

### ComPact 1200 24V Dual Input

Input 1: AC, 120/230 VAC, 50/60/400 Hz  
 Input 2: DC, 18-32 VDC  
 Output: 5-34 VDC, 40 A, 1200 W  
 Part number: P600420  
 NSN: 6130-25-162-7483

### 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

<b>Input circuit breaker</b>	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.
<b>Alarms</b>	Status signals are fed to separate potential free outputs, and are indicated in separate LEDs. LEDs in the <b>AC input</b> section: Power OK, Error, Current limit LEDs in the <b>DC input</b> section: Power OK, Error, Charge
<b>Display</b>	The display can be toggled between output voltage, output current and alarm/error codes.
<b>AC and DC Input voltage</b>	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.
<b>Connectors</b>	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
<b>Grounding</b>	Available in the front and back
<b>Acoustic noise</b>	At ambient temperature below 45°C the acoustic noise is 45 dBA.
<b>Frequency</b>	45-430 Hz
<b>Cooling</b>	Forced air by temperature controlled fan

Patented

# ComPact 1200 24V Dual Input

## Specifications

Electrical data		
<b>AC input</b>		
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%
<b>DC Input</b>		
Input voltage	Operational Maximum	18.0—32.0 VDC 50.0 VDC
Charging		4 A, 3 stage
Input current	Vin: 22.0 VDC	≤ 65 A
-Load 1200 W	Vin: 26.6 VDC	≤ 55 A
Efficiency -Load: 28 VDC, 40 A	Vin: 26 VDC	≥ 82 %
<b>DC Output</b>		
Default output voltage		28.0 VDC
Adjustable output voltage		5—34 VDC
Overvoltage 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 28 VDC, 4 A at the DC input

### Standards

#### Electromagnetic Interference

The power is designed to meet 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 is designed to meet the requirements MIL-STD-1275D for: Imported voltage surge 40 V and 100 V and ripple 14 V.

#### Electrostatic discharge

The power supply is designed to meet 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