SBC-EN54-27V6-5A0

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# SBC-EN54-27V6-5A0 power supply

### Features:

- Single output plus battery charger
- Deep discharge battery protection
- Reverse battery protection
- High efficiency
- Cased unit
- Low touch currents
- Meets requirements for EN54-4 1998 inc Amends 1&2
- Meets requirements of EN61000-3-2 PFC Class A
- Meets requirements of EN55022 'B' for conducted noise
- Signalling can be factory programmed to customer requirements

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• CE marked to LVD. Certified to EN60950.

## **Specification:**

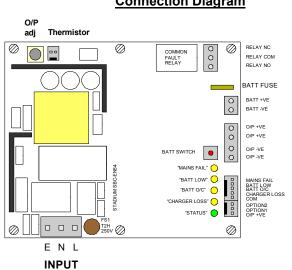
Input voltage       200 – 240 Vac +/-10%         Frequency Range       50-60Hz         Temperature Range       0 – 50°C ambient (Convection cooled, cased)         Input fuse       T2H 250V TR5         Input Gurent       1.6Ams (200Vacin, full load)         Hold-up Time       30mS (230Vacin, full load)         Power Factor       0.45 (230Vacin, full load)         No Load Power       1.5W (230Vacin, full load)         Start-up       Less than 1.5 seconds         OUTPUT       Less than 1.5 seconds         Output Voltage       27.6V (factory set for operation with thermistor)         Output Voltage       27.6V (factory set for operation with thermistor)         Output Voltage       80-65% Typ @ 230Vacin, Full load         OVP       80-55% Typ @ 230Vacin, Full load         OVP       105-125% (latching and non dissipative) recycle input to restart         Floicancy       80-65% Typ @ 230Vacin, Full load         OVP       105-125% (latching and non dissipative) recycle input to restart         Short Circut protection       Hiccup mode         Singrals       Commor Fault (volt free) relay         Singrals       Status LED Green = Flashing = OK         Cormon Fault (volt free) relay       Current limited (volt free) rela	INPUT	
Frequency Range     50-60Hz       Temperature Range     0 – 50°C ambient (Convection cooled, cased)       Input fuse     T2H 250V TR5       Input Current     1.6Arms (200Vacin, full load)       Hold-up Time     30mS (230Vacin, full load), no battery connected)       Power Factor     0.45 (230Vacin, Full load)       No Load Power     1.5W (230Vacin, Full load)       Start-up     Less than 1.5 seconds       OUTPUT     Output Votage       Output Votage     27.6V (factory set for operation with thermistor)       Output Votage     27.6V (factory set for operation with thermistor)       Output Votage     0.8-85% Typ.@ 230Vacin, Full load       OVP     105*125% (factory set for operation with thermistor)       Output Votage     0.8-85% Typ.@ 230Vacin, Full load       OVP     105*125% (factory set for operation with thermistor)       Output Votage     0.8-85% Typ.@ 230Vacin, Full load       OVP     105*125% (factory set for operation with thermistor)       Output Urrent     4A       Power limit     115% +/-10%       Efficiency     0.8-85% Typ.@ 230Vacin, Full load       OVP     105-125% (factory set for operation with thermistor)       Signals     Xuator protexein mode		200 – 240 Vac ±/-10%
Targerature Range   0 – 50°C ambient (Convection cooled, cased)     Input fuse   T2H 250V TR5     Input fuse   T2H 250V TR5     Input fuse   1.6Arms (20Vacin, full load)     Hold-up Time   30mS (230Vacin, full load, no battery connected)     Power Factor   0.45 (230Vacin, full load, no battery connected)     No Load Power   1.5W (230Vacin, full load, no battery connected)     Output Voltage   27.6V (factory set for operation with thermistor)     Output Voltage   27.6V (factory set for operation with thermistor)     Output Voltage   27.6V (factory set for operation with thermistor)     Output Voltage   27.6V (factory set for operation with thermistor)     Output Voltage   27.6V (factory set for operation with thermistor)     Output Current   4A     Power limit   115% +/.10%     Efficiencry   80-85% Typ @ 230Vacin, Full load     OVP   105-125% (lacthing and non dispative) recycle input to restart     Short Circuit protection   Hiccup mode     Signals   Satus ED Green = Flashing = OK     Commer Full Volt Free leady   2x customer options – open collector – 30mA sink     Hiz Indication = 0.6J   Battery Powerfail signal = 100mS     Current limit   Primary side thermal protection (non-latching)     Load regulation   +0.75%     Line regulation <td></td> <td></td>		
Input fuse     T2H 250V TR5       Input Current     1.6Arms (200Vacin, full load)       Hold-up Time     30m5 (230Vacin, full load)       Power Factor     0.45 (230Vacin, Full load)       No Load Power     1.5W (230Vacin)       Start-up     Less than 1.5 seconds       OUTPUT     0utput Voltage       Output Voltage     27.6V (factory set for operation with thermistor)       Output Voltage     27.6V (factory set for operation with thermistor)       Output Voltage     27.6V (factory set for operation with thermistor)       Output Voltage     27.6V (factory set for operation with thermistor)       Output Voltage     27.6V (factory set for operation with thermistor)       Output Voltage     27.6V (factory set for operation with thermistor)       Output Voltage     27.6V (factory set for operation with thermistor)       Output Current     4A       Power limit     115% +/-10%       Efficiency     80.68% Typ.@ 230Vacin, Full load       OVP     105-125% (latching and non dissipative) recycle input to restart       Shot Circuit protection     Hiccup mode       Mains Fail, Battery O/C, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Status LED Oreen = Flashing = O K       Signals     Customer options – open co		
Input Current     1.6Arms (200Vacin, full load)       Hold-up Time     30mS (230Vacin, full load), no battery connected)       Power Factor     0.45 (230Vacin, Full load)       No Load Power     1.5W (230Vacin, Full load)       No Load Power     1.5W (230Vacin, Full load)       Start-up     Less than 1.5 seconds       OUTPUT     Less than 1.5 seconds       Output Voltage     27.6V (factory set for operation with thermistor)       Output Current     4A       Power limit     115% +/10%       Efficiency     80-85% Typ.@ 230Vacin, Full load       OVP     105-125% (latching and non dissipative) recycle input to restart       Shot Circuit protection     Hiccup mode       Mains Fail, Battery OC, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Status LED Green – Flashing = OK       Signals     Consome Fault (Voit free) relay       2x Customer options – open collector – 30mA sink     HIZ (ractorn = 0.6 J)       Battery Powerfail signal = 100mS     Current invite diversal protection (non-latching)       Load regulation     +/- 0.5%       Noise & nipple     0.5% (230Vacin, Full load, BW = DC – 10MHz)       BATTERY     Current limited @ 1 A       Charger     Current limitled @ 1 A		
Hold-up Time     30mS (230Vacin, full load, no battery connected)       Power Factor     0.45 (230Vacin, Full load)       No Load Power     1.5W (230Vacin)       Start-up     Less than 1.5 seconds       OUTPUT     27.6V (factory set for operation with thermistor)       Output Voltage     27.6V (factory set for operation with thermistor)       Output Current     4A       Power limit     115% +/-10%       Efficiency     80-85% Typ.@ 230Vacin, Full load       OVP     105-125% (latching and non dissipative) recycle input to restart       Short Circuit protection     Hiccup mode       Mains Fail, Battery OC, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Sistus LED Green = Flashing = OK       Common Fault (Volt free) relay     2X customer optinose - open collector – 30mA sink       Yizi Indication = 0.6J     Battery Powerfail signal = 100mS       Current limit     Primary side power limit       Thermal protection     Primary side thermal protection (non-latching)       Load regulation     +/- 0.5%       Noise & ripple     0.5% (230Vacin, Full load, BW = DC – 10MHz)       BATTERY     Current limited @ 1 A       Charger     Current limited @ 1 A       Charger     Current limited @ 1 A <td>· ·</td> <td></td>	· ·	
Power Factor       0.45 (230Vacin, Full load)         No Load Power       1.5W (230Vacin)         Start-up       Less than 1.5 seconds         OUTPUT          Output Voltage       27.6V (factory set for operation with thermistor)         Output Voltage       27.6V (factory set for operation with thermistor)         Output Voltage       27.6V (factory set for operation with thermistor)         Output Voltage       27.6V (factory set for operation with thermistor)         Output Voltage       27.6V (factory set for operation with thermistor)         Output Current       4A         Power limit       115% +/10%         Efficiency       80-85% Typ.@ 230Vacin, Full load         OVP       105-125% (latching and non dissipative) recycle input to restart         Short Circuit protection       Hiccup mode         Signals       Mains Fail, Battery OVC, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Status LED Green = Flashing = OK         Signals       Sattery Powerfail Signal = 100mS         Current limit       Primary side power limit         Thermal protection       Primary side thermal protection (non-latching)         Load regulation       +/- 0.75%         Line regulation       +/- 0.5%         Noise & ri		
No Load Power     1.5W (230Vacin)       Start-up     Less than 1.5 seconds       OUTPUT     0       Output Voltage     27.6V (factory set for operation with thermistor)       Output Current     4A       Power limit     115% +/-10%       Efficiency     80-85% Typ.@ 230Vacin, Full load       OVP     105-125% (latching and non dissipative) recycle input to restart       Short Circuit protection     Hiccup mode       Share Sails, Battery O/C, Charger Loss, Battery Low- LED's & open collector - 100mA sink, Status LED Green = Flashing = OK       Common Fault (Volt free) relay     2x Customer options - open collector - 30mA sink       HiZ indication = 0.6.J     Battery Powerfail signal = 100mS       Current limit     Primary side power limit       Thermal protection     Primary side power limit       Line regulation     +/.0.75%       Line regulation     +/.0.5%       Noise & ripple     0.5% (200vacin, Full load, BW = DC - 10MHz)       BATTERY     Current limited @ 1 A       Connector provided for user to add 100KΩ thermistor (β=4400)       Suitable for standby use     Suitable for standby use		
Start-up       Less than 1.5 seconds         OUTPUT       Control         Output Voltage       27.6V (factory set for operation with thermistor)         Output Current       4A         Power limit       115% +/-10%         Efficiency       80-85% Typ.@ 230Vacin, Full load         OVP       105-125% (fatching and non dissipative) recycle input to restart         Short Circuit protection       Hiccup mode         Mains Fail, Battery O/C, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Status LED Green = Flashing = OK         Common Fault (Volt free) relay       2X Customer options – open collector – 30mA sink Hiz Indication = 0.6 J         Battery Powerfail signal = 100mS       Current limit         Thermal protection       Primary side thermal protection (non-latching)         Load regulation       +/- 0.75%         Line regulation       +/- 0.5%         Noise & ripple       0.5% (230Vacin, Full load, BW = DC – 10MHz)         BATTERY       Current limit @ 1A         Temp compensation       Connector provided for user to add 100KΩ thermistor (β=4400)		
OUTPUT       Z7.6V (factory set for operation with thermistor)         Output Voltage       27.6V (factory set for operation with thermistor)         Output Current       4A         Power limit       115% +/-10%         Efficiency       80-85% Typ.@ 230Vacin, Full load         OVP       105-125% (latching and non dissipative) recycle input to restart         Short Circuit protection       Hiccup mode         Mains Fail, Battery O/C, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Status LED Green = Flashing = OK         Signals       Signals         Signals       Customer options – open collector – 30mA sink         HZ indication = 0.6.J       Battery Powerfail signal = 100mS         Current limit       Primary side power limit         Thermal protection       Primary side thermal protection (non-latching)         Load regulation       +/- 0.75%         Line regulation       +/- 0.75%         BATTERY       Current limited @ 1 A         Charger       Current limited @ 1 A         Temp compensation       Connector provided for user to add 100KΩ thermistor (β=4400)		
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Output Current     4A       Power limit     115% +/-10%       Efficiency     80-85% Typ.@ 230Vacin, Full load       OVP     105-125% (latching and non dissipative) recycle input to restart       Short Circuit protection     Hiccup mode       Mains Fail, Battery O/C, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Status LED Green = Flashing = OK Common Fault (Volt free) relay       2x Customer options – open collector – 30mA sink HiZ indication = 0.6.J Battery Powerfail signal = 100mS       Current limit     Primary side thermal protection (non-latching)       Load regulation     +/- 0.75%       Line regulation     +/- 0.5%       Noise & ripple     0.5% (230Vacin, Full load, BW = DC – 10MHz)       BATTERY     Current limited @ 1 A       Temp compensation     Connector provided for user to add 100KΩ thermistor (β=4400) Suitable for standby use	OUTPUT	
Power limit115% +/-10%Efficiency80-85% Typ.@ 230Vacin, Full loadOVP105-125% (latching and non dissipative) recycle input to restartShort Circuit protectionHiccup modeMains Fail, Battery O/C, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Status LED Green = Flashing = OK Common Fault (Volt free) relay 2x Customer options – open collector – 30mA sink HiZ indication = 0.6 J Battery Powerfail signal = 100mSCurrent limitPrimary side power limitThermal protectionPrimary side power limitLoad regulation+/- 0.75%Line regulation+/- 0.5%Noise & ripple0.5% (230Vacin, Full load, BW = DC – 10MHz)BATTERYCurrent limited @ 1 ATemp compensationConnector provided for user to add 100KΩ thermistor (β=4400) Suitable for standby use	Output Voltage	27.6V (factory set for operation with thermistor)
Efficiency     80-85% Typ.@ 230Vacin, Full load       OVP     105-125% (latching and non dissipative) recycle input to restart       Short Circuit protection     Hiccup mode       Signals     Mains Fail, Battery O/C, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Status LED Green = Flashing = OK Common Fault (Volt free) relay 2x Customer options – open collector – 30mA sink HiZ indication = 0.6J Battery Powerfail signal = 100mS       Current limit     Primary side power limit       Thermal protection     Primary side thermal protection (non-latching)       Load regulation     +/- 0.75%       Line regulation     +/- 0.5%       Noise & ripple     0.5% (230Vacin, Full load, BW = DC – 10MHz)       BATTERY     Current limitd@ 1 A       Temp compensation     Connector provided for user to add 100KΩ thermistor (β=4400) Suitable for standby use	Output Current	4A
OVP     105-125% (latching and non dissipative) recycle input to restart       Short Circuit protection     Hiccup mode       Mains Fail, Battery O/C, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Status LED Green = Flashing = OK Common Fault (Volt free) relay 2x Customer options – open collector – 30mA sink HiZ indication = 0.6J Battery Powerfail signal = 100mS       Current limit     Primary side power limit       Thermal protection     Primary side thermal protection (non-latching)       Load regulation     +/- 0.75%       Line regulation     +/- 0.5%       Noise & ripple     0.5% (230Vacin, Full load, BW = DC – 10MHz)       BATTERY     Current limited @ 1 A       Temp compensation     Connector provided for user to add 100KΩ thermistor (β=4400) Suitable for standby use	Power limit	115% +/-10%
Short Circuit protection     Hiccup mode       Mains Fail, Battery O/C, Charger Loss, Battery Low- LED's & open collector – 100mA sink,       Signals     Status LED Green = Flashing = OK       Common Fault (Volt free) relay     2x Customer options – open collector – 30mA sink       HiZ indication = 0.6J     Battery Powerfail signal = 100mS       Current limit     Primary side power limit       Thermal protection     Primary side thermal protection (non-latching)       Load regulation     +/- 0.75%       Line regulation     +/- 0.5%       Noise & ripple     0.5% (230Vacin, Full load, BW = DC – 10MHz)       BATTERY     Current limited @ 1 A       Temp compensation     Connector provided for user to add 100KΩ thermistor (β=4400)       Suitable for standby use     Suitable for standby use	Efficiency	80-85% Typ.@ 230Vacin, Full load
SignalsMains Fail, Battery O/C, Charger Loss, Battery Low- LED's & open collector – 100mA sink, Status LED Green = Flashing = OK Common Fault (Volt free) relay 2x Customer options – open collector – 30mA sink HiZ indication =0.6J Battery Powerfail signal = 100mSCurrent limitPrimary side power limitThermal protectionPrimary side thermal protection (non-latching)Load regulation+/- 0.75%Line regulation+/- 0.5%Noise & ripple0.5% (230Vacin, Full load, BW = DC – 10MHz)BATTERYCurrent limitd @ 1 ATemp compensationConnector provided for user to add 100KΩ thermistor (β=4400) Suitable for standby use	OVP	105-125% (latching and non dissipative) recycle input to restart
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Thermal protection   Primary side thermal protection (non-latching)     Load regulation   +/- 0.75%     Line regulation   +/- 0.5%     Noise & ripple   0.5% (230Vacin, Full load, BW = DC – 10MHz)     BATTERY   Current limited @ 1 A     Charger   Current limited @ 1 A     Temp compensation   Suitable for standby use	Signals	Status LED Green = Flashing = OK Common Fault (Volt free) relay 2x Customer options – open collector – 30mA sink HiZ indication =0.6J
Load regulation   +/- 0.75%     Line regulation   +/- 0.5%     Noise & ripple   0.5% (230Vacin, Full load, BW = DC – 10MHz)     BATTERY   Charger     Charger   Current limited @ 1 A     Temp compensation   Connector provided for user to add 100KΩ thermistor (β=4400) suitable for standby use	Current limit	Primary side power limit
Line regulation   +/- 0.5%     Noise & ripple   0.5% (230Vacin, Full load, BW = DC – 10MHz)     BATTERY   Charger     Charger   Current limited @ 1 A     Temp compensation   Connector provided for user to add 100KΩ thermistor (β=4400) suitable for standby use	Thermal protection	Primary side thermal protection (non-latching)
Noise & ripple   0.5% (230Vacin, Full load, BW = DC – 10MHz)     BATTERY   Current limited @ 1 A     Charger   Current limited @ 1 A     Temp compensation   Suitable for standby use	Load regulation	+/- 0.75%
BATTERY       Current limited @ 1 A         Charger       Current limited @ 1 A         Temp compensation       Connector provided for user to add 100KΩ thermistor (β=4400) Suitable for standby use	Line regulation	+/- 0.5%
Charger   Current limited @ 1 A     Temp compensation   Connector provided for user to add 100KΩ thermistor (β=4400)     Suitable for standby use	Noise & ripple	0.5% (230Vacin, Full load, BW = DC – 10MHz)
Temp compensation   Connector provided for user to add 100KΩ thermistor (β=4400)     Suitable for standby use	BATTERY	
Suitable for standby use	Charger	Current limited @ 1 A
Deep discharge protection 21V +/-0.25V	Temp compensation	
	Deep discharge protection	21V +/-0.25V

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#### Specification:

ENVIRONMENT	
Temperature	-10°C to +70°C (Derate 2.5% / °C above 50°C)
Cooling	Convection only
Humidity	10-95% non-condensing
Storage	-25°C to +85°C
MTBF	>80,000 hrs 25°C (MIL217F parts count method)
SAFETY & REGULATORY SPECIFICATIONS	
PSU Class	Class I:- Component part
Safety	Certified to EN60950, CE marked against LVD Designed to meet to UL60950
Flash test	Uncased units: I/p to O/p 4300V DC Cased units: I/p to O/p & E 2200V DC
Earth leakage current	<300uA rms (230Vacin 50Hz)
Output touch current	<100uA rms (230Vacin 50Hz)
EMC – Conducted	Designed to meet requirements of EN55022 "Class B"
EMC – Radiated	Designed to meet requirements of EN55022 "Class A"
EMC - Power Factor	Designed to meet requirements of EN61000-3-2 "Class A"
EMC – Fast Transients	Designed to meet requirements of EN61000-4-4
EMC – Surge	Designed to meet requirements of EN61000-4-5
EMC – Voltage Dips & Fluctuations	Designed to meet requirements of EN61000-4-11
	EMC will require re-evaluation in host equipment
MECHANICAL	
Dimensions	149mm x 122mm x 49.5mm (H)
Fixings	4x 4.2mm holes on a 109 x 114mm pitch
Case Material / Finish	Zintec
Input Connector	CAMDEN CTB0118 or equivalent
Output Connectors	Power = CAMDEN CTB0108 or equivalent Signal = MOLEX 6410 Vertical friction lock or equivalent
Pin-out	See below
Weight	560 grams
Technical specification may be subject to change - contact sales office	before ordering.



#### **Connection Diagram**

Data sheets are subject to change without notice

Rev no. 08102010

