

ComPact 1200 12V Dual Input

Input 1: AC, 120/230 VAC, 50/60/400 Hz
 Input 2: DC, 9-16 VDC
 Output: 5-34 VDC, 40 A, 1200 W
 Part number: P600320
 NSN: 6130-25-161-2806

ComPact Dual Input family summary

PFC
 RS-485 bus
 Active load sharing
 Battery temperature compensated charging
 Seamless switching between the AC input and the DC input
 Alarm relay outputs
 RoHS compliant
 IP67



Description

The ComPact Dual Input is a compact DC power supply and battery charger with dual inputs, switching seamlessly between an AC and a DC power source, all while maintaining a stable DC voltage at the output. The AC input current is power factor corrected and designed for optimum utilization of weak power sources such as portable generators. The DC input enables the unit to operate from the vehicle power. When powered from the AC source, the ComPact will charge any battery connected to DC output as well as the vehicle battery connected to the DC input, preventing self-discharge. The RS-485 bus can be used for control, monitoring and setup. Detailed status and statistics can be retrieved. The bus is also used for interconnecting multiple units in a redundant or parallel system. The signal connectors provide alarm relay outputs and inputs for individual battery temperature sensors (battery both at the DC input and the DC output) in addition to the RS-485 bus. Temperature compensated charging ensures full battery capacity over the entire temperature range. The ComPact can be configured to charge different battery technologies, including custom specification. The firmware is user upgradeable for future battery technologies. The ComPact is protected from overvoltage, overcurrent, short circuit, reversed polarity (at both DC input and DC output) and over temperature.

Functions

| | |
|--------------------------------|--|
| Input circuit breaker | The input circuit breaker is for failure protection and is also used as ON/OFF switch. When switched "OFF", the ComPact Dual Input will switch to the DC source. |
| Alarms | Status signals are fed to separate potential free outputs, and are indicated in separate LEDs. LEDs in the AC input section: Power OK, Error, Current limit LEDs in the DC input section: Power OK, Error, Charge |
| Display | The display can be toggled between output voltage, output current and alarm/error codes. |
| AC and DC Input voltage | When the AC voltage drops below the safe operating range, the ComPact will switch to the DC source. When the AC input voltage returns to a safe level, the ComPact will switch back to the AC input. |
| Connectors | AC input: Bayonet, 97B-3102E-16-10P-PCC-622 Amphenol or similar DC input: Positive: Bayonet, Allied Electronics Corporation MGR 02R 20-2P SQF 36 123 LT 101E RT Negative: Bayonet, Allied Electronics Corporation MGR 02R 20-2P SQF 36 126 LT 101E RT NTC: Binder 09-0416-30-05 Alarm: Binder 09-0412-30-04 DC output: Bayonet, 97B-3102E-22-22S-622 Amphenol or similar Alarm 1: Binder 09-0404-30-02 Alarm 2: Binder 09-0412-30-04 NTC/COM: 2 pieces. Binder 09-0416-30-05 |
| Grounding | Available in the front and back |
| Acoustic noise | At ambient temperature below 45°C the acoustic noise is 45 dBA. |
| Frequency | 45-430 Hz |
| Cooling | Forced air by temperature controlled fan |

Patented

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Specifications

| Electrical data | | |
|---|------------------------|-----------------------------------|
| AC input | | |
| Input voltage | | 99—276 VAC |
| Power Factor -load: 100 %, Vin: 50/60 Hz | | Typical: 0.99 |
| Input current | Vin: 99 VAC | ≤ 15.5 A |
| -Load: 1315 W* | Vin: 120 VAC | ≤ 13 A |
| -Vin: 50/60 Hz | Vin: 230 VAC | ≤ 7 A |
| Total Harmonic Distortion -Load: 28 VDC, 40 A -Vin: 115/230 VAC, 50/60 Hz | | ≤ 12 % |
| Efficiency | Vin: 120 VAC | ≥ 88% |
| -Load: 28 VDC, 40 A | Vin: 230 VAC | ≥ 90% |
| DC Input | | |
| Input voltage | Operational Maximum | 9.0—16.0 VDC 25.0 VDC |
| Charging | | 8 A, 3 stage |
| Input current | Vin: 11.0 VDC | ≤ 130 A |
| -Load 1200 W | Vin: 13.2 VDC | ≤ 109 A |
| Efficiency | Vin: 13.2 VDC | ≥ 82 % |
| -Load: 28 VDC, 40 A | | |
| DC Output | | |
| Default output voltage | | 28.0 VDC |
| Adjustable output voltage | | 5—34 VDC |
| Oversvoltage protection (OVP) | | 36.5 V |
| Default output current limit | | 42 A |
| Adjustable current limit | | 5—42 A |
| Short circuit current | | ≤ setting of current limiter +1 A |
| Output voltage ripple and noise -Bandwidth: 20MHz | | ≤ 100 mVp-p |
| Load regulation | | Typical: 50 mV |
| Line regulation | | Negligible |
| Safety | | CE marked |

*The load is 30 VDC, 40 A at the main DC output and 14.4 VDC, 8 A at the DC input

Standards

Electromagnetic Interference

The power supply meets the requirements of MIL-STD-461E and F: CE101, CE102, RE101, RE102, RS103, CS101, CS114, CS115 and CS116

Electrical systems in vehicles

The power supply meets the requirements MIL-STD-1275D for: Imported voltage surge 40 V and 100 V and ripple 14 V.

Electrostatic discharge

The power supply meets the requirements of EN 61000-4-2 for ESD.

Environmental

High temperature

Operational

MIL-STD-810G: Method 501.5, Procedure II, +60 °C

Storage

MIL-STD-810G: Method 501.5, Procedure I, +71 °C

Low temperature

Operational

MIL-STD-810G: Method 502.5, Procedure II, -40 °C

Storage

MIL-STD-810G: Method 502.5, Procedure I, -51 °C

Temperature shock

MIL-STD-810G: Method 503.5, -51—+71 °C, non-operational

Humidity

MIL-STD-810G: Method 507.5, Procedure II, operational

Vibration

MIL-STD-810G: Method 514.6C Table 514.6C-VI. Composite wheeled vehicle vibration exposures figure 514.6C-3

MIL-STD-801G: Method 514.6D, Category 20, Ground Vehicles, Wheeled/Tracked/Trailer, Procedure I

Shock

MIL-STD-810G: Method 516.6, Procedure I, functional Shock, 40 g, 11 ms

Fungus

MIL-HDBK-454: Analysis of the degree of inertness to fungus growth of the components

Salt Fog

MIL-STD 810G: Method 509.5, 24 h spray, 24 h dry, 2 times

Altitude

Operational

MIL-STD-810G: Method 500.5, Procedure II, 4750 m (15000 ft) at 57.2 kPa

Storage

MIL-STD-810G: Method 500.5, Procedure I, 12195 m (40000 ft) at 18.8 kPa

Encapsulation

The power supply is designed to meet the requirements of IP67 and has been tested by immersion in 1 m water for 30 minutes .

Weight and Dimensions

| | |
|---------------|--------------------|
| Width | 220 mm, 8.66" |
| Depth in rack | 390 mm, 15.35" |
| Depth total | 420 mm, 16.54" |
| Height | 133 mm, 5.25" (3U) |
| Weight | 17 kg, (37 lbs) |

Patent Pending