current at 12 V up to 50°C (In)	3 A (115) 5 A (230)
Continuous Current at 12 V up to 60°C (In)	2 A (115) 3 A (230)
Power Boost Current at 12 Vdc 50°C (In)	7 A up to 3 min.
Current max. Overload ≥ 4Vdc (permanent)	I _{max} =I _n 50°Cx(1.8 - 2.2)
Max current Short Circuit (I _{cc})	10 A
Hold-up Time (min. Vac) 12Vdc 5A	Typ. 20 msec
Residual Ripple	≤ 80 mV _{pp}
Efficiency	≥ 88 %
Over temperature Protection	Yes. Shut-down output and automatic restart.
Short-circuit protection	Yes, Continuous Mode
Dissipation power load max (W)	6
Over Load protection	Yes, Continuous Mode
Over Voltage Output protection	Yes (typ. 30 Vdc)
Parallel connection	Yes

Climatic Data

Ambient Temperature operation	-25 up to +70 °C (>60°derating 2.5% °C)
Ambient Temperature Storage	-40 up to +85 °C
Humidity at 25 °C, no condensation	95 % to 25 °C

General Data

Isolation Voltage (In / Out)	3000 Vac
Isolation Voltage (In / PE)	1605 Vac
Isolation Voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP 20
Reliability: MTBF IEC 61709	> 500.000 h
Pollution Degree Environment	2
Connection Terminal Blocks Screw Type	2,5 mm (24 – 14 AWG)
Protection class	I with PE connected
Dimension (w-h-d)	50x120x50 mm
Weight	0.3 kg approx.

Norms and certifications

The CE mark in According to EMC 2004/108/EC and Low voltage directive 2006/95/EC.

Electrical Safety

In compliance to UL508.

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The unit must be installed according to IEC/EN 60950. Input / Output separation: SELV EN60950-1 6 Edition, and PELV EN 60204-1. Double or reinforced insulation.

EMC Immunity

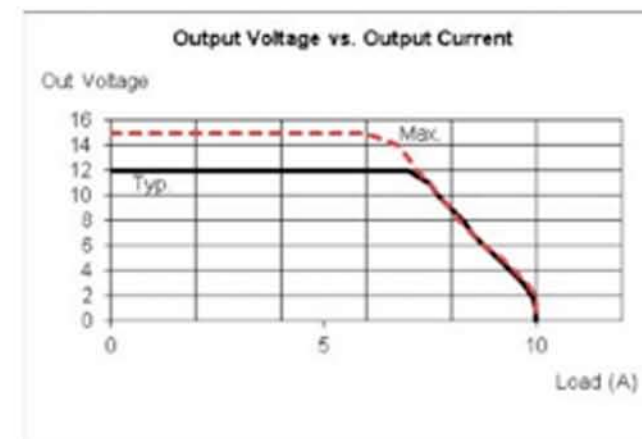
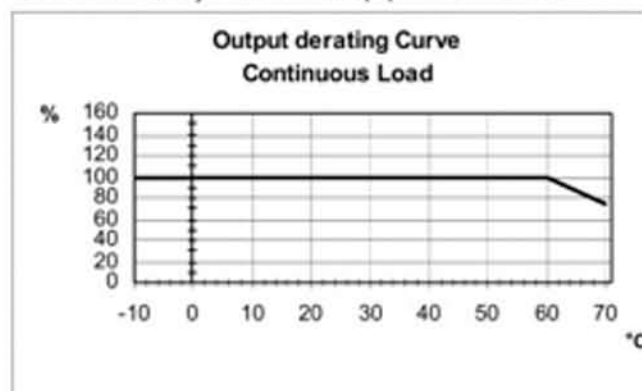
EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-6-2

EMC Emission

EN61000-6-4, EN61000-3-2

Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines



FLEX6005A



Input: single-phase: 115 - 230 Vac
Output: 5 Vdc 50 °C
Efficiency up to 88%
Strong overload without switch-off
Flexible Power continuity : up to 35 W
DIN Rail Mountable
Extremely small size
3 Year warranty

Features

Input Data

Nominal Input Voltage (2 x Vac)	115 – 230 Vac
Input Voltage range (Vac)	90 – 264
Inrush Current (Vn and In Load) I ² t	≤ 7 A ≤ 5 msec.
Frequency	47 – 63 Hz ±6%
Input Current (115 – 230 Vac)	0.5 – 0.25 A
Internal Fuse	T 4 A
External Fuse (recommended)	6 A (MCB curve B)

Output Data

Output Voltage (Vn) Factory Setting ±3%	5 Vdc
Adjustment range (Vadj)	4.75 – 5.25 Vdc
Start up with Strong Load (capacitive load)	≤ 50.000µF
Turn-On delay after applying mains voltage	2 sec. (max)
Continuous Current at 5 V up to 50 °C (In)	5 A (115-230)
Power Boost Current at 5 Vdc up to 50 °C(In)	7 A up to 3 min.
Current max. Overload ≥ 2Vdc (permanent)	I _{max} =I _n 50 °C x (1.3-1.4)
Max current Short Circuit (I _{sc})	10 A
Hold-up Time (min. Vac) 5Vdc 5A	Typ. 20 msec
Residual Ripple	≤ 80 mV _{pp}
Efficiency	≥ 88 %
Over temperature Protection	Yes. Shut-down output and automatic restart.
Short-circuit protection	Yes, Continuous Mode
Dissipation power load max (W)	3
Over Load protection	Yes, Continuous Mode
Over Voltage Output protection	Yes (typ. 15 Vdc)
Parallel connection	Yes

Climatic Data

Ambient Temperature operation	-25 up to +70 °C (>50 °C derating 2.5% °C)
Ambient Temperature Storage	-40 up to +85 °C
Humidity at 25 °C, no condensation	95 % to 25 °C

General Data

Isolation Voltage (In / Out)	3000 Vac
Isolation Voltage (In / PE)	1605 Vac
Isolation Voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP 20
Reliability: MTBF IEC 61709	> 500.000 h
Pollution Degree Environment	2
Connection Terminal Blocks Screw Type	2.5 mm (24 – 14 AWG)
Protection class	I with PE connected
Dimension (w-h-d)	50x120x50 mm
Weight	0.3 kg approx.

Norms and certifications

The CE mark in According to EMC 2004/108/EC and Low voltage directive 2006/95/EC.

Electrical Safety

In compliance to UL508.

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The unit must be installed according to IEC/EN 60950. Input / Output separation: SELV EN60950-1 6 Edition, and PELV EN 60204-1. Double or reinforced insulation.

EMC Immunity

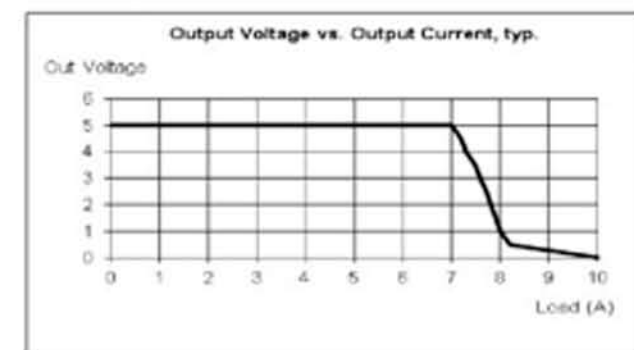
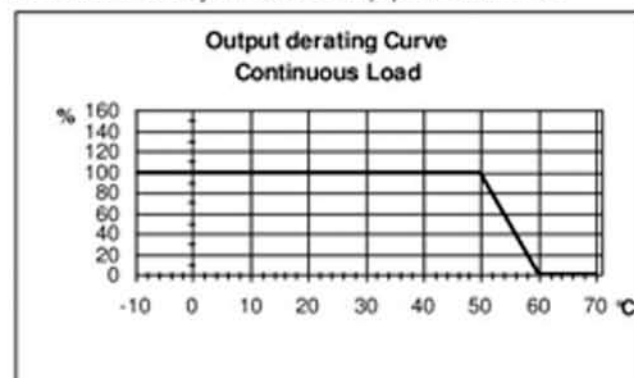
EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-6-2

EMC Emission:

EN61000-6-4, EN61000-3-2

Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines



BATTERY HOLDER



For Maintenance -free lead-acid batteries
 Output: 12; 24 Vdc
 Protection: Fuse
 Connection with screws
 Short circuit Protection
 IP20
 Wall Mount with screws / Din Rail

Modulo per batterie Ermetiche al piombo sigillate
Uscita: singola 12; 24 Vdc
Protezioni: fusibile
Protezione al cortocircuito
Connessione con Morsetti a Vite
Grado di protezione IP20
Fissaggio a Pannello / Barra DIN



Feature:

Battery Module for DC-UPS "All In One" range for One or Two batteries. Suitable to support maintenance-free lead-acid batteries standard size, whit serial fuse. Simple connection with screws. Size: 1.2 Ah, 3 Ah, 7.2 Ah and 12 Ah.

Caratteristiche tecniche

Cestelli batterie per la linea DC-UPS "All In One", a 24 Vdc (due batterie) e 12 Vdc (una Batteria). Adatti per alloggiare batterie sigillate al piombo collegate fra loro e protette da fusibile a lama. Facile connessione al modulo di alimentazione tramite morsetto a vite. Modelli: 1,2 Ah, 3 Ah, 7,2 Ah e 12 Ah.

Battery Holder / Moduli Porta - batterie: 12 Vdc and 24 Vdc (2 x 12 Vdc)

Feature / Caratteristiche Batterie

Battery Holder	12 Vdc	24 Vdc (2 x 12 Vdc)
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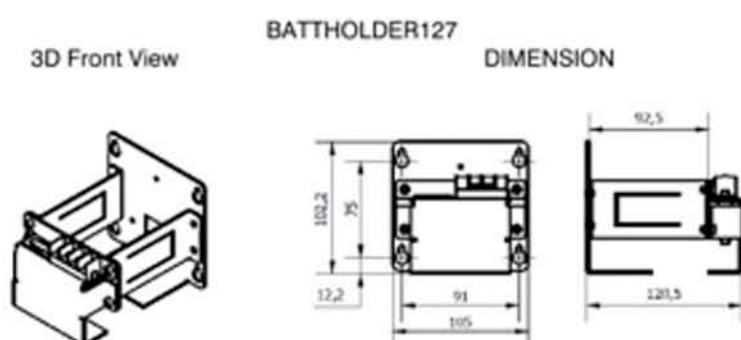
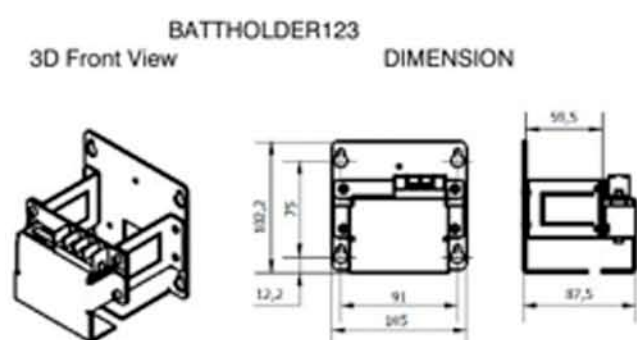
Standard Version Code / Codice Versione Standard:	BATTHOLDER 123	BATTHOLDER 127	BATTHOLDER 1.2	BATTHOLDER 3.2	BATTHOLDER 7.2	BATTHOLDER 12
DIN Rail Code / Codice Versione barra DIN:	BATTHOLDER 123DIN	BATTHOLDER 127DIN	BATTHOLDER 1.2DIN	BATTHOLDER 3.2DIN	BATTHOLDER 7.2DIN	NOT AVAILABLE

Short-circuit protection / Protezione contro il C.C.	Yes / Presente					
Protection Fuse / Fusibile di protezione a Lama	25 A					
Ambient Temperature (operation) / Temperatura Ambiente Lavoro	-25 ÷ +50 °C (depend on battery) (dipende dal tipo di batteria adottata)					
Ambient Temperature (Storage) / Temperatura Ambiente Stoccaggio	-20 ÷ +50 °C					

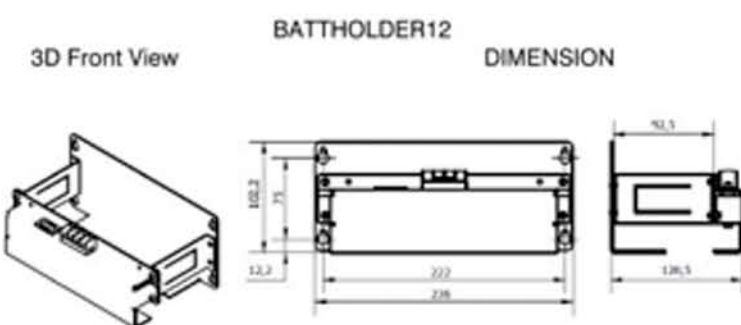
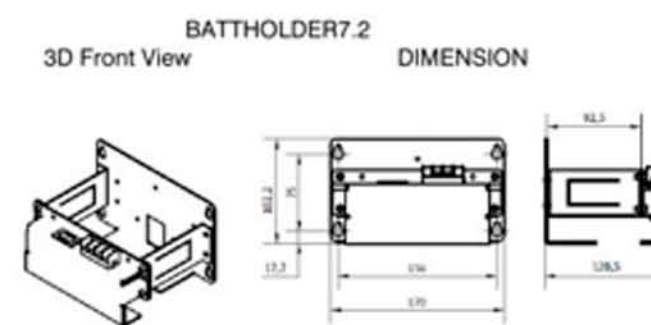
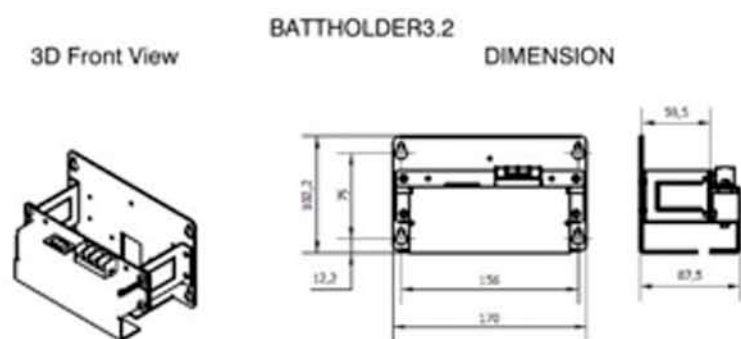
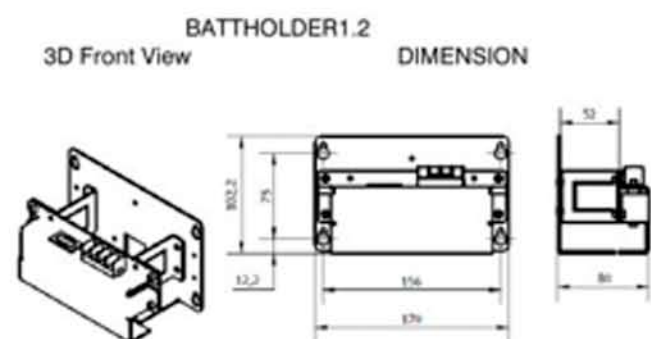
Generic data / Caratteristiche Generali

Dimension (w-h-d) mm/ Dimensioni (l-h-p) mm	105x102x87.5	105x102x120.5	170x102x80	170x102x87.5	170x102x120.5	236x102x120.5
Weight Standard/ Peso	190g approx	200g approx	280g approx	280g approx	290g approx	390g approx
Weight DIN RAIL/ Peso	210g approx	220g approx	300g approx	300g approx	310g approx	
Protection class / Grado di Protezione	IP20					
Standard Version Assembly / Tipo di fissaggio Versione Standard	For hanging onto M4 screws / Con viti M4					
DIN Rail Assembly / Fissaggio DIN	Available only on BATT xxx DIN Code					

MOUNTING HOLES IN THE MOUNTING PLATE OF SINGLE BATTERY 12V (BATTHOLDER123 AND BATTHOLDER127)

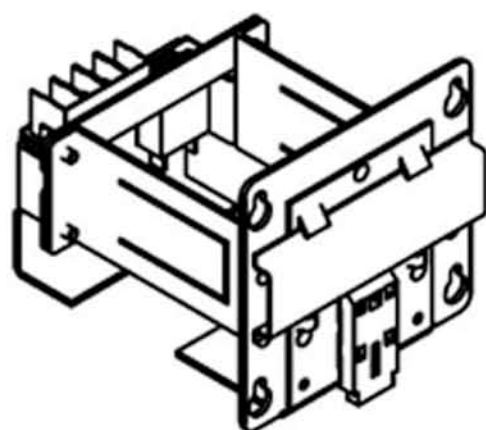


MOUNTING HOLES IN THE MOUNTING PLATE OF DOUBLE BATTERY 24V FROM 1.2Ah TO 12Ah

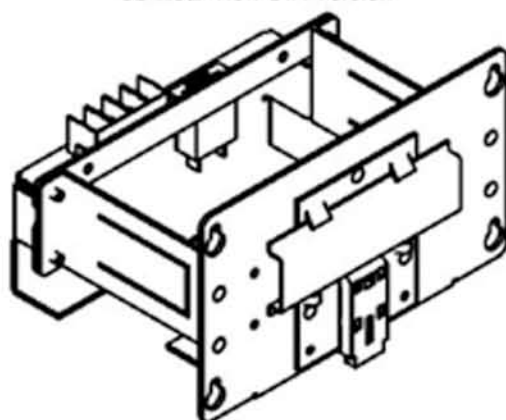


REAR MOUNTING VIEW OF THE MOUNTING PLATE SINGLE AND DOUBLE BATTERYHOLDER DIN VERSION:

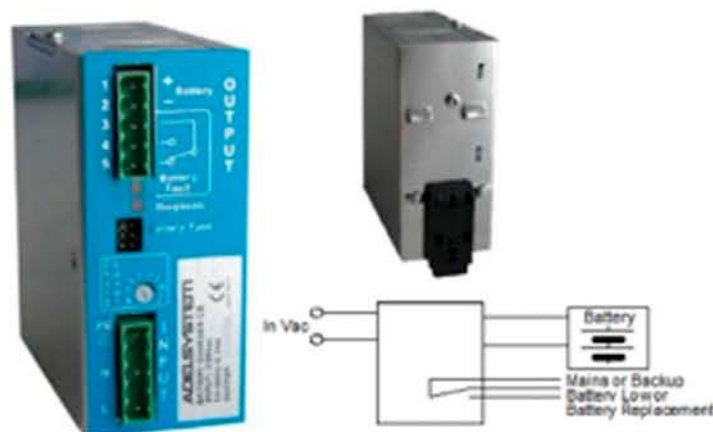
Single Battery 12V
3D Rear View DIN Version



Double Battery 24V
3D Rear View DIN Version



CB123A/LC Battery Charger



Input: Single-phase 115 + 230 Vac
Output: Battery charging 12 Vdc; 3 A

Suited for the following battery types: Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (option)

Automatic diagnostic of battery status. Charging curve IUoUo, constant voltage and current

Switching technology, output voltage 14.4 Vdc
Three charging levels: Boost, Trickle, Recovery.

Protected against short circuit, inverted polarity, over Load.

Signal output (contact free) for fault battery state

Protection degree IP20 - DIN rail

Technical features

The CB series is a "Switching technology" and "Battery Care philosophy", since years parts of the core know-how at ADEL system, led to the development of this advanced multi-stage battery charging method, completely automatic and suited to meet the most advanced requirements of battery manufacturers. The Battery Care concept is based on algorithms that implement rapid and automatic charging, battery charge optimization during time, flat batteries recovery and real time diagnostic during installation and operation. The Real Time Auto-diagnostic system, monitoring battery faults such as, elements in short circuit, accidental reverse polarity connection, disconnection of the battery, they can easily be detected and removed by help of Blink Code of Diagnosis Led; during the installation and after sell. Each device is suited for all battery types, by means of jumpers it is possible setting predefined curves for Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd(option). They are programmed for two charging levels, boost and trickle. A rugged casing with bracket for DIN rail mounting provide IP20 protection degree. They are extremely compact and cost-effective.

General Data

Insulation voltage (In /Out)	3000 Vac
Insulation voltage (In / PE)	1605 Vac
Insulation voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP20
Protection class	I, with PE connected
Reliability: MTBF IEC 61709	> 300.000 h
Pollution Degree Environment	2
Connection Terminal Blocks screw Type	2,5mm(24-14AWG)
Dimensions (w-h-d)	45x100x100 mm
Weight	0.30 Kg approx

Climatic Data

Ambient temperature (operation)	-25 + +70 °C
De Rating T ^a > 50 °C	- 2.5%(In) / °C
Ambient temperature Storage	-40 + +85 °C
Humidity at 25 °C no condensation	95% to 25 °C
Cooling	Auto Convection

Norms and Certifications

Conforming to: IEC/EN 60335-2-29, EN60950/UL1950, Electrical safety, 89/336/EEC, EMC Directive, 2006/95/EC (Low Voltage), DIN41773 (Charging cycle), Emission: IEC 61000-6-4, Immunity: IEC 61000-6-2, CE

Signal Output (free switch contact)

Model	CB123A	CB123ALC
Main or Backup Power	Yes	No
Low Battery	Yes	No
Fault Battery	Yes	No

Type of Signal Output Contact

Max. current can be switched (EN60947.4.1):	Resistive load Min load
Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A	
Min. 1mA at 5 Vdc	

Input Data

Nominal Input Voltage (2 x Vac)	115 - 230 - 277
Input Voltage range (Vac)	90 - 305
Inrush Current (Vn and In Load) I ^{1t}	≤ 11 A ≤ 5 msec.
Frequency	47 - 63 Hz ±6%
Input Current (115 - 230 Vac)	0.5 - 0.3 A
Internal Fuse	4 A
External Fuse (recommended)	10 A (MCB curve B)

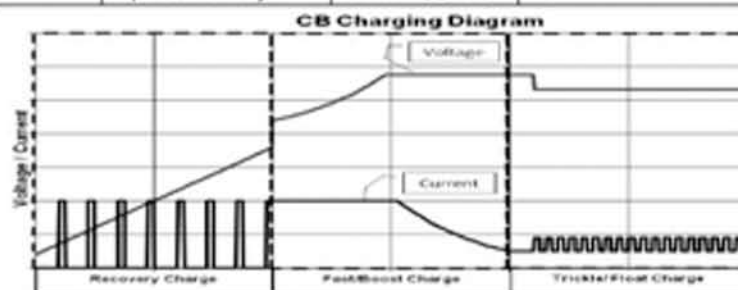
Battery Output (Battery Care)

Model	CB123A	CB123ALC
Adjustable charging current I _{adj} (% In)	20 + 100	No
Boost charge (25 °C) (typ. at In)	14.4 Vdc	
Max. time Bust Charge (typ. at In)	15 h	
Min. time Bust Charge (typ. at In)	70 min.	
Trickle charge (25 °C) (typ. at In)	13.75 Vdc	
Jumper Configuration battery type (V cell) Ni-Cd (optional)	2,23;2,25;2,27;2,3;	
Recovery Charge	1,41-1,5 (20 elem.)	
Charging. Max I _{max} (In)	2 - 7 Vdc	
Efficiency (50% - In)	3 A ± 5%	
Quiescent Current	81%	
Charging Curve automatic: IUoUo	≤ 5 mA	
Detection of element in short circuit	3 stage	
Short-circuit protection)	Yes	
Over Load protection	Yes	
Over Voltage Output protection	Yes	

Charging

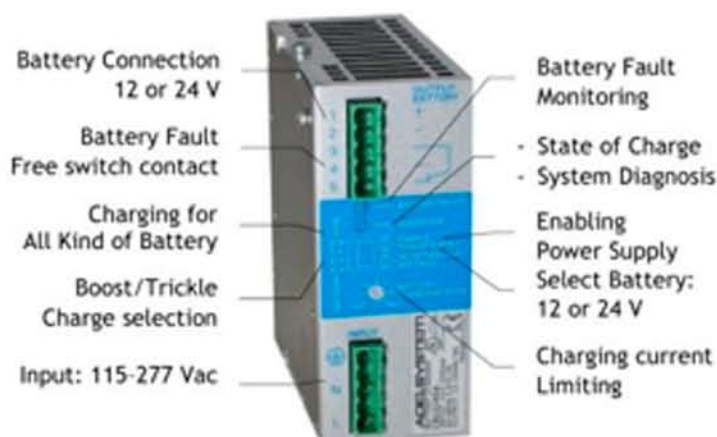
Automatic multi-stage charging and real time diagnostic allow fast recharge and recovery of deep discharged batteries, adding value and reliability to the system hosting. Type of charging it is Voltages and current stabilized IUoUo. The state of charging battery and Auto-diagnosis of the systems are identified by a flashing code on a Diagnosis LED and Fault Battery LED:

	State	Diagnosis LED	Battery Fault LED
Charging Type	Trickle	1 Blink/sec	OFF
	Boost	2 Blink/sec	OFF
	Recovery	5 Blink/sec	OFF
Auto diagnosis	Reverse polarity	1 Blink	ON
	Battery No connect	2 Blink	ON
	Element in Short C.	3 Blink	ON
	Replace Battery	5 Blink	ON



CB12245A Battery Charger

One product for the field: 12 and 24 Vdc



Input: Single-phase 115 + 277 Vac
 Output Jumper Selectable: 12 Vdc 6A; 24 Vdc 5 A
 Power Supply Function: setting by Jumper
 Suited for the following battery types: Open Lead Acid, Sealed Lead Acid, lead Gel, Ni-Cd, Li-Ion (option)

Battery Care for, automatic diagnostic of battery status, short circuit element,
 Charging curve IUoUo, constant voltage and current
 Switching technology Semi-resonant
 Four charging levels: Boost, Absorption, Trickle, Recovery.
 Protected against short circuit, inverted polarity, over Load.
 Signal output (contact free) for fault battery state
 Protection degree IP20 - DIN rail

Technical features

The CB series is a "Switching technology" and "Battery Care philosophy", since years parts of the core know-how at ADEL system, led to the development of this advanced multi-stage battery charging method, completely automatic and suited to meet the most advanced requirements of battery manufacturers. The Battery Care concept is based on algorithms that implement rapid and automatic charging, battery charge optimization during time, flat batteries recovery and real time diagnostic during installation and operation. The Real Time Auto-diagnostic system, monitoring battery faults such as, elements in short circuit, accidental reverse polarity connection, disconnection of the battery, they can easily be detected and removed by help of Blink Code of Diagnosis Led; during the installation and after sell. Each device is suited for all battery types, by means of jumpers it is possible setting predefined curves for Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd and. A rugged casing with bracket for DIN rail mounting provide IP20 protection degree.

General Data

Insulation voltage (In / Out)	3000 Vac
Insulation voltage (In / PE)	1605 Vac
Insulation voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP20
Protection class	I, with PE connected
Reliability: MTBF IEC 61709	> 300.000 h
Pollution Degree Environment	2
Connection Terminal Blocks screw Type	2,5mm(24-14AWG)
Dimensions (w-h-d)	45x105x100 mm
Weight	0.30 Kg approx

Climatic Data

Ambient temperature (operation)	-25 + +70°C
De Rating T ^a > 50°C	- 2.5%(In) / °C
Ambient temperature Storage	-40 + +85°C
Humidity at 25 °C no condensation	95% to 25°C
Cooling	Auto Convection

Norms and Certifications

Conforming to: IEC/EN 60335-2-29, EN60950/UL1236, Electrical safety, 89/336/EEC, EMC Directive, 2006/95/EC (Low Voltage), DIN41773 (Charging cycle), Emission: IEC 61000-6-4, Immunity: IEC 61000-6-2, CE

Signal Output (free switch contact)

Main or Backup Input Power	Yes
Low Battery	Yes
Fault Battery	Yes

Type of Signal Output Contact (free switch contact)

Max. current can be switched (EN60947.4.1):	
Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A	Resistive load
Min. 1mA at 5 Vdc	Min. load

Input Data

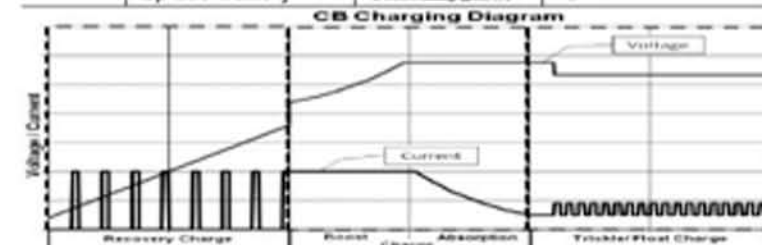
Nominal Input Voltage (2 x Vac)	115 - 230 - 277
Input Voltage range (Vac)	90 - 305
Inrush Current (Vn and In Load) I ² t	≤ 16 A ≤ 5 msec.
Frequency	47 - 63 Hz ±6%
Input Current (115 - 270 Vac)	2.4 - 1.2 A

Internal Fuse	4 A
External Fuse (recommended)	10 A (MCB curve B)
Battery Output 24 Vdc (depend on jumper selection)	
Boost charge (Typ. at In)	28.8 Vdc
Recovery Charge	2 - 16 Vdc
Charging. Max I _{bat} < 40°C (In)	5 A ± 5%
Charging. Max I _{bat} > 40°C (In)	3.5 A ± 5%
Battery Output 12 Vdc (depend on jumper selection)	
Boost charge (Typ. at In)	14.4 Vdc
Recovery Charge	2 - 7 Vdc
Charging. Max I _{bat} < 40°C (In)	6 A ± 5%
Charging. Max I _{bat} > 40°C (In)	6 A ± 5%
Generic Output Data	
Max. time Bust Charge (typ. At In)	15 h
Min. time Bust Charge (typ. At In)	4 min.
Jumper Configuration battery type (V cell) Ni-Cd (optional): when in Trickle Charging mode	2,23;2,25;2,27;2,3; 1,41-1,5 (20 cell.)
Power Supply function	By Jumper Enabling
Select Output Voltage 12 or 24 Vdc	By Jumper Enabling
Select Boost or trickle charge	By Jumper Enabling
Efficiency (50% of In)	90%
Charging current limiting I _{act}	20 + 100 % / I _n
Quiescent Current	≤ 5 mA
Charging Curve automatic: IUoUo	4 stage
Detection of element in short circuit	Yes
Short-circuit protection	Yes
Over Load protection	Yes
Over Voltage Output protection	Yes

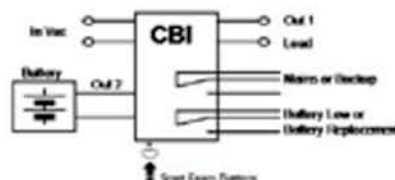
Charging

Type of charging it is Voltages and current stabilized IUoUo. The state of charging battery and Auto-diagnosis of the systems are identified by a blinking code on a Diagnosis LED and Battery Fault LED:

	State	Diagnosis LED	Battery Fault LED
Charging Type	Trickle - Float	1 Blink/sec	OFF
	Absorption	1 Blink/sec	OFF
	Boost - Bulk	3 Blink/sec	OFF
	Recovery	5 Blink/sec	OFF
	Reverse polarity	1 Blink	ON
Auto diagnosis	Battery No connect	2 Blink	ON
	Element in Short C.	3 Blink	ON
	Replace Battery	5 Blink	ON



CBI123A ALL In One



Input: Single-phase 115 - 277 Vac
 Output Load: power supply 12 Vdc; 3 A
 Output Battery: charging 12 Vdc; 3 A
 Suited for the following battery types: Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd
 Automatic diagnostic of battery status. Charging curve IUoUO, constant voltage and constant current
 Battery Life Test function (Battery Care)
 Switching technology, output voltage 10-14.4 Vdc
 Three charging levels: Boost, Trickle and Recovery
 Protected against short circuit and inverted polarity
 Signal output (contact free) for discharged or damaged battery
 Signal output (contact free) for mains or Back-UP
 Protection degree IP20 - DIN rail; Space saving

Technical features

Thanks to the All In One units (DC-UPS), it will be possible to optimize power management. The available power is automatically allocated between load and battery, supplying power to the load is the first priority of the unit thus it is not necessary to double the power, because also the power going to the battery will go to the load if the load so requires. The maximum available current on the load output is 2 times the value of the device rated current I_n . We call "Battery Care" the concept base on algorithms that implement rapid and automatic charging, battery charge optimization during time, flat batteries recovery and real time diagnostic during installation and operation. The Real Time Auto-diagnostic system, monitoring battery faults such as, battery Sulfated, elements in short circuit, accidental reverse polarity connection, disconnection of the battery, they can easily be detected and removed by help of Blink Code of Diagnosis Led; during the installation and after sell. The continuous monitoring of battery efficiency, reduces battery damage risk and allows a safe operation in permanent connection. Each device is suited for all battery types, by means of jumpers it is possible setting predefined curves for Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd(option). They are programmed for two charging levels, boost and charge, but they can be changed to single charging level by the user. A rugged casing with bracket for DIN rail mounting provide IP20 protection degree. They are extremely compact and cost-effective.

Norms and Certifications

In Conformity to: IEC/EN 60335-2-29 Battery chargers; EN60950 / UL1950 Electrical safety; EN54-4 Fire Detection and fire alarm systems; 89/336/EEC EMC Directive; 2006/95/EC (Low Voltage); DIN41773 (Charging cycle); Emission : IEC 61000-6-4; Immunity: IEC 61000-6-2. CE.

Climatic Data

Ambient temperature (operation)	-25 + +70°C
De Rating $T^a > 50^\circ\text{C}$	- 2.5%(I_n) / °C
Ambient temperature Storage	-40 + +85°C
Humidity at 25 °C no condensation	95% to 25°C
Cooling	Auto convention

General Data

Insulation voltage (IN/OUT)	3000 Vac
Insulation voltage (input / ground)	1605 Vac
Insulation voltage (Output / ground)	500 Vac
Protection Class (EN/IEC 60529)	IP20
Reliability: MTBF IEC 61709	> 300.000 h
Pollution Degree Environment	2
Connection Terminal Blocks screw Type	2,5mm(24-14AWG)
Protection class (PE Connected)	I, with PE
Dimensions (w-h-d)	65x115x135 mm
Weight	0.6 kg approx.

Input Data

Nominal Input Voltage Vac	115 - 230 - 277
Voltage range Vac	90 + 305
Inrush Current ($V_n - I_n$ nom. Load) I^2t	$\leq 11 \text{ A} \leq 5 \text{ msec.}$
Frequency	47 + 63 Hz
Input Current (115 - 230 Vac)	2.8 - 1.3 A
Internal fuse (not replaceable)	4 A
External Fuse (recommended) MCB curve B	10 A

Output Data (internal power supply)

Output Voltage (V_n) / Nominal Current (I_n)	12 Vdc / 3A
Output Current I_n	3 A
Efficiency (at 50% of rated current)	$\geq 90 \%$
Turn-On delay after applying mains voltage	1 sec. (max)
Start up with Strong Load (capacitive load)	Yes, Unlimited
Dissipation power load max (W)	9
Short-circuit protection)	Yes
Over Load protection	Yes
Over Voltage Output protection	Yes (typ. 35 Vdc)
Overheating Thermal protection	Yes

Battery Output

Boost charge (25 °C) (at I_n)	14.4 Vdc
Max. time Bust Charge	15 h
Min. time Bust Charge	1 min.
Trickle charge (25 °C) (at I_n)	13.75 Vdc
Jumper Configuration battery type (V cell) Ni-Cd (optional)	2,23;2,25;2,27;2,3; NiCd:1,5 (10 elem.)
Recovery Charge	2 - 9 Vdc
Charging current max I_{batt}	3 A $\pm 5\%$
Charging current limiting I_{act}	20 + 100 % / I_{batt}
Reverse battery protection	Yes
Sulfated battery check	Yes by Jumper
Detection of element in short circuit	Yes
Quiescent Current	$\leq 5 \text{ mA}$
Charging Curve automatic: IUoUo	3 stage
Remote Input Control (RTCONN cable)	Boost /Trickle

Load Output

Output voltage (at I_n)	10 - 14.4 Vdc
Nominal current I_{load}	1.1 x I_n A $\pm 5\%$
Continuous current (without battery) $I_{\text{load}} - I_n$	3 A
Continuous current (with battery) $I_{\text{load}} - I_n - I_{\text{batt}}$	6 A
Max. current Output Load (Main) $I_{\text{load}} (4 \text{ sec.})$	9 A max.
Max. current Output Load (Back Up) $I_{\text{load}} (4 \text{ sec.})$	6 A max.
Push Button or Remote Input Control (RTCONN cable)	Start From Battery Without Main
Time Buffering; min (switch output off without main input)	^{no} : standard 5 min.: Require SW
Protections against total discharge	9 - 10 Vdc batt
Threshold alarm Battery almost flat	10 - 11 Vdc batt

Signal Output (free switch contacts)

Main or Backup Power	Yes
Low Battery	Yes
Fault Battery	Yes

Type of Signal Output Contact

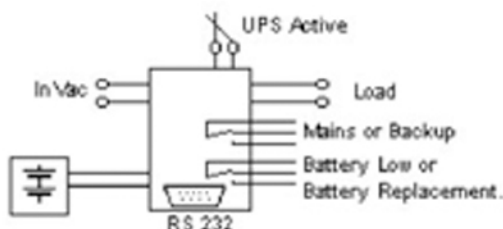
Max. Current can be switched (EN60947.4.1):	
Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A	Resistive load
Min.1mA at 5 Vdc	Min permissive load

Signal Input / Output (RJ45)

Temp. Comp. Battery (with external probe)	Yes
Remote monitoring display	Yes
Can Bus	No

¹Can be adjusted via PC software mode

UPS2410C



UPS and Power supply. All in One
 Input: single phase 230 Vac
 Output: 10A - 24 Vdc also without Line
 Two level of charge: Fast ; Trickle charge with temperature compensation (optional)
 Output for: battery low , Main or Backup mode
 RS 232 Interface remote control UPS Windows NT
 IP20. DIN Rail Mountable
 Stand Alone Battery Charger

Due prodotti in uno, Gruppo di continuità e Alimentatore Stabilizzato switching
Ingresso: monofase 230Vac
Uscita: singola 10A - 24 Vdc
Carica: veloce; Carica di mantenimento compensata in temperatura (opzione)
Uscita di segnalazione per : sostituzione batteria, batteria scarica, presenza rete
Uscita seriale. RS 232
IP20. Fissaggio a barra DIN
Carica batterie indipendente dall'alimentatore

Feature

Power Non Stop Series assure output Power 24 Vdc continuity, in a case of brief or long power outage. Two product in one, Power supply and UPS, it can be coupled with 1,2 Ah, 3,2 Ah, 7,2 Ah up to 55 Ah maintenance free, rechargeable battery. A battery function management at all times maximizing performance and life span. Charge the battery in multi-stage principle, Fast and Trickle and automatically the device, check the battery efficiency in a lifetime to prevent any risk of damage to the battery and allow leaving the charger permanently connected. The buffer time can be adjusted from 10 to 990 sec. in 10 sec. steps or until battery is full empty. This device is also available with RS232 Windows NT. Suitable to charging sealed lead-acid and Cyclon.

Caratteristiche tecniche

La serie di alimentatori industriali Power Non Stop, garantisce continuità in uscita a 24 Vdc, anche in caso di brevi o lunghi periodi di interruzione della linea di alimentazione. Un unico prodotto con ingresso da rete, che stabilizza la tensione in uscita e contemporaneamente gestisce in modo intelligente le batterie esterne. Automaticamente ricarica in modo veloce batterie da pochi Ah fino a 55 Ah per passare al mantenimento della carica, ed in fine al controllo continuo (life test) delle condizioni di efficienza delle batterie. Caratteristiche che permettono di eliminare rischi di danneggiamento delle stesse garantendo una connessione permanente in sicurezza dell'apparecchiatura. Viene correlato di cestello porta batterie per valori tipici di 1,2 Ah, 3,2 Ah e 7 Ah. Sono adatti per la ricarica di batterie al piombo e Cyclon.

Input data / Caratteristiche di Ingresso

Input Rated Voltage / Tensione di Ingresso nominale (2 x Vac)	230 Vac
Rated Voltage range / Campo di funzionamento	187-264 Vac
Inrush Current / Corrente di inserzione (Vn - In)	≤ 14 A ≤ 5msec.
Frequency / Frequenza di Ingresso	47 + 63 Hz
Input Current / Corrente di consumo a V nom. 115/230 Vac	1.6 A
Internal Fuse / Fusibile interno	F6.3 A
External Fuse (recommended) / Fusibile raccomandato Esterno	Fast 6A

Output Data / Caratteristiche di Uscita

Output Voltage - (In) / Tensione di Uscita (In)	24 Vdc ± 3% / 10 A
Adjustment range (Vadj) / Campo di regolazione (Vadj)	22 + 26 Vdc
Activation for battery threshold / Soglia di attivazione Batteria	-2Vdc (Vadj)
Output Voltage / Tensione di Uscita (Backup mode)	27 + 23.6
Type of charging characteristic / Ricarica della batteria	U/I
And of Charging Voltage / Tensione di fine carica	28.8 Vdc
And of Charging Current / Corrente di fine Carica	0.3 A
Type battery up to / Capacità di ricarica Batterie Fino a:	55 Ah
Charging with temperature compensation / Ricarica della batteria compensata in Temperatura	Option
Start up with capacitive load / Start up con carichi Capacitivi	≤ 30.000 µF
Switching on after applying mains voltage / Tensione in Uscita dopo l'accensione	2.5 sec. (max.)
Max. Current / Corrente max.	1.1 x I _n ± 5%
Residual Ripple / Ripple residuo	≤ 60 mV _{pp}
Minimum Load / Carico minimo	No
Efficiency / Rendimento tipico (50% In)	≥ 86 %
Short-circuit protection / Protezione contro il C.C.	Yes
Over Load protection / Protezione contro il sovraccarico	Yes
Over Voltage Output protection / Protezione contro la sovratensione in Uscita	Yes
Reverse battery protection / Protezione inversione di polarità batteria	Yes
Input: Mains or Buffering / Ingresso di Comando abilita/disabilita	Yes

batteria

Output: NO/NC (relè) Mains or Buffering / Uscita contatto NO/NC (relè) di Presenza Rete	Yes
Output: NO/NC (relè) Low Battery / Uscita contatto NO/NC (relè) Riserva di Batteria	Yes
Output: NO/NC (relè) Life test replace Battery. / Uscita contatto NO/NC (relè) Life test: batterie da sostituire	Yes
Input/Output RS 232 Windows NT / Uscita Seriale RS 232 Windows NT compatibile.	Yes (Optional)
Buffering Time (step 10 sec.) / Tempo di Backup Selezionabile	10 sec. + =

Climatic Data / Caratteristiche Ambientali

Ambient Temperature (operation) / Temperatura Ambiente Lavoro	-10 + +50 °C
Ambient Temperature (Storage) / Temperatura Ambiente Stoccaggio	-25+ + 85 °C
Humidity; no moisture condensation / Umidità ambiente di Lavoro senza condensa	95 % a 25 °C

Generic Data / Caratteristiche Generali

Isolation Voltage (Input/output) / Tensione di Isolamento (Ingresso / uscita) Tensione di Isolamento (Ingresso / terra)	3000 V
Degree of protection / Grado di protezione	IP 20
Protection class / Protezione Classe	I whit PE connected
Dimension (w-h-d) / Dimensioni (l-h-p)	135x115x135
Weight / Peso	1.15 Kg approx.

Norms and certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC.

Electrical safety

In according to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The device must be installed in accord with IEC/EN 60950 and must have a suitable isolating facility outside the power supply unit via it can be switched to idle.

Generic

Immunity: EN 61000-6-2
 Emission: EN 61000-6-4

Norme e Certificazioni

Conforme alla Direttiva EMC 89/336/EEC e alla direttiva bassa tensione 93/68/EEC.

Sicurezza Elettrica

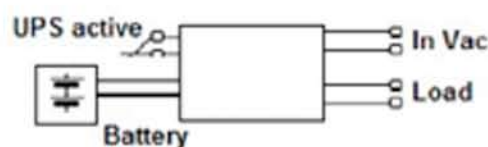
La sicurezza elettrica è conforme alla normativa EN 60950, UL1950 e EN 50178. Il prodotto deve essere installato in accordo con la normativa EN 60950 e controllato con un sistema di sezionamento esterno in grado di porlo in condizioni di spegnimento.

Altre norme

Immunità: EN 61000-6-2
 Emissioni: EN 61000-6-4

PSM123A

(UPS 123 A)



Input : single phase 115 - 230 Vac
Output Load: 3 A - 12 Vdc
Output Battery: 100 m A
Adjust current max
Remote control ON/OFF
Adjust Voltage Output
UPS function
IP20
DIN Rail Mountable

Ingresso: monofase 115 + 230Vac
Uscita Carico: 3 A - 12 Vdc
Uscita Batteria: 100 mA
Regolazione corrente max.
Controllo Remoto ON/OFF
Regolazione Tensione in Uscita
Funzione UPS
Grado di protezione IP20
Fissaggio a barra DIN



Features

Input Data

Input Rated Voltage (2 x Vac)	115 - 230 Vac
Rated Voltage range	85 + 264 Vac
Frequency	47 + 63 Hz
Input Current (Input Rated Voltage)	0.2 - 0.1 A
Internal Fuse	F 2 A
External Fuse (recommended)	Fast 4 A

Output Data

Output Voltage / Nominal Current	12 Vdc $\pm 3\%$ / 3 A
Adjustment range (Vadj)	10.5 + 14.5 Vdc
Switching on delay applying mains voltage	2.5 sec. (max.)
Max. Current	1.1 x I _N $\pm 5\%$
Max. Charging current for battery	100 mA
Residual Ripple	≤ 100 mV _{pp}
Minimum Load	No
Efficiency	$\geq 76\%$
Remote Output ON/OFF	Yes
Short-circuit protection	Yes
Over Load protection	Yes
Over Voltage Output protection	Yes
Parallel connection	Yes

Climatic Data

Ambient Temperature (operation)	-10 + +50 °C
Ambient Temperature (Storage)	-25+ + 85 °C
Humidity; no moisture condensation	95 % - 25°C

General Data

Degree of protection	IP 20
Protection class	II
Dimension (w-h-d)	71x95x65
Weight	0.45 kg approx.

Norms and Certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC

Electrical Safety

The device must be installed in according with IEC/EN 60950 and must have a suitable isolating facility outside the power supply unit via it can be switched to idle.

Generic

Emission : EN 61000-6-4
Immunity: EN 61000-6-2

Caratteristiche tecniche

Caratteristiche di Ingresso

Tensione di Ingresso nominale (2 x Vac)	115 - 230 Vac
Campo di funzionamento	85+264 Vac
Frequenza di Ingresso	47 + 63 Hz
Corrente di consumo a V nom. 115/230 Vac	0.2 - 0.1 A
Fusibile Interno (non sostituibile)	F2A
Fusibile raccomandato Esterno	Rapido 4 A

Caratteristiche di Uscita

Tensione di Uscita / Corrente Nominale (In)	12 Vdc $\pm 3\%$ / 3 A
Campo di regolazione (Vadj)	10.5 + 14.5 Vdc
Tensione in Uscita dopo l'accensione	2.5 sec. Max.
Corrente max.	1.1 x I _N $\pm 5\%$
Corrente massima di carica alla batteria	100 mA
Ripple residuo	≤ 100 mV _{pp}
Carico minimo	No
Rendimento tipico (al 50% della In)	$\geq 76\%$
Comando ON/OFF Uscita	Si
Protezione contro il C.C.	Si
Protezione contro il sovraccarico	Si
Protezione contro la sovratensione in Uscita	Si
Collegamento in parallelo	Si

Caratteristiche Ambientali

Temperatura Ambiente Lavoro	-10 + +50 °C
Temperatura Ambiente Stoccaggio	-25+ + 85 °C
Umidità ambiente di Lavoro senza condensa	95 % a 25°C

Caratteristiche Generali

Grado di protezione	IP 20
Protezione Classe	I con PE collegato
Dimensioni (l-h-p)	71x95x65
Peso	0.45 Kg approx.

Norme e Certificazioni

Conforme alla Direttiva EMC 89/336/EEC e alla direttiva bassa tensione 93/68/EEC.

Sicurezza Elettrica

Il prodotto deve essere installato in accordo con la normativa EN 60950 e controllato con un sistema di sezionamento esterno in grado di porlo in condizioni di spegnimento.

Altre norme

Emissioni: EN61000-6-4
Immunità: EN61000-6-2

BATTERY MODULE



Maintenance -free lead-acid batteries

Output: 12; 24 Vdc

Protection: Fuse

Connection with screws

Short circuit Protection

IP20

Wall Mount with screws / Din Rail

Modulo con batterie Ermetiche al piombo sigillate

Uscita: singola 12; 24 Vdc

Protezioni: fusibile

Protezione al cortocircuito

Connessione con Morsetti a Vite

Grado di protezione IP20

Fissaggio a Pannello / Barra DIN



Feature:

Battery Module for DC-UPS "All In One" range. They are composed maintenance-free lead-acid batteries with serial fuse. Simple connection with screws. Size: 1.2 Ah, 3 Ah, 7.2 Ah and 12 Ah.

Caratteristiche tecniche

Moduli batterie per la linea DC-UPS "All In One", a 24 Vdc (due batterie) e 12 Vdc (una Batteria). Batterie sigillate al piombo collegate fra loro e protette da fusibile a lama. Facile connessione al modulo di alimentazione tramite morsetto a vite. Modelli: 1,2 Ah, 3 Ah, 7,2 Ah e 12 Ah.

Battery Modules / Moduli Batterie: 12 Vdc and 24 Vdc (2 x 12 Vdc)

Feature / Caratteristiche Batterie

Battery Modules	12 Vdc		24 Vdc (2 x 12 Vdc)			
	BATT 123	BATT 127	BATT 1.2 Ah	BATT 3.2 Ah	BATT 7.2 Ah	BATT 12 Ah
Standard Version Code / Codice Versione Standard:	BATT 123	BATT 127	BATT 1.2 Ah	BATT 3.2 Ah	BATT 7.2 Ah	NOT AVAILABLE
DIN Rail Code / Codice Versione barra DIN:	DIN	DIN	DIN	DIN	DIN	NOT AVAILABLE
End-of-charge Voltage (trickle charge) / Tensione di fine carica	27.5 Vdc (20°C) ; 27 Vdc (30°C); 26.5 Vdc (40°C)		27.5 Vdc (20°C) ; 27 Vdc (30°C); 26.5 Vdc (40°C)			
Max. Permissible charging current / Corrente max. di carica	0.80 A	1.70 A	0.30 A	0.80 A	1.70 A	3 A
Short-circuit protection / Protezione contro il C.C.	Yes / Presente					
Protection Fuse / Fusibile di protezione a Lama	25 A					
Ambient Temperature (operation) / Temperatura Ambiente Lavoro	+5 ÷ +40 °C					
Ambient Temperature (Storage) / Temperatura Ambiente Stoccaggio	-20 ÷ +50 °C					
Self-discharge rate / Auto scarica	20 °C 15% per month / 20 °C 15% della carica al mese					

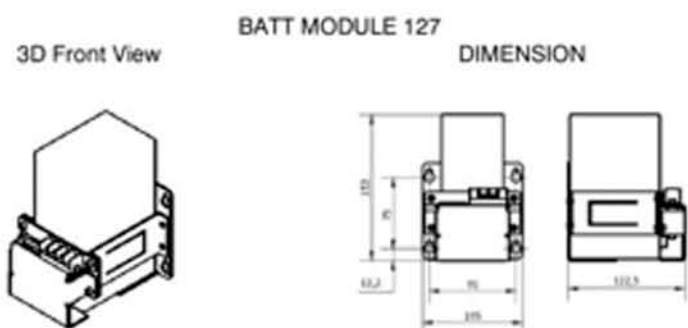
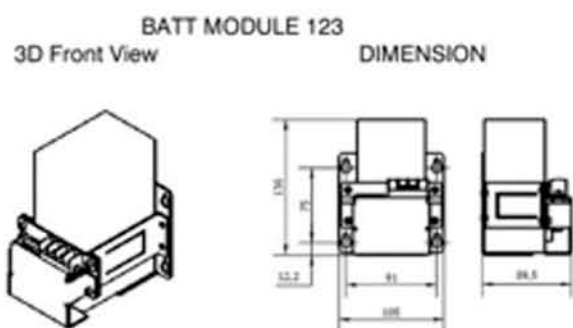
Generic data / Caratteristiche Generali

Dimension (w-h-d) / Dimensioni (l-h-p) mm	105x136x90	105x153x123	170x102x80	170x136x90	170x153x123	235x153x122
Weight / Peso	1.6Kg approx	2.4Kg approx	1.4Kg approx	3.1 Kg approx	4.7 Kg approx	7.9 Kg approx
Protection class / Grado di Protezione	IP20					
Standard Version Assembly / Tipo di fissaggio Versione Standard	For hanging onto M4 screws / Con viti M4					
DIN Rail Assembly / Fissaggio DIN	Available only on BATT xxx DIN Code					

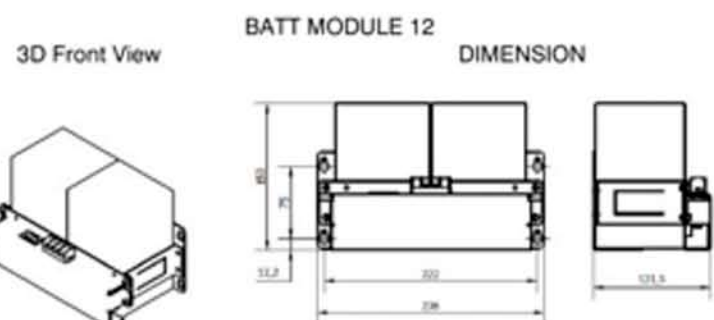
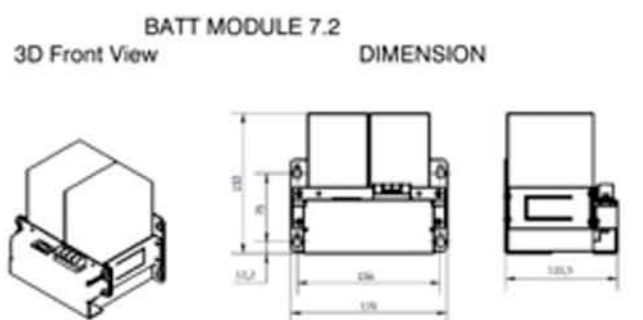
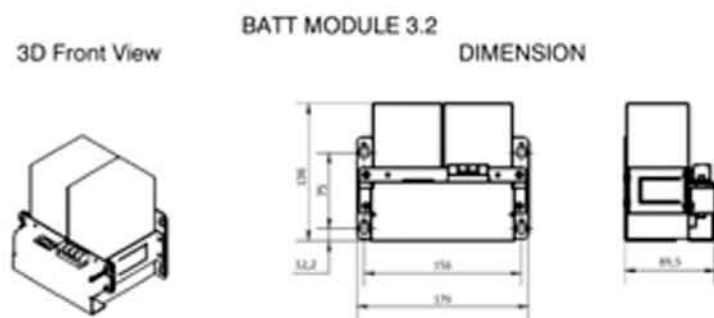
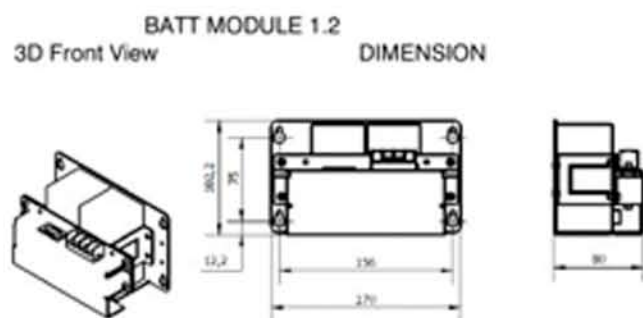
Buffering time (min) / Autonomia (min.)

Code / Codice:	Battery 1.2 Ah	Battery 3 Ah	Battery 7.2 Ah	Battery 12 Ah
Load / Carico 1.5 A	20	60	200	400
Load / Carico 3 A	8	30	120	240
Load / Carico 5 A	3	15	55	100
Load / Carico 7.5 A	2	10	30	60
Load / Carico 10 A	No	7	20	45
Load / Carico 12 A	No	3	12	30
Load / Carico 15 A	No	No	9	20
Load / Carico 20 A	No	No	7	13

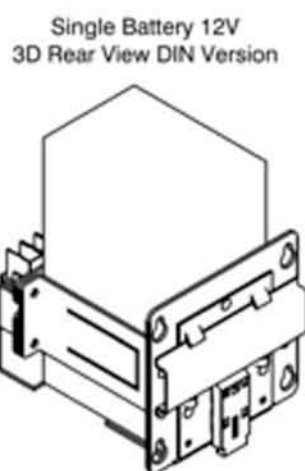
MOUNTING HOLES IN THE MOUNTING PLATE OF SINGLE BATTERY 12V (BATT 123 AND BATT 127)



MOUNTING HOLES IN THE MOUNTING PLATE OF DOUBLE BATTERY 24V FROM 1.2Ah TO 12Ah



REAR MOUNTING VIEW OF THE MOUNTING PLATE SINGLE AND DOUBLE BATTERYHOLDER DIN VERSION:



SUP 3-6



Power Supply STEP-UP: single phase 28 Vac-72 Vdc
Output: 3 A - 6 A - 24, 30, 40, 48, 60 Vdc
Ingresso: Singolo 12 - 24 Vdc
Low Cost
Short-circuit protection
IP20
DIN Rail Mountable

Alimentatore Step-UP: fornisce tensione in Uscita con valore superiore alla tensione di ingresso
Uscita: singola 3 A - 6 A - 24, 30, 40, 48, 60 Vdc
Low Cost
Uscita non regolabile
Ingresso: singolo 12 - 24 Vdc
Protezione al cortocircuito
Ingresso-Uscita non isolata
Grado di protezione IP20



Features / Caratteristiche tecniche SUP 3

Input Data / Caratteristiche di Ingresso

Code / Codice:	SUP3-1224	SUP3-1230	SUP3-1240	SUP3-2448	SUP3-2460
Nominal Rated Voltage / Tensione d'Ingresso nominale	12 Vdc	12 Vdc	12 Vdc	24 Vdc	24 Vdc
Rated Voltage range / Campo di funzionamento	10+15 Vdc	10+15 Vdc	10+15 Vdc	20+30 Vdc	20+30 Vdc
Internal Fuse / Fusibile Interno (non sostituibile)	Yes	Yes	Yes	Yes	Yes

Output Data / Caratteristiche di Uscita

Output Voltage (In) / Tensione di Uscita - (In)	24Vdc/3 A±2%	30Vdc/3A±2%	40 Vdc/3A±2%	48Vdc/3A±2 %	60Vdc/2,5A±2 %
Adjustment range (Vadj) / Campo di regolazione (Vadj)		No	No	No	No
Corrente max.	3,3 A	3,3 A	3,3 A	3,3 A	2,8 A
Ripple residuo	≤ 100 mV _{pp}	≤ 100 mV _{pp}	≤ 100 mV _{pp}	≤ 100 mV _{pp}	≤ 100 mV _{pp}
Carico minimo	No	No	No	No	No
Rendimento tipico (al 50% della corrente in uscita)	≥ 90%	≥ 90%	≥ 90%	≥ 90%	≥ 90%
Protezione contro il C.C.	Yes / Si	Yes / Si	Yes / Si	Yes / Si	Yes / Si

Features / Caratteristiche tecniche SUP 6

Input Data / Caratteristiche di Ingresso

Code / Codice:	SUP6-1224	SUP6-2448	SUP6-2460
Nominal Rated Voltage / Tensione d'Ingresso nominale	12 Vdc	24 Vdc	24 Vdc
Rated Voltage range / Campo di funzionamento	10+15 Vdc	20+30 Vdc	20+30 Vdc
Internal Fuse / Fusibile Interno (non sostituibile)	Presente	Presente	Presente

Output Data / Caratteristiche di Uscita

Output Voltage (In) / Tensione di Uscita - (In)	24 Vdc/6A ± 2%	48 Vdc / 6A ± 2%	60 Vdc / 5A ± 2%
Adjustment range (Vadj) / Campo di regolazione (Vadj)	± 10%	± 10%	± 10%
Corrente max.	6,5 A	6,5 A	5,5 A
Ripple residuo	≤ 100 mV _{pp}	≤ 100 mV _{pp}	≤ 100 mV _{pp}
Carico minimo	No	No	No
Rendimento tipico (al 50% della corrente in uscita)	≥ 90%	≥ 90%	≥ 90%
Protezione contro il C.C.	Si	Si	Si

Climatic Data / Caratteristiche Ambientali

Ambient Temperature (operation) / Temperatura Ambiente Lavoro	0 + 50 °C
Ambient Temperature (Storage) / Temperatura Ambiente Stoccaggio	-25+ + 85 °C
Humidity; no moisture condensation / Umidità ambientale	95 % - 25°C

General Data / Caratteristiche Generali

Degree of protection / Grado di protezione	IP 20
SUP3: Dimensioni (l-h-p)	115x55x72
SUP3: Peso	0,20 Kg
SUP6: Dimensioni (l-h-p)	115x104x72
SUP6: Peso	0,60 Kg

Norms and certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC

Norme e Certificazioni

La sicurezza elettrica, è conforme alla direttiva 93/68 EEC.

PFALXX10



Input : single phase 28 Vac-45 Vdc
Output: 10A - 24, 12, 5 Vdc
Continuous Load to 70 % In
Vout Adjustable $\pm 10\%$
Short-circuit protection
Over Load protection
IP20
DIN Rail Mountable

Ingresso: monofase 28 Vac; 45 Vdc
Uscita: singola 10A - 24, 12, 5 Vdc
Servizio Continuo al 70% di In
Uscita regolabile $\pm 10\%$
Protezione al cortocircuito
Grado di protezione IP20
Fissaggio a barra DIN



Features / Caratteristiche tecniche

Input Data / Caratteristiche di Ingresso

Code / Codice:	PFAL2410	PFAL1210
Input Rated Voltage / Tensione d'Ingresso nominale	25 Vac	25 Vac
Rated Voltage range / Campo di funzionamento	24+32 Vac	17+32 Vac
Rated Voltage range / Campo di funzionamento	33+45 Vdc	17,5+45 Vdc
Frequency / Frequenza di Ingresso	47 + 63 Hz	47 + 63 Hz
Internal Fuse / Fusibile Interno (non sostituibile)	10 A	10 A
External Fuse / Fusibile raccomandato Esterno	Rapido 10 A	Rapido 10 A

Output Data / Caratteristiche di Uscita

Output Voltage (In) / Tensione di Uscita - (In)	24Vdc/10 A $\pm 2\%$	12Vdc/10 A $\pm 2\%$
Adjustment range (Vadj) / Campo di regolazione (Vadj)	$\pm 10\%$	$\pm 10\%$
Switching on delay applying mains voltage Tensione in Uscita dopo l'accensione	≤ 100 msec	≤ 100 msec
Max. Current / Corrente max.	$1.05 \times I_N \pm 7\%$	$1.05 \times I_N \pm 7\%$
Continuous Current / Corrente funzionamento continuo	7 A	7 A
Residual Ripple / Ripple residuo	≤ 60 mV _{pp}	≤ 60 mV _{pp}
Minimum Load / Carico minimo	No	No
Efficiency / Rendimento tipico (al 50% In)	$\geq 85\%$	$\geq 80\%$
Short-circuit protection / Protezione contro il C.C.	Yes / Si	Yes / Si
Over Load protection / Protezione al sovraccarico	Yes / Si	Yes / Si
Over Voltage Output protection / Protezione sovratensione in Uscita	Yes / Si	Yes / Si
Parallel connection / Collegamento in parallelo	Yes / Si	Yes / Si

Climatic Data / Caratteristiche Ambientali

Ambient Temperature (operation) / Temperatura Ambiente Lavoro	0 + 50 °C	0 + 50 °C
Ambient Temperature (Storage) / Temperatura Ambiente Stoccaggio	-25+ + 85 °C	-25+ + 85 °C
Humidity; no moisture condensation / Umidità ambientale	95 % - 25°C	95 % - 25°C

General Data / Caratteristiche Generali

Degree of protection / Grado di protezione	IP 20	IP 20
Protection class Protezione Classe	I con PE collegato	I con PE collegato
Dimension (w-h-d) / Dimensioni (l-h-p)	124x94x73	124x94x73
Weight / Peso	0,55 Kg	0,55 Kg

Norms and certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC
Immunity: EN61000-6-2 ; EN 61000-4-3
Emission: EN61000-6-4

PFALVP3



Linear Power supply Vout 1.25 - 24 Vdc
Input : single phase 28 Vac-45 Vdc
Output: 2 A
Positive or Negative Output
Short-circuit protection
IP20
DIN Rail Mountable

Alimentatore lineare Vout Regolabile 1.25 - 24 Vdc
Ingresso: monofase max 28 Vac - 45 Vdc
Uscita: 2 A
Disponibile con tensione in uscita positiva o
negativa
Protezione al cortocircuito
Grado di protezione IP20



Features / Caratteristiche tecniche

Input Data / Caratteristiche di Ingresso

Code / Codice:	PFALVP3
Input Rated Voltage <i>Tensione d'Ingresso nominale</i>	6+28Vac 8+39Vdc
Frequency / <i>Frequenza di Ingresso</i>	47 + 63 Hz
Internal Fuse / <i>Fusibile Interno (non sostituibile)</i>	Rapido 3.15 A

Output Data / Caratteristiche di Uscita

Output Voltage (In) / <i>Tensione di Uscita - (In)</i>	+1.25 + 28 Vdc / 2 A ± 2%
Switching on delay applying mains voltage <i>Tensione in Uscita dopo l'accensione</i>	≤ 100 msec.
Max. Current / <i>Corrente max.</i>	1.05 x I _N ± 7%
Residual Ripple / <i>Ripple residuo</i>	≤ 60 mV _{pp}
Minimum Load / <i>Carico minimo</i>	No
Short-circuit protection / <i>Protezione contro il C.C.</i>	Si
Over Load protection / <i>Protezione al sovraccarico</i>	Si
Parallel connection / <i>Collegamento in parallelo</i>	Si

Climatic Data / Caratteristiche Ambientali

Ambient Temperature (operation) / <i>Temperatura Ambiente Lavoro</i>	0 + 50 °C
Ambient Temperature (Storage) <i>Temperatura Ambiente Stoccaggio</i>	-25+ + 85 °C
Humidity; no moisture condensation / <i>Umidità ambientale</i>	95 % - 25°C

General Data / Caratteristiche Generali

Degree of protection / <i>Grado di protezione</i>	IP 20
Protection class <i>Protezione Classe</i>	I, with PE connected
Dimension (w-h-d) / <i>Dimensioni (l-h-p)</i>	50x95x61
Weight / <i>Peso</i>	0,20 Kg

Norms and certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC
Immunity: EN61000-6-2 ; EN 61000-4-3
Emission: EN61000-6-4

SWXX3LC



Input : single phase 28 Vac-72 Vdc
 Output: 3A - 24, 12, 5 Vdc
 Low Cost
 Short-circuit protection
 Over Load protection
 IP20
 DIN Rail Mountable
 Extremely small size

Ingresso: monofase 28 Vac; 48 Vdc
Uscita: singola 3A - 24, 12, 5 Vdc
 Low Cost
Uscita non regolabile
Protezione al cortocircuito
Protezione al sovraccarico
 Grado di protezione IP20
 Fissaggio a barra DIN



Features / Caratteristiche tecniche

Input Data / Caratteristiche di Ingresso

Code / Codice:	SW053LC	SW103LC	SW243LC
Input Rated Voltage / Tensione d'Ingresso nominale	40 Vdc / 28 Vac	40 Vdc / 28 Vac	40 Vdc / 28 Vac
Rated Voltage range / Campo di funzionamento	13 + 28 Vac	17+28 Vac	24+32 Vac
Rated Voltage range / Campo di funzionamento	17.5 + 45 Vdc	17.5 + 45 Vdc	33+45 Vdc
Frequency / Frequenza di Ingresso	47 + 63 Hz	47 + 63 Hz	47 + 63 Hz
Internal Fuse / Fusibile Interno (non sostituibile)	No	No	No
External Fuse / Fusibile raccomandato Esterno	Fast 4 A	Fast 4 A	Fast 4 A

Output Data / Caratteristiche di Uscita

Output Voltage (In) / Tensione di Uscita - (In)	5Vdc/3A ±2%	10Vdc/3A ±2%	24Vdc/3A ±2%
Linearity / Variazione tensione di uscita	0+3A± 0.25%	0+3A± 0.25%	0+3A± 0.25%
Adjustment range (Vadj) / Campo di regolazione (Vadj)	No	No	No
Switching on delay applying mains voltage Tensione in Uscita dopo l'accensione	≤ 100 msec	≤ 100 msec	≤ 100 msec
Start up with capacitive load / Start up con carichi capacitivi	30.000µF-1.5A	30.000µF-1.5A	30.000µF-1.5A
Max. Current / Corrente max.	1.05 x I _N ± 7%	1.05 x I _N ± 7%	1.05 x I _N ± 7%
Residual Ripple / Ripple residuo	≤ 60 mV _{pp}	≤ 60 mV _{pp}	≤ 60 mV _{pp}
Minimum Load / Carico minimo	No	No	No
Efficiency / Rendimento tipico (al 50% In)	≥ 88 %	≥ 88 %	≥ 88 %
Short-circuit protection / Protezione contro il C.C.	Yes / Si	Yes / Si	Yes / Si
Over Load protection / Protezione al sovraccarico	Yes / Si	Yes / Si	Yes / Si
Over Voltage Output protection / Protezione sovratensione in Uscita	No	No	No
Parallel connection / Collegamento in parallelo	No	No	No

Climatic Data / Caratteristiche Ambientali

Ambient Temperature (operation) / Temperatura Ambiente Lavoro	0 + 50 °C	0 + 50 °C	0 + 50 °C
Ambient Temperature (Storage) Temperatura Ambiente Stoccaggio	-25+ + 85 °C	-25+ + 85 °C	-25+ + 85 °C
Humidity; no moisture condensation / Umidità ambientale	95 % - 25°C	95 % - 25°C	95 % - 25°C

General Data / Caratteristiche Generali

Degree of protection / Grado di protezione	IP 20	IP 20	IP 20
Protection class Protezione Classe	I, with PE connected	I, with PE connected	I, with PE connected
Dimension (w-h-d) / Dimensioni (l-h-p)	50x95x61	50x95x61	50x95x61
Weight / Peso	0,20 Kg	0,20 Kg	0,20 Kg

Norms and certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC
 Immunity: EN61000-6-2 ; EN 61000-4-3
 Emission: EN61000-6-4

SWXX3LC



Input : single phase 28 Vac-72 Vdc
 Output: 3A - 24, 12, 5 Vdc
 Low Cost
 Short-circuit protection
 Over Load protection
 IP20
 DIN Rail Mountable
 Extremely small size

Ingresso: monofase 28 Vac; 48 Vdc
 Uscita: singola 3A - 24, 12, 5 Vdc
 Low Cost
 Uscita non regolabile
 Protezione al cortocircuito
 Protezione al sovraccarico
 Grado di protezione IP20
 Fissaggio a barra DIN



Features / Caratteristiche tecniche

Input Data / Caratteristiche di Ingresso

Code / Codice:	SW243LC/48	SW243LC	SW123LC	SW053LC
Input Rated Voltage / Tensione d'Ingresso nominale	38 Vac / 48 Vdc	40 Vdc / 28 Vac	40 Vdc / 28 Vac	40 Vdc / 28 Vac
Rated Voltage range / Campo di funzionamento	25+ 51 Vac	24+32 Vac	17+28 Vac	13 + 28 Vac
Rated Voltage range / Campo di funzionamento	36+ 72 Vdc	33+45 Vdc	17.5 + 33 Vdc	17.5 + 33 Vdc
Frequency / Frequenza di Ingresso	47 + 63 Hz	47 + 63 Hz	47 + 63 Hz	47 + 63 Hz
Internal Fuse / Fusibile Interno (non sostituibile)	No	No	No	No
External Fuse / Fusibile raccomandato Esterno	Fast 4 A	Fast 4 A	Fast 4 A	Fast 4 A

Output Data / Caratteristiche di Uscita

Output Voltage (In) / Tensione di Uscita - (In)	24Vdc/3A ±2%	24Vdc/3A ±2%	12Vdc/3A ±2%	5Vdc/3A ±2%
Linearity / Variazione tensione di uscita	0+3A± 0.25%	0+3A± 0.25%	0+3A± 0.25%	0+3A± 0.25%
Adjustment range (Vadj) / Campo di regolazione (Vadj)	No	No	No	No
Switching on delay applying mains voltage Tensione in Uscita dopo l'accensione	≤ 100 msec	≤ 100 msec	≤ 100 msec	≤ 100 msec
Start up with capacitive load / Start up con carichi capacitivi	30.000µF-1.5A	30.000µF-1.5A	30.000µF-1.5A	30.000µF-1.5A
Max. Current / Corrente max.	1.05 x I _N ± 7%	1.05 x I _N ± 7%	1.05 x I _N ± 7%	1.05 x I _N ± 7%
Residual Ripple / Ripple residuo	≤ 60 mV _{pp}	≤ 60 mV _{pp}	≤ 60 mV _{pp}	≤ 60 mV _{pp}
Minimum Load / Carico minimo	No	No	No	No
Efficiency / Rendimento tipico (at 50% In)	≥ 85 %	≥ 88 %	≥ 88 %	≥ 88 %
Short-circuit protection / Protezione contro il C.C.	Yes / Si	Yes / Si	Yes / Si	Yes / Si
Over Load protection / Protezione al sovraccarico	Yes / Si	Yes / Si	Yes / Si	Yes / Si
Over Voltage Output protection / Protezione sovratensione in Uscita	No	No	No	No
Parallel connection / Collegamento in parallelo	No	No	No	No

Climatic Data / Caratteristiche Ambientali

Ambient Temperature (operation) / Temperatura Ambiente Lavoro	0 + 50 °C	0 + 50 °C	0 + 50 °C	0 + 50 °C
Ambient Temperature (Storage) Temperatura Ambiente Stoccaggio	-25+ + 85 °C	-25+ + 85 °C	-25+ + 85 °C	-25+ + 85 °C
Humidity; no moisture condensation / Umidità ambientale	95 % - 25°C	95 % - 25°C	95 % - 25°C	95 % - 25°C

General Data / Caratteristiche Generali

Degree of protection / Grado di protezione	IP 20	IP 20	IP 20	IP 20
Protection class Protezione Classe	I, with PE connected	I, with PE connected	I, with PE connected	I, with PE connected
Dimension (w-h-d) / Dimensioni (l-h-p)	50x95x61	50x95x61	50x95x61	50x95x61
Weight / Peso	0,20 Kg	0,20 Kg	0,20 Kg	0,20 Kg

Norms and certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC
 Immunity in according with EN50082-2 Level 4 Class B
 Noise Radiation In according with EN 55011 Class A

Norme e Certificazioni

La sicurezza elettrica, è conforme alla direttiva 93/68 EEC.
 Soppressione delle radiointerferenze in accordo con la normativa EN 55011 classe A (ambienti industriali)
 Immunità ai disturbi con livello 4 criterio B secondo EN50082-2
 Il prodotto deve essere installato in accordo con la direttiva 93/68 EEC. Deve essere controllato con un sistema di sezionamento esterno in grado di porlo in condizioni di spegnimento.

PSM2410B



- Input: two-phase 400 - 480 Vac
- Output: One output 10 A - 24 Vdc
- Strong overload without switch-off
- Short-circuit protection
- Over-voltage protection
- IP20
- DIN Rail Mountable
- Extremely small size

Features

Input Data

Input Rated Voltage (2 x Vac)	400 - 480 Vac
Rated Voltage range	360 + 530 Vac
Inrush Current ($V_n - I_n$)	$\leq 17 \text{ A} \leq 5 \text{ msec.}$
Frequency	47 + 63 Hz
Input Current (Input Rated Voltage)	1 - 0.85 A
Internal Fuse	F 4 A
External Fuse (recommended)	Fast 4 A

Output Data

Output Voltage (V_n) / Nominal Current (I_n)	24 Vdc $\pm 3\%$ / 10A
Adjustment range (V_{adj})	22 + 26 Vdc
Start up with Strong Load (capacitive load)	$\leq 30.000 \mu\text{F}$
Switching on delay applying mains voltage	2.5 sec. (max)
Max. Continuous Current	$1.1 \times I_n \pm 5\%$
Reserve Out Current (max. 1 min. 50 °C)	$I_{max} = I_n + 25\%$ approx.
Hold-up Time (at 100 - 240 Vac)	Typ. 27 msec
Residual Ripple	$\leq 60 \text{ mV}_{pp}$
Minimum Load	No
Efficiency	$\geq 89\%$
Short-circuit protection (hiccup mode)	Yes
Over Load protection (hiccup mode)	Yes
Over Voltage Output protection	Yes (max 35 Vdc)
Parallel connection	Yes

Climatic Data

Ambient Temperature (operation)	-10 + +70 °C ($>50^\circ$ derating)
Ambient Temperature (Storage)	-25 + +85 °C
Humidity; no moisture condensation	95 % to 25 °C

General Data

Isolation Voltage (Input/Output)	3000 Vac
Input / ground isolation PE	1605 Vac
Output / ground isolation PE	500 Vac
Degree of protection	IP 20
Protection class	I with PE connected
Dimension (w-h-d)	132x118x135 mm
Weight	1.15 kg approx.

Norms and certifications

According to EMC 89/336/EEC and Low voltage 93/68/EEC

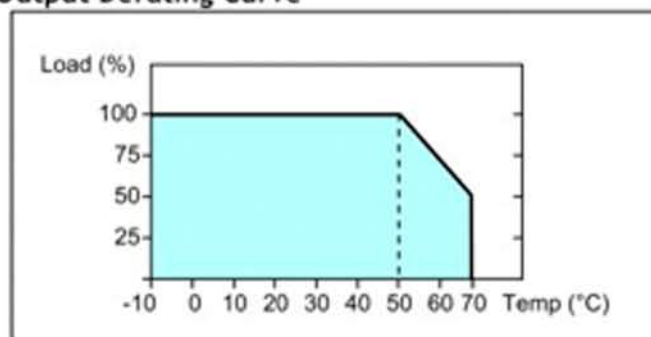
Electrical Safety

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The unit must be installed according to IEC/EN 60950.

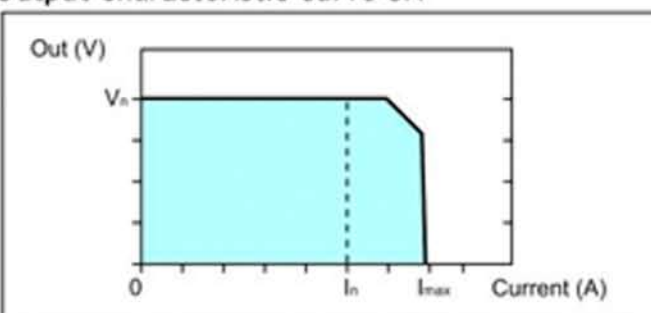
Generic

Immunity according to EN50082-2 Level 4 Class B
Noise Radiation according to EN 55011

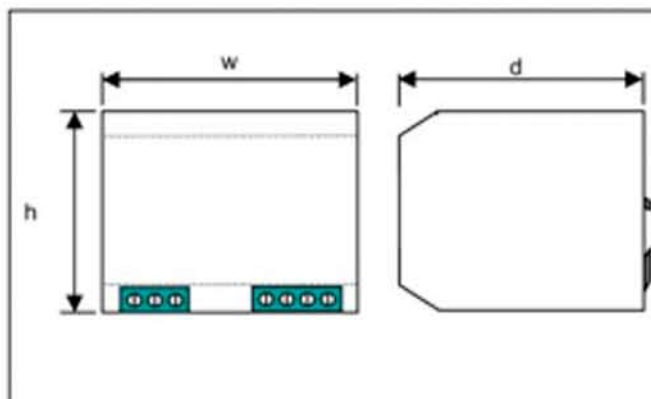
Output Derating Curve



Output Characteristic Curve U/I



Dimensions



PSM482A



Input : single phase 115 - 230 Vac
 Output: One output 2.5 A - 48 Vdc
 Strong overload without switch-off
 Short-circuit protection
 Over voltage protection
 IP20
 DIN Rail Mountable
 Extremely small size

Ingresso: monofase 115 ÷ 230 Vac
Uscita: singola 2.5A - 48 Vdc
Elevata corrente di sovraccarico senza switch-off
Protezione al cortocircuito
Protezione da sovratensione
Grado di protezione IP20
Fissaggio a barra DIN



Features

Input Data

Input Rated Voltage (2 x Vac)	115 - 230 Vac
Rated Voltage range	93 ÷ 264 Vac
Inrush Current (Vn - In)	≤ 11 A ≤ 5 msec.
Frequency	47 ÷ 63 Hz
Input Current (Input Rated Voltage)	0.9 - 0.5 A
Internal Fuse	F 4 A
External Fuse (recommended)	Fast 4 A

Output Data

Output Voltage / Nominal Current	48 Vdc ±3% / 2.5A
Adjustment range (Vadj)	45 ÷ 51 Vdc
Start up with capacitive load	≤ 30.000µF
Switching on delay applying mains voltage	3 sec. (max.)
Max. Current	1.1 x In ± 5%
Residual Ripple	≤ 60 mV _{pp}
Minimum Load	No
Efficiency	≥ 82 %
Short-circuit protection	Yes
Over Load protection	Yes
Over Voltage Output protection	Yes
Parallel connection	Yes

Climatic Data

Ambient Temperature (operation)	-10 ÷ +50 °C
Ambient Temperature (Storage)	-25 ÷ + 85 °C
Humidity; no moisture condensation	95 % - 25°C

General Data

Isolation Voltage (Input/ output)	3000 V
Input ground insulation	1605 V
Degree of protection	IP 20
Protection class	I with PE connected
Dimension (w-h-d)	55x115x155
Weight	0.70 Kg approx.

Norms and certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC

Electrical Safety

In according to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The device must be installed in according with IEC/EN 60950 and must have a suitable isolating facility outside the power supply unit via it can be switched to idle.

Generic

In according with EN 61000-3-2
 Immunity in according with EN50082-2 Level 4 Class B
 Noise Radiation in according with EN 55011

Caratteristiche tecniche

Caratteristiche di Ingresso

Tensione di Ingresso nominale (2 x Vac)	115 - 230 Vac
Campo di funzionamento	93÷264 Vac
Corrente di Inserzione (Inrush C.) (Vn - In)	≤ 14 A ≤ 5 msec.
Frequenza di Ingresso	47 ÷ 63 Hz
Corrente di consumo a V nom. 115/230 Vac	1.7 - 0.9 A
Fusibile Interno (non sostituibile)	F4 A
Fusibile raccomandato Esterno	Rapido 4 A

Caratteristiche di Uscita

Tensione di Uscita / Corrente Nominale	48 Vdc ± 3%/2.5A
Campo di regolazione (Vadj)	45 ÷ 51 Vdc
Start up con carichi Capacitivi	≤ 30.000µF
Tensione in Uscita dopo l'accensione	3 sec. (max)
Corrente max.	1.1 x In ± 5%
Ripple residuo	≤ 60 mV _{pp}
Carico minimo	No
Rendimento tipico (al 50% della corrente In)	≥ 82 %
Protezione contro il C.C.	Si
Protezione contro il sovraccarico	Si
Protezione contro la sovratensione in Uscita	Si
Collegamento in parallelo	Si

Caratteristiche Ambientali

Temperatura Ambiente Lavoro	-10 ÷ +50 °C
Temperatura Ambiente Stoccaggio	-25 ÷ + 85 °C
Umidità ambiente di Lavoro senza condensa	95 % a 25°C

Caratteristiche Generali

Tensione di Isolamento (IN/OUT)	3000 V
Tensione di Isolamento (Ingresso / terra)	1605 V
Grado di protezione	IP 20
Protezione Classe	I PE collegato
Dimensioni (l-h-p)	55x115x155
Peso	0.70 Kg approx.

Norme e Certificazioni

Conforme alla Direttiva EMC 89/336/EEC e alla direttiva bassa tensione 93/68/EEC.

Sicurezza Elettrica

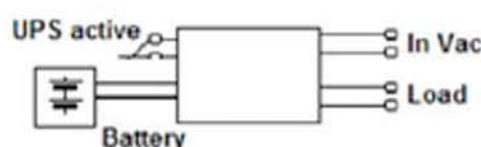
La sicurezza elettrica è conforme alla normativa EN 60950 (VDE 0805), UL1950 e EN 50178 (VDE 0160). Il prodotto deve essere installato in accordo con la normativa EN 60950 e controllato con un sistema di sezionamento esterno in grado di porlo in condizioni di spegnimento.

Altre norme

Conforme alla EN 61000-3-2 (armoniche di corrente).
 Immunità ai disturbi con livello 4 criterio B secondo EN50082-2
 Soppressione delle radiointerferenze in accordo con la normativa EN 55011.

PSM241A

(UPS242A)



Input : single phase 115 - 230 Vac
Output Load: 1.5 A - 24 Vdc
Output Battery: 100 m A
Adjust current max
Remote ON/OFF
UPS Function
IP20
DIN Rail Mountable
Extremely small size

Ingresso: monofase 115 + 230Vac
Uscita Carico: 1.5 A - 12 Vdc
Uscita Batteria: 100 mA
Regolazione corrente Max.
Controllo Remoto ON/OFF
Regolazione tensione in uscita
Funzione UPS
IP20
Fissaggio a barra DIN



Features

Input Data

Input Rated Voltage (2 x Vac)	115 - 230 Vac
Rated Voltage range	85 + 264 Vac
Frequency	47 + 63 Hz
Input Current (Input Rated Voltage)	0.2 - 0.1 A
Internal Fuse	F 2 A
External Fuse (recommended)	Fast 4 A

Output Data

Output Voltage / Nominal Current	24 Vdc ±3% / 1.5A
Adjustment range (Vadj)	22.8 + 27.0 Vdc ± 5%
Switching on delay applying mains voltage	2.5 sec. (max.)
Max. Current	1.1 x I _N ± 5%
Residual Ripple	≤ 100 mV _{pp}
Minimum Load	No
Efficiency	≥ 76 %
Remote Output ON/OFF	Yes
Short-circuit protection	Yes
Over Load protection	Yes
Over Voltage Output protection	Yes
Parallel connection	Yes

Climatic Data

Ambient Temperature (operation)	-10 + +70 °C
Ambient Temperature (Storage)	-25+ + 85 °C
Humidity; no moisture condensation	95 % - 25 °C

General Data

Degree of protection	IP 20
Protection class	II
Dimension (w-h-d)	71x95x65
Weight	0.45 Kg approx.

Norms and certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC

Electrical Safety

The device must be installed in according with IEC/EN 60950 and must have a suitable isolating facility outside the power supply unit via it can be switched to idle.

Generic

Emission : EN 61000-6-4
Immunity : EN 61000-6-2

Caratteristiche tecniche

Caratteristiche di Ingresso

Tensione di Ingresso nominale (2 x Vac)	115 - 230 Vac
Campo di funzionamento	85+264 Vac
Frequenza di Ingresso	47 + 63 Hz
Corrente di consumo a V nom. 115/230 Vac	0.2 - 0.1 A
Fusibile Interno (non sostituibile)	F2A
Fusibile raccomandato Esterno	Rapido 4 A

Caratteristiche di Uscita

Tensione di Uscita / Corrente Nominale	24 Vdc ± 3% / 1.5A
Campo di regolazione (Vadj)	22.8 + 27.0 Vdc ± 5%
Tensione in Uscita dopo l'accensione	2.5 sec. Max.
Corrente max.	1.1 x I _N ± 5%
Ripple residuo	≤ 100 mV _{pp}
Carico minimo	No
Rendimento tipico (al 50% della In)	≥ 76 %
Comando ON/OFF Uscita	Si
Protezione contro il C.C.	Si
Protezione contro il sovraccarico	Si
Protezione contro la sovratensione in Uscita	Si
Collegamento in parallelo	Si

Caratteristiche Ambientali

Temperatura Ambiente Lavoro	-10 + +50 °C
Temperatura Ambiente Stoccaggio	-25+ + 85 °C
Umidità ambiente di Lavoro senza condensa	95 % a 25 °C

Caratteristiche Generali

Grado di protezione	IP 20
Protezione Classe	I con PE collegato
Dimensioni (l-h-p)	71x95x65
Peso	0.45 Kg approx.

Norme e Certificazioni

Conforme alla Direttiva EMC 89/336/EEC e alla direttiva bassa tensione 93/68/EEC.

Sicurezza Elettrica

Il prodotto deve essere installato in accordo con la normativa EN 60950 e controllato con un sistema di sezionamento esterno in grado di porlo in condizioni di spegnimento.

Altre norme

Emissioni: EN61000-6-4
Immunità: EN61000-6-2

FLEX50024B



- Input: 3-phase: 400 - 500 Vac
- Output: 24 Vdc 60 °C
- Efficiency up to 91%
- Strong overload without switch-off, up to 50%
- Flexible Power continuity : from 480 to 600W
- "Power Good" Relay
- Tree mode of output protections:
 - 1) Manual Reset
 - 2) Hiccup Mode
 - 3) Continuous Out Mode
- DIN Rail Mountable
- Extremely small size
- 3 Year warranty

Input Data

Nominal Input Voltage (3 x Vac)	400 - 500
Input Voltage range (Vac)	330 - 550
Inrush Current (Vn and In Load) I ² t	≤ 17 A ≤ 5 msec.
Frequency	47 - 63 Hz ±6%
Input Current (400 - 500 Vac)	0.95 - 0.85 A
Internal Fuse	T 6.3 A
External Fuse (recommended)	16 A (MCB curve B)

Output Data

Output Voltage (Vn) Factory Setting ±3%	24 Vdc
Adjustment range (Vadj)	22 - 27 Vdc
Start up with Strong Load (capacitive load)	≤50.000µF
Turn-On delay after applying mains voltage	1 sec. (max)
Continuous Current at 24 V < 40 °C (In)	25 A (permanent)
Continuous Current at 24 V < 50 °C (In)	22 A (permanent)
Continuous Current at 24 V < 60 °C (In)	20 A (permanent)
Power Boost Current at 24 Vdc 60 °C(In)	In 60 °C x 1.5 ≥ 3 min.
Current max. Overload ≥ 4Vdc (permanent)	I _{max} =I _{n60 °C} (1.8 -2.2)
Current Short Circuit Icc	
Max 2 sec.: Hiccup mode	60 A
Permanent : Continuous Mode	
Hold-up Time (min. Vac) 24Vdc 5A	Typ. 20 msec
Residual Ripple	≤ 80 mV _{pp}
Efficiency	≥ 91 %
Over temperature Protection	Yes. Shut-down output and automatic restart.
Short-circuit protection	1° Manual Reset 2° Hiccup Mode 3° Continuous Out Mode
Dissipation power load max (W)	54
Over Load protection	Yes
Over Voltage Output protection	Yes (typ. 35 Vdc)
Parallel connection	Yes "Easy Parallel"
Power Good Contact rating (EN60947.4.1):	
Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A	Resistive load
Min. 1mA at 5 Vdc	Min permissive load

Climatic Data

Ambient Temperature operation	-25 up to +70 °C (>60 °C derating 2.5% °C)
Ambient Temperature Storage	-40 up to +85 °C
Humidity at 25 °C, no condensation	95 % to 25 °C

General Data

Isolation Voltage (In / Out)	3000 Vac
Isolation Voltage (In / PE)	1605 Vac
Isolation Voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP 20
Reliability: MTBF IEC 61709	> 500.000 h
Pollution Degree Environment	2
Connection Terminal Blocks Screw Type	4 mm (30-10 AWG)
Protection class	I with PE connected
Dimension (w-h-d)	85x120x140 mm
Weight	0.75 kg approx.

Norms and certifications

The CE mark in According to EMC 2004/108/EC and Low voltage directive 2006/95/EC.

Electrical Safety

In compliance to UL508.
According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The unit must be installed according to IEC/EN 60950. Input / Output separation: SELV EN60950-1 and PELV EN 60204-1. Double or reinforced insulation.

EMC Immunity

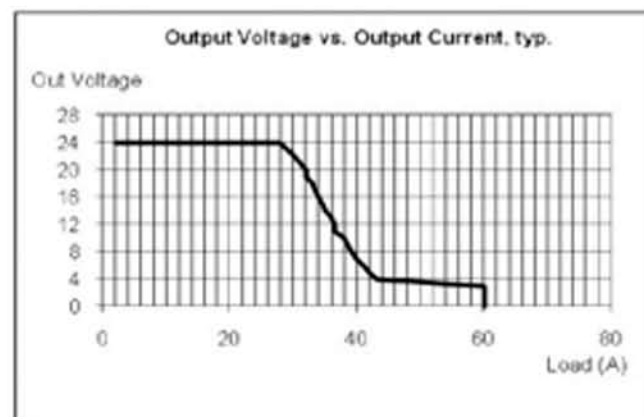
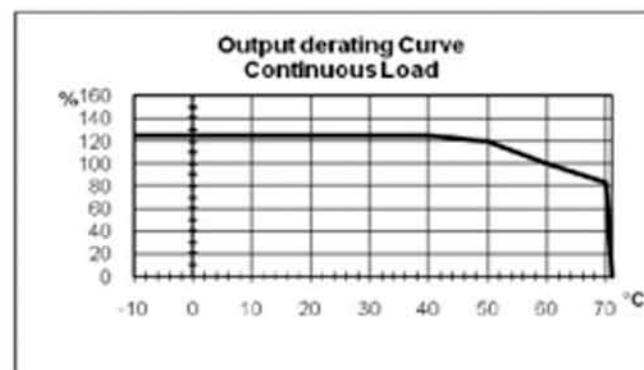
EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-6-2

EMC Emission:

EN61000-6-4,

Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines



FLEX17012A



Input: single-phase: 115 - 230 Vac

Output: 12 Vdc 60°C

Flexible Power continuity :from 120 to 180 W

Efficiency up to 91%

Strong overload without switch-off, up to 50%

"Power Good" Relay

Tree mode of output protections:

- 1) Hiccup mode
- 2) Continuous Out Mode
- 3) Manual Reset

DIN Rail Mountable

Extremely small size

3 Year warranty

Input Data

Nominal Input Voltage (2 x Vac)	115 - 230 Vac
Manual select Input from 115 to 230	
Input Voltage range (Vac)	90 - 135 (115) 180 - 264 (230)
Inrush Current (Vn and In Load) I _{rt}	≤ 11 A ≤ 5 msec.
Frequency	47 - 63 Hz ±6%
Input Current (115 - 230 Vac)	2.8 - 1.3 A
Internal Fuse	T 4 A
External Fuse (recommended)	10 A (MCB curve B)

Output Data

Output Voltage (Vn) Factory Setting ±3%	12 Vdc
Adjustment range (Vadj)	10 - 14 Vdc
Start up with Strong Load (capacitive load)	≤ 50.000µF
Turn-On delay after applying mains voltage	1 sec. (max)
Rated Current at 24 V 40°C (In)	14 A (permanent)
Rated Current at 24 V 50°C (In)	12 A (permanent)
Rated Current at 24 V 60°C (In)	10 A (permanent)
Power Boost Current at 24 Vdc 60°C(In)	In (60°C) x 1.5 ≥ 3 min.
Current max. Overload ≥ 4Vdc (permanent)	I _{max} =In60°Cx(1.8 - 2.2)
Current Short Circuit I _{cc}	
Max 2 sec.: Hiccup mode	20 A
Permanent : Continuous Mode	
Hold-up Time (min. Vac) 24Vdc 5A	Typ. 20 msec
Residual Ripple	≤ 80 mV _{pp}
Efficiency	≥ 91 %
Over temperature Protection	Yes. Shut-down output and automatic restart.
Short-circuit protection	1° Hiccup Mode 2° Continuous mode 3° Restart After Main
Dissipation power load max (W)	17
Over Load protection	Yes
Over Voltage Output protection	Yes (typ. 35 Vdc)
Parallel connection	Yes
Power Good Contact rating (EN60947.4.1):	
Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A	Resistive load
Min.1mA at 5 Vdc	Min permissive load

Climatic Data

Ambient Temperature operation	-25 up to +70 °C (>60°derating 2.5% °C)
Ambient Temperature Storage	-40 up to +85 °C
Humidity at 25 °C, no condensation	95 % to 25 °C

General Data

Isolation Voltage (In / Out)	3000 Vac
Isolation Voltage (In / PE)	1605 Vac
Isolation Voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP 20
Reliability: MTBF IEC 61709	> 500.000 h
Pollution Degree Environment	2
Connection Terminal Blocks Screw Type	2,5 mm (24 - 14 AWG)
Protection class	I with PE connected
Dimension (w-h-d)	55x110x105 mm
Weight	0.60 kg approx.

Norms and certifications

The CE mark in According to EMC 2004/108/EC and Low voltage directive 2006/95/EC.

Electrical Safety

In compliance to UL508.

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The unit must be installed according to IEC/EN 60950. Input / Output separation: SELV EN60950-1 and PELV EN 60204-1. Double or reinforced insulation.

EMC Immunity

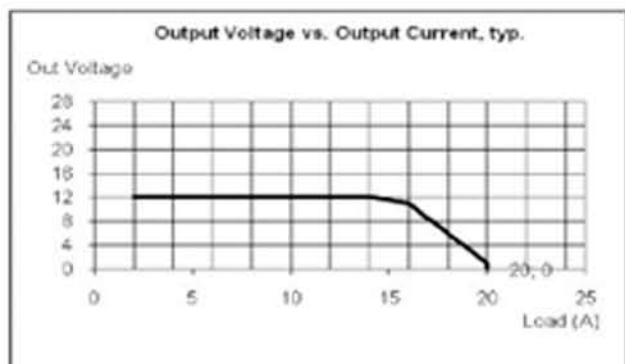
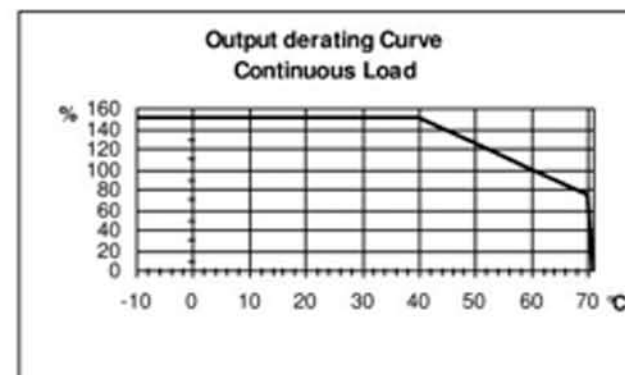
EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-6-2

EMC Emission:

EN61000-6-4, EN61000-3-2

Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines



ADR48 mp/ap



Il regolatore ADR48 mp/ap,

è uno strumento monocanale per la gestione della pressione, dotato di una uscita di comando per una valvola modulante e di un relè di allarme pienamente programmabile. L'ingresso in pressione è predisposto per accettare un segnale 0-20 mA o 4-20mA. Il loop di controllo è un PID ampiamente programmabile. Risulta essere eccellente

nella regolazione di pressione-depressione nel campo dell'aspirazione e depurazione fumi. Lo stesso prodotto è configurabile anche con uscita analogica normalizzata 0-20 mA, 4-20mA; disponibilità di funzione con interfaccia seriale current-loop per il collegamento in multi-drop. Conforme alle direttive europee: 89/336 EEC e 93/68 EEC.

Caratteristiche principali:

- ◇ Facile nell'utilizzo pur avendo elevate prestazioni.
- ◇ Visualizzazione della pressione.
- ◇ Uscita di regolazione
- ◇ Uscita di allarme programmabile.
- ◇ Display a Led ad alta luminosità, 9 Digit con funzioni di: visualizzazione e programmazione.
- ◇ Programmazioni: parametri PID, allarme.
- ◇ Ingresso per segnale 0-20 mA, 4-20mA

Caratteristiche tecniche

Alimentazione:	24, 110, 230 Vac ($\pm 10\%$); 50/60 Hz
Ingresso Pressione:	0-20 mA, 4-20mA
Potenza max. ass.:	7VA
Campo di misura:	Programmabile
Contatti:	NO, 2A . 230Vac
Connettori:	Estraibile
Grado di protezione:	IP54 (frontale); IP20 (contenitore)
Dimensioni:	48x96x160 mm
Peso:	500 gr.
Temperatura:	-20 ÷ +80°C (stock) / -10 ÷ +65°C (in funzionamento)

Battery Module



Output Vn - In	24Vdc - 1.2Ah	24Vdc - 3Ah	24Vdc 7.2A
Model	BATT 1.2Ah	BATT 3Ah	BATT 7.2Ah
FEATURE			
End-of-charge Voltage (trickle charge) <i>Tensione di fine carica (carica mantenimento)</i>	27.5Vdc (20°C) 27Vdc (30°C) 26.5Vdc (40°C)	27.5Vdc (20°C) 27Vdc (30°C) 26.5Vdc (40°C)	27.5Vdc (20°C) 27Vdc (30°C) 26.5Vdc (40°C)
Max. charging current <i>Corrente max. di carica</i>	0.30A	0.80A	1.70A
Short-circuit protection <i>Protezione contro il C.C.</i>	Yes / Presente	Yes / Presente	Yes / Presente
Protection Fuse <i>Fusibile di protezione a Lama</i>	25A	25A	25A
Ambient Temp. (Operation) <i>Temp. Ambiente</i>	+5 ÷ +40°C	+5 ÷ +40°C	+5 ÷ +40°C
Ambient Temp. (Storage) <i>Temp. Magazzino</i>	-20 ÷ +50°C	-20 ÷ +50°C	-20 ÷ +50°C
Self-discharge rate <i>Autoscarica</i>	20°C 15% per month / della carica al mese	20°C 15% per month / della carica al mese	20°C 15% per month / della carica al mese
GENERIC DATA			
Dimension (w-h-d) <i>Dimensioni (l-h-p) mm</i>	170x100x80	170x140x90	170x155x120
Weight <i>Peso (approx)</i>	0.55kg	1.2kg	2.2kg
Protection class	IP20	IP20	IP20
Assembly using 4 holes <i>Tipo di fissaggio</i>	M4 screws <i>Viti M4</i>	M4 screws <i>Viti M4</i>	M4 screws <i>Viti M4</i>
BUFFERING TIME (MINUTE) AUTONOMIA IN MINUTI			
Load / Carico 1.5A:	30	60	180
Load / Carico 3A:	10	40	90
Load / Carico 5A:	4	20	40
Load / Carico 7A:	2	10	30
Load / Carico 10A:	No	5	20

CB2420A Battery Charger



Input: Single-phase 115 + 230 Vac

Output: Battery charging 24 Vdc; 20 A

Suited for the following battery types: Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (option)

Automatic diagnostic of battery status. Charging curve IUoUo, constant voltage and current

Switching technology, output voltage 28.8 Vdc

Three charging levels: Boost, Trickle, Recovery.

Protected against short circuit, inverted polarity, over Load.

Signal output (contact free) for fault battery state

Protection degree IP20 - DIN rail

Technical features

The CB series is a "Switching technology" and "Battery Care philosophy", since years parts of the core know-how at ADEL system, led to the development of this advanced multi-stage battery charging method, completely automatic and suited to meet the most advanced requirements of battery manufacturers. The Battery Care concept is based on algorithms that implement rapid and automatic charging, battery charge optimization during time, flat batteries recovery and real time diagnostic during installation and operation. The Real Time Auto-diagnostic system, monitoring battery faults such as, elements in short circuit, accidental reverse polarity connection, disconnection of the battery, they can easily be detected and removed by help of Blink Code of Diagnosis Led; during the installation and after sell. Each device is suited for all battery types, by means of jumpers it is possible setting predefined curves for Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd(option). They are programmed for two charging levels, boost and trickle. A rugged casing with bracket for DIN rail mounting provide IP20 protection degree.

General Data

Insulation voltage (In /Out)	3000 Vac
Insulation voltage (In / PE)	1605 Vac
Insulation voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP20
Protection class	I, with PE connected
Reliability: MTBF IEC 61709	> 300.000 h
Pollution Degree Environment	2
Connection Terminal Blocks screw Type	4 mm (30-10 AWG)
Protection class (PE Connected)	I, with PE
Dimensions (w-h-d)	150x115x135 mm
Weight	1.5 Kg approx

Climatic Data

Ambient temperature (operation)	-25 + +70 °C
De Rating T ^a > 50 °C	- 2.5%(In) / °C
Ambient temperature Storage	-40 + +85 °C
Humidity at 25 °C no condensation	95% to 25 °C
Cooling	Auto Convection

Norms and Certifications

Conforming to: IEC/EN 60335-2-29, EN60950/UL1950, Electrical safety, 89/336/EEC, EMC Directive, 2006/95/EC (Low Voltage), DIN41773 (Charging cycle), Emission: IEC 61000-6-4, Immunity: IEC 61000-6-2, CE

Signal Output (free switch N° 2 contact)

Main or Backup Power	Yes
Low Battery	Yes
Fault Battery	Yes

Type of Signal Output Contact

Max. current can be switched (EN60947.4.1):	Resistive load
Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A	Min. load
Min. 1mA at 5 Vdc	

Input Data

Nominal Input Voltage (2 x Vac)	115 - 230
Input Voltage range (Vac)	90 - 135 / 180 - 264
Inrush Current (Vn and In Load) I't	≤ 35 A ≤ 5 msec.
Frequency	47 - 63 Hz ±6%
Input Current (115 - 230 Vac)	8 - 4.2 A
Internal Fuse	10 A
External Fuse (recommended)	16 A (MCB curve B)

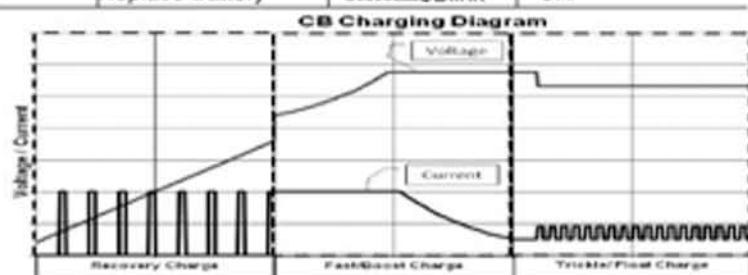
Battery Output (Battery Care)

Boost charge (25 °C) (Typ. at In)	28.8 Vdc
Max. time Bust Charge (tpy. At In)	15 h
Min. time Bust Charge (tpy. At In)	1 min.
Trickle charge (25 °C) (Typ. at In)	27.5 Vdc
Jumper Configuration battery type (V cell) Ni-Cd (optional)	2,23;2,25;2,27;2,3; 1,41-1,5 (20 elem.)
Recovery Charge	2 - 18 Vdc
Charging, Max I _{bat} (In)	20 A ± 5%
Efficiency (50% of In)	91%
Charging current limiting I _{chg}	20 + 100 % / I _n
Quiescent Current	≤ 5 mA
Charging Curve automatic: IUoUo	3 stage
Detection of element in short circuit	Yes
Short-circuit protection)	Yes
Over Load protection	Yes
Over Voltage Output protection	Yes
Adjustable charging current (% In)	20 + 100
Power Supply Mode	Yes

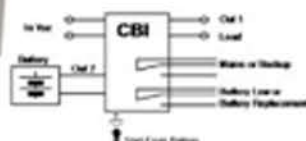
Charging

Automatic multi-stage charging and real time diagnostic allow fast recharge and recovery of deep discharged batteries, adding value and reliability to the system hosting. Type of charging it is Voltages and current stabilized IUoUo. The state of charging battery and Auto-diagnosis of the systems are identified by a flashing code on a Diagnosis LED and Fault Battery LED:

	State	Diagnosis LED	Battery Fault LED
Charging Type	Trickle	1 Blink/sec	OFF
	Boost	2 Blink/sec	OFF
	Recovery	5 Blink/sec	OFF
Auto diagnosis	Reverse polarity	1 Blink	ON
	Battery No connect	2Blink	ON
	Element in Short C.	3Blink	ON
	Replace Battery	5Blink	ON



CBI1235A ALL In One



Input: Single-phase 115 - 230 Vac
 Output Load: power supply 12 Vdc; 35 A
 Output Battery: charging 12 Vdc; 35 A
 Suited for the following battery types: Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd
 Automatic diagnostic of battery status. Charging curve IUoUO, constant voltage and constant current
 Battery Life Test function (Battery Care)
 Switching technology, output voltage 10-14.4 Vdc
 Three charging levels: Boost, Trickle and Recovery
 Protected against short circuit and inverted polarity
 Signal output (contact free) for discharged or damaged battery
 Signal output (contact free) for mains or Back-UP
 Protection degree IP20 - DIN rail; Space saving

Technical features

Thanks to the All In One units (DC-UPS), it will be possible to optimize power management. The available power is automatically allocated between load and battery, supplying power to the load is the first priority of the unit thus it is not necessary to double the power, because also the power going to the battery will go to the load if the load so requires. The maximum available current on the load output is 2 times the value of the device rated current I_n . We call "Battery Care" the concept base on algorithms that implement rapid and automatic charging, battery charge optimization during time, flat batteries recovery and real time diagnostic during installation and operation. The Real Time Auto-diagnostic system, monitoring battery faults such as, battery Sulfated, elements in short circuit, accidental reverse polarity connection, disconnection of the battery, they can easily be detected and removed by help of Blink Code of Diagnosis Led; during the installation and after sell. The continuous monitoring of battery efficiency, reduces battery damage risk and allows a safe operation in permanent connection. Each device is suited for all battery types, by means of jumpers it is possible setting predefined curves for Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd(option). They are programmed for two charging levels, boost and charge, but they can be changed to single charging level by the user. A rugged casing with bracket for DIN rail mounting provide IP20 protection degree. They are extremely compact and cost-effective.

Norms and Certifications

In Conformity to: IEC/EN 60335-2-29 Battery chargers; EN60950 / UL1950 Electrical safety; EN54-4 Fire Detection and fire alarm systems; 89/336/EEC EMC Directive; 2006/95/EC (Low Voltage); DIN41773 (Charging cycle); Emission : IEC 61000-6-4; Immunity: IEC 61000-6-2. CE.

Climatic Data

Ambient temperature (operation)	-25 + +70 °C
De Rating $T > 50$ °C	- 2.5%(I_n) / °C
Ambient temperature Storage	-40 + +85 °C
Humidity at 25 °C no condensation	95% to 25 °C
Cooling	Auto convention

General Data

Insulation voltage (IN/OUT)	3000 Vac
Insulation voltage (input / ground)	1605 Vac
Insulation voltage (Output / ground)	500 Vac
Protection Class (EN/IEC 60529)	IP20
Reliability: MTBF IEC 61709	> 300.000 h
Pollution Degree Environment	2
Connection Terminal Blocks screw Type	4 mm (30-10 AWG)
Protection class (PE Connected)	I, with PE
Dimensions (w-h-d)	150x115x135 mm
Weight	1.55 kg approx.

Input Data

Nominal Input Voltage	115 - 230 Vac
Voltage range	90 + 264 Vac
Inrush Current ($V_n - I_n$ nom. Load) I^2t	$\leq 35 \text{ A} \leq 5 \text{ msec.}$
Frequency	47 + 63 Hz
Input Current (115 - 230 Vac)	8 - 4.2 A
Internal fuse (not replaceable)	10 A
External Fuse (recommended) MCB curve B	16 A

Output Data (internal power supply)

Output Voltage (V_n) / Nominal Current (I_n)	12 Vdc / 35A
Output Current I_n	35 A
Efficiency (at 50% of rated current)	$\geq 91 \%$
Turn-On delay after applying mains voltage	1 sec. (max)
Start up with Strong Load (capacitive load)	Yes, Unlimited
Dissipation power load max (W)	28
Short-circuit protection)	Yes
Over Load protection	Yes
Over Voltage Output protection	Yes (typ. 35 Vdc)
Over Eating Thermal protection	Yes

Battery Output

Boost charge (25 °C) (at I_n)	14.4 Vdc
Max. time Bust Charge	15 h
Min. time Bust Charge	1 min.
Trickle charge (25 °C) (at I_n)	13.75 Vdc
Jumper Configuration battery type (V cell) Ni-Cd (optional)	2,23;2,25;2,27;2,3; 1,41-1,5 (20 elem.)
Recovery Charge	2 - 9 Vdc
Charging current max I_{batt}	35 A $\pm 5\%$
Charging current limiting I_{adj}	20 + 100 % / I_{batt}
Reverse battery protection	Yes
Sulfated battery check	Yes by Jumper
Detection of element in short circuit	Yes
Quiescent Current	$\leq 5 \text{ mA}$
Charging Curve automatic: IUoUo	3 stage
Remote Input Control (AMP type connector)	Boost /Trickle

Load Output

Output voltage (at I_n)	10 - 14.4 Vdc
Nominal current I_{load}	1.1 x I_n A $\pm 5\%$
Continuous current (without battery) $I_{load} - I_n$	35 A
Continuous current (With battery) $I_{load} - I_n - I_{batt}$	70 A
Max. current Output Load (Main) I_{load} (4 sec.)	105 A max.
Max. current Output Load (Back Up) I_{load} (4 sec.)	70 A max.
Push Bottom or Remote Input Control (AMP type connector)	Start From Battery Without Main
Time Buffering; min (switch output off without main input) ¹	0.5;1;3;5;10;15; 20; 30; 45;60; ∞
Protections against total discharge ¹	9 - 10 Vdc batt
Threshold alarm Battery almost flat ¹	10 - 11 Vdc batt

Signal Output (free switch contacts)

Main or Backup Power	Yes
Low Battery	Yes
Fault Battery	Yes

Type of Signal Output Contact

Max. Current can be switched (EN60947.4.1): Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A Min.1mA at 5 Vdc	Resistive load Min permissive load
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Signal Input / Output (RJ45)

Temp. Comp. Battery (with external probe)	Yes
Remote monitoring display	Yes
Can Bus	Optional

¹Can be adjusted via PC software mode

DC-DC Converters



Input: single phase 24 Vdc
Output: 24 Vdc; 1.3- 3 - 4.2 A
Short-circuit protection
Over-Load protection
IP22

Ingresso: monofase 24 Vdc
Uscita: singola 24 Vdc; 1,3- 3 - 4,2 A
Protezione al corto circuito
Protezione al sovraccarico
Grado di protezione IP20



Features / Caratteristiche tecniche

Input Data / Caratteristiche di Ingresso

Code / Codice:	SUP30-24/24	SUP70-24/24	SUP100-24/24
Input Rated Voltage / Tensione d'Ingresso nominale	24 Vdc	24 Vdc	24 Vdc
Rated Voltage range / Campo di funzionamento	18+36 Vdc	18+36 Vdc	18+36 Vdc
Internal Fuse / Fusibile Interno (non sostituibile)	NO	NO	NO
External Fuse / Fusibile raccomandato Esterno	4 A	4 A	6 A

Output Data / Caratteristiche di Uscita

Output Voltage (In) / Tensione di Uscita - (In)	24Vdc/ 1.3 A $\pm 1\%$	24Vdc/ 3 A $\pm 1\%$	24Vdc/ 4.2 A $\pm 1\%$
Adjustment range (Vadj) / Campo di regolazione (Vadj)	$\pm 10\%$	$\pm 10\%$	$\pm 10\%$
Switching on delay applying mains voltage Tensione in Uscita dopo l'accensione	≤ 100 msec	≤ 100 msec	≤ 100 msec
Max. Current / Corrente max.	$1.05 \times I_N \pm 7\%$	$1.05 \times I_N \pm 7\%$	$1.05 \times I_N \pm 7\%$
Continuous Current / Corrente funzionamento continuo	1.3 A	3 A	4.2 A
Residual Ripple / Ripple residuo	≤ 150 mV _{pp}	≤ 150 mV _{pp}	≤ 150 mV _{pp}
Minimum Load / Carico minimo	No	No	No
Efficiency / Rendimento tipico (al 50% In)	$\geq 74\%$	$\geq 76\%$	$\geq 78\%$
Short-circuit protection / Protezione contro il C.C.	Yes / Si	Yes / Si	Yes / Si
Over Load protection / Protezione al sovraccarico	Yes / Si 110 - 150 %	Yes / Si 110 - 150 %	Yes / Si 110 - 150 %

Climatic Data / Caratteristiche Ambientali

Ambient Temperature (operation) / Temperatura Ambiente Lavoro	-10 + 50 °C	-10 + 50 °C	-10 + 50 °C
Ambient Temperature (Storage) / Temperatura Ambiente Stoccaggio	-25+ + 85 °C	-25+ + 85 °C	-25+ + 85 °C
Humidity; no moisture condensation / Umidità ambientale	95 % - 25°C	95 % - 25°C	95 % - 25°C

General Data / Caratteristiche Generali

Degree of protection / Grado di protezione	IP 22	IP 22	IP 22
Withstand Voltage (Input-Output)	1000 Vdc 1 min.	1000 Vdc 1 min.	1000 Vdc 1 min.
Isolation resistance / Resistenza di isolamento	> 100 M Ω @ 500 Vdc	> 100 M Ω @ 500 Vdc	> 100 M Ω @ 500 Vdc
Protection class / Classe di Protezione	I con PE collegato	I con PE collegato	I con PE collegato
Dimension (w-h-d) / Dimensioni (l-h-p)	129x98x40	160x98x40	200x98x40
Weight / Peso	0.35 Kg	0.46 Kg	0.55 Kg

Norms and certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC
Noise Radiation In according with EN 55022; EN 61000-4

PFALXX20



Input : single phase 28 Vac-45 Vdc
Output: 20A - 24, 12, 5 Vdc
Continuous Load to 70 % In
Vout Adjustable $\pm 10\%$
Short-circuit protection
Over Load protection
IP20
DIN Rail Mountable

Ingresso: monofase 28 Vac; 45 Vdc
Uscita: singola 20A - 24, 12, 5 Vdc
Servizio Continuo al 70% di In
Uscita regolabile $\pm 10\%$
Protezione al cortocircuito
Grado di protezione IP20
Fissaggio a barra DIN



Features / Caratteristiche tecniche

Input Data / Caratteristiche di Ingresso

Code / Codice:	PFAL2420	PFAL1220	PFAL0520
Input Rated Voltage / Tensione d'Ingresso nominale	25 Vac	25 Vac	25 Vac
Rated Voltage range / Campo di funzionamento	24+32 Vac	17+32 Vac	12+32 Vac
Rated Voltage range / Campo di funzionamento	33+45 Vdc	17.5+45 Vdc	17.5+45 Vdc
Frequency / Frequenza di Ingresso	47 + 63 Hz	47 + 63 Hz	47 + 63 Hz
Internal Fuse / Fusibile Interno (non sostituibile)	25 A	25 A	25 A
External Fuse / Fusibile raccomandato Esterno	Rapido 25 A	Rapido 25 A	Rapido 25 A

Output Data / Caratteristiche di Uscita

Output Voltage (In) / Tensione di Uscita - (In)	24Vdc/20 A $\pm 2\%$	12Vdc/20 A $\pm 2\%$	5Vdc/20 A $\pm 2\%$
Adjustment range (Vadj) / Campo di regolazione (Vadj)	$\pm 10\%$	$\pm 10\%$	$\pm 10\%$
Switching on delay applying mains voltage Tensione in Uscita dopo l'accensione	≤ 100 msec	≤ 100 msec	≤ 100 msec
Max. Current / Corrente max.	$1.05 \times I_N \pm 7\%$	$1.05 \times I_N \pm 7\%$	$1.05 \times I_N \pm 7\%$
Continuous Current / Corrente funzionamento continuo	15 A	15 A	15 A
Residual Ripple / Ripple residuo	≤ 60 mV _{pp}	≤ 60 mV _{pp}	≤ 60 mV _{pp}
Minimum Load / Carico minimo	No	No	No
Efficiency / Rendimento tipico (at 50% In)	$\geq 85\%$	$\geq 80\%$	$\geq 75\%$
Short-circuit protection / Protezione contro il C.C.	Yes / Si	Yes / Si	Yes / Si
Over Load protection / Protezione al sovraccarico	Yes / Si	Yes / Si	Yes / Si
Over Voltage Output protection / Protezione sovratensione in Uscita	Yes / Si	Yes / Si	Yes / Si
Parallel connection / Collegamento in parallelo	Yes / Si	Yes / Si	Yes / Si

Climatic Data / Caratteristiche Ambientali

Ambient Temperature (operation) / Temperatura Ambiente Lavoro	0 + 50 °C	0 + 50 °C	0 + 50 °C
Ambient Temperature (Storage) / Temperatura Ambiente Stoccaggio	-25+ + 85 °C	-25+ + 85 °C	-25+ + 85 °C
Humidity; no moisture condensation / Umidità ambientale	95 % - 25°C	95 % - 25°C	95 % - 25°C

General Data / Caratteristiche Generali

Degree of protection / Grado di protezione	IP 20	IP 20	IP 20
Protection class Protezione Classe	I con PE collegato	I con PE collegato	I con PE collegato
Dimension (w-h-d) / Dimensioni (l-h-p)	150x115x96	150x115x96	150x115x96
Weight / Peso	1.15 Kg	1.15 Kg	1.15 Kg

Norms and certifications

In according to EMC 89/336/EEC and Low voltage 93/68/EEC
Immunity in according with EN50082-2 Level 4 Class B
Noise Radiation In according with EN 55011 Class B

Norme e Certificazioni

La sicurezza elettrica, è conforme alla direttiva 93/68 EEC.
Soppressione delle radiointerferenze in accordo con la normativa EN 55011 classe B (ambienti industriali)
Immunità ai disturbi con livello 4 criterio B secondo EN50082-2
Il prodotto deve essere installato in accordo con la direttiva 93/68 EEC. Deve essere controllato con un sistema di sezionamento esterno in grado di porlo in condizioni di spegnimento.

PSM242A



- Input: single-phase 115 - 230 Vac
- Output: One output 2.5 A - 24 Vdc
- Strong overload without switch-off
- Short-circuit protection
- Over-voltage protection
- IP20
- DIN Rail Mountable
- Extremely small size
- Available: 12Vdc/2.5A and 5Vdc/2.5A

Features

Input Data

Input Rated Voltage (2 x Vac)	115 - 230 Vac
Rated Voltage range	93 + 264 Vac
Inrush Current (Vn - In)	≤ 11 A ≤ 5 msec.
Frequency	47 + 63 Hz
Input Current (Input Rated Voltage)	0.9 - 0.5 A
Internal Fuse	F 4 A
External Fuse (recommended)	Fast 4 A

Output Data

Output Voltage (Vn) / Nominal Current (In)	24 Vdc ±3% / 2.5A
Adjustment range (Vadj)	22 + 26 Vdc
Start up with Strong Load (capacitive load)	≤ 20.000 / ≤ 30.000µF
Switching on delay applying mains voltage	2.5 sec. (max)
Max. Continuous Current	1.1 x In ± 5%
Reserve Out Current (max. 1 min. 50 °C)	I _{max} =I _n +25% approx.
Hold-up Time (at 100 - 240 Vac)	Typ. 27 msec
Residual Ripple	≤ 60 mV _{pp}
Minimum Load	No
Efficiency	≥ 81 %
Short-circuit protection (hiccup mode)	Yes
Over Load protection (hiccup mode)	Yes
Over Voltage Output protection	Yes (max 35 Vdc)
Parallel connection	Yes

Climatic Data

Ambient Temperature (operation)	-10 + +70 °C (>50°derating)
Ambient Temperature (Storage)	-25 + +85 °C
Humidity; no moisture condensation	95 % to 25 °C

General Data

Isolation Voltage (Input/Output)	3000 Vac
Input / ground isolation PE	1605 Vac
Output / ground isolation PE	500 Vac
Degree of protection	IP 20
Protection class	I with PE connected
Dimension (w-h-d)	50x95x155 mm
Weight	0.45 kg approx.

Norms and certifications

According to EMC 89/336/EEC and Low voltage 93/68/EEC

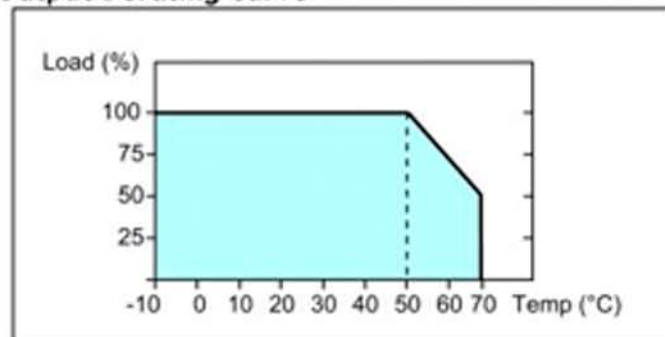
Electrical Safety

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The device must be installed according to IEC/EN 60950.

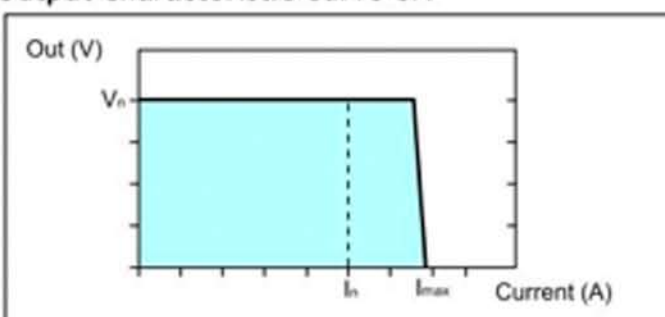
Generic

Immunity according to EN50082-2 Level 4 Class B
Noise Radiation according to EN 55011

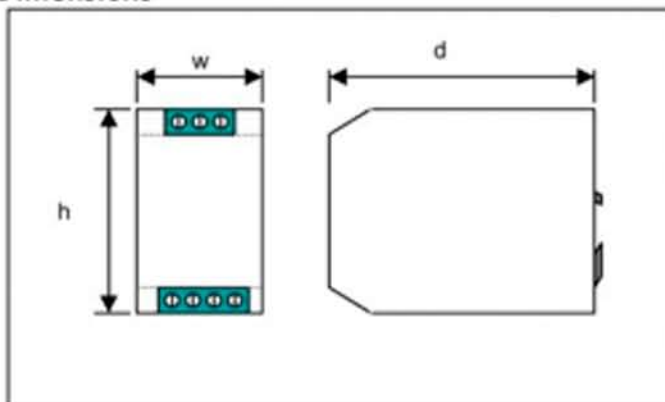
Output Derating Curve



Output Characteristic Curve U/I



Dimensions



FLEX6024A



Input: single-phase: 115 - 230 Vac
Output: 24 Vdc 50 °C
Efficiency up to 88%
Strong overload without switch-off
Flexible Power continuity : from 36 to 72 W
DIN Rail Mountable
Extremely small size
3 Year warranty

Features

Input Data

Nominal Input Voltage (2 x Vac)	115 – 230 Vac
Input Voltage range (Vac)	90 – 264
Inrush Current (Vn and In Load) I ² t	≤ 7 A ≤ 5 msec.
Frequency	47 – 63 Hz ±6%
Input Current (115 – 230 Vac)	1 – 0.7 A
Internal Fuse	T 4 A
External Fuse (recommended)	6 A (MCB curve B)

Output Data

Output Voltage (Vn) Factory Setting ±3%	24 Vdc
Adjustment range (Vadj)	22 – 27 Vdc
Start up with Strong Load (capacitive load)	≤ 50.000µF
Turn-On delay after applying mains voltage	1.5 sec. (max)
Continuous Current at 24 V < 40°C (In)	2 A (115) 3 A (230)
Continuous Current at 24 V < 50°C (In)	1.5 A (115) 2.5 A (230)
Power Boost Current at 24 Vdc 50°C(In)	3.5 A ≥ 3 min.
Current max. Overload ≥ 4Vdc (permanent)	I _{max} =I _n 50°Cx(1.8 - 2.2)
Max current Short Circuit (I _{cc})	7 A
Hold-up Time (min. Vac) 24Vdc 5A	Typ. 20 msec
Residual Ripple	≤ 80 mV _{pp}
Efficiency	≥ 88 %
Over temperature Protection	Yes. Shut-down output and automatic restart.
Short-circuit protection	Yes, Continuous Mode
Dissipation power load max (W)	6
Over Load protection	Yes, Continuous Mode
Over Voltage Output protection	Yes (typ. 35 Vdc)
Parallel connection	Yes

Climatic Data

Ambient Temperature operation	-25 up to +70 °C (>50 °C derating 2.5% °C)
Ambient Temperature Storage	-40 up to +85 °C
Humidity at 25 °C, no condensation	95 % to 25 °C

General Data

Isolation Voltage (In / Out)	3000 Vac
Isolation Voltage (In / PE)	1605 Vac
Isolation Voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP 20
Reliability: MTBF IEC 61709	> 500.000 h
Pollution Degree Environment	2
Connection Terminal Blocks Screw Type	2,5 mm (24 – 14 AWG)
Protection class	I with PE connected
Dimension (w-h-d)	50x120x50 mm
Weight	0.3 kg approx.

Norms and certifications

The CE mark in According to EMC 2004/108/EC and Low voltage directive 2006/95/EC.

Electrical Safety

In compliance to UL508.

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The unit must be installed according to IEC/EN 60950. Input / Output separation: SELV EN60950-1 and PELV EN 60204-1. Double or reinforced insulation.

EMC Immunity

EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-6-2

EMC Emission:

EN61000-6-4, EN61000-3-2

Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines

