

# DSE9460/9461

## ENCLOSED INTELLIGENT BATTERY CHARGER

### 5 AMP & 10 AMP, 12 VOLT & 24 VOLT OPTIONS

#### FEATURES



The DSE94xx series of metal enclosed intelligent battery chargers have been developed with safety, usability, optimised battery performance and maximum battery lifetimes in mind.

The DSE94xx series can be used directly from the box, relying on a preconfigured lead/acid charging curve and selected manually for either 12V or 24V operation (including a voltage trimming potentiometer function). Alternatively they can be connected via a USB to a PC (using the free DSE PC configuration suite software) and can be configured with pre set charging curves for different battery types. The user also has the option of configuring their own bespoke charging curve for advanced battery applications.

A comprehensive range of input and output protections ensures a continued safe charging environment also enabling the use of the charger as a power supply. Higher charging / power supply currents can be achieved by linking together multiple chargers from this series.

The chargers can be integrated into an external system through modbus RTU using RS485 as well as an optional external remote LCD display being available.

#### AVAILABLE 5 AMP VERSIONS

9460-01	12v 5A (LCD)
9460-02	12v 5A (LCD & Meters)
9460-11	24v 5A (LCD)
9460-12	24v 5A (LCD & Meters)

#### AVAILABLE 10 AMP VERSIONS

9461-01	12v 10A (LCD)
9461-02	12v 10A (LCD & Meters)
9461-11	24v 10A (LCD)
9461-12	24v 10A (LCD & Meters)

#### ENVIRONMENTAL TESTING STANDARDS

##### ELECTRO-MAGNETIC COMPATIBILITY

BS EN 61000-6-2  
EMC Generic Immunity Standard for the Industrial Environment  
BS EN 61000-6-4  
EMC Generic Emission Standard for the Industrial Environment

##### TEMPERATURE

BS EN 60068-2-1  
Ab/Ae Cold Test -30 °C  
BS EN 60068-2-2  
Bb/Be Dry Heat +80 °C  
\* Refer to de-rating curve in the DSE9000 Operator Manual

##### VIBRATION

BS EN 60068-2-6  
Ten sweeps in each of three major axes  
5 Hz to 8 Hz at +/-7.5 mm,  
8 Hz to 500 Hz at 2 gn

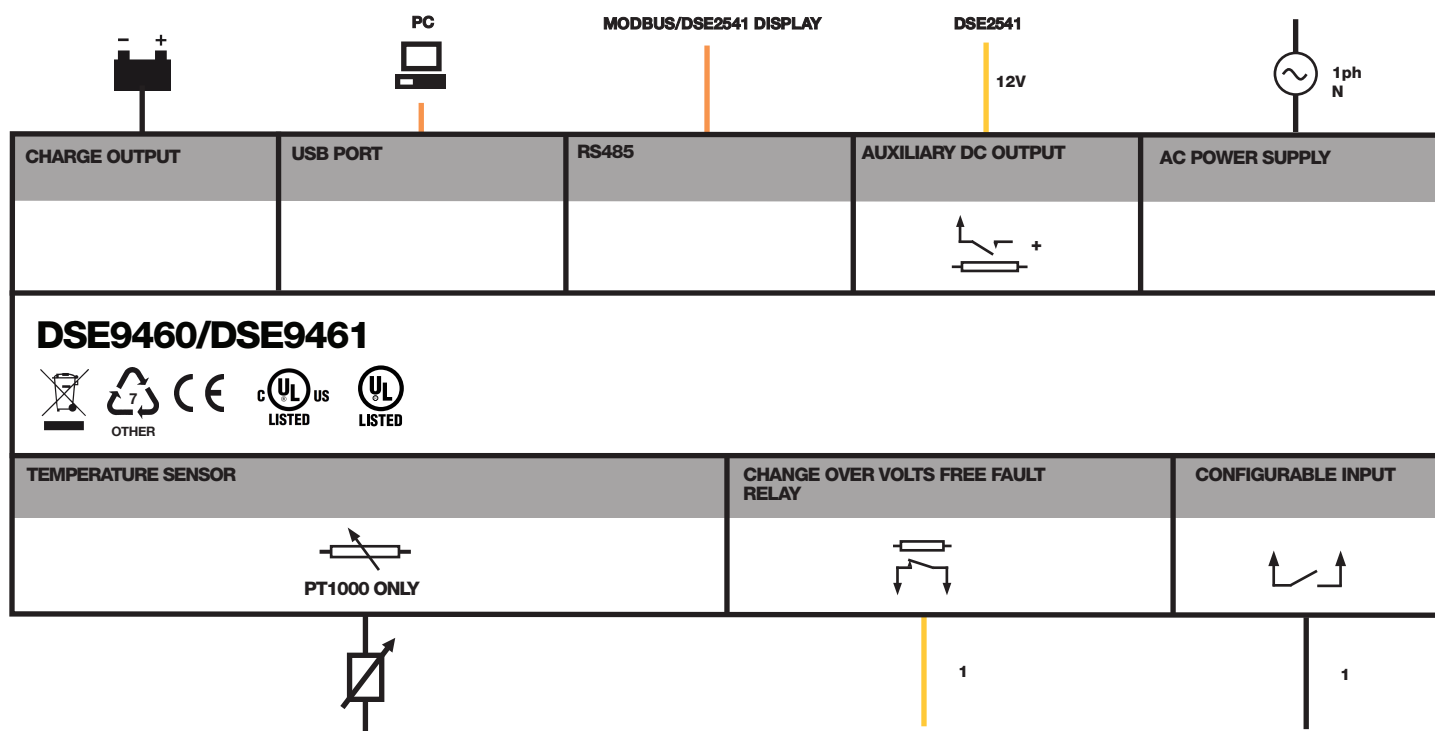
##### HUMIDITY

BS EN 60068-2-30  
Db Damp Heat Cyclic 20/55 °C at 95% RH 48 Hours  
BS EN 60068-2-78  
Cab Damp Heat Static 40 °C at 93% RH 48 Hours

##### SHOCK

BS EN 60068-2-27  
Three shocks in each of three major axes  
15 gn in 11 ms

## COMPREHENSIVE FEATURE LIST TO SUIT A WIDE VARIETY OF BATTERY CHARGER APPLICATIONS



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#### ADVANCED FEATURES

- Intelligent two, three and four stage charging profiles
- Configurable to suit most battery types (12V/24V)
- Adjustable current limit
- Can be used as a battery charger, power supply or both at the same time
- Automatic or Manual boost and storage charge functions to help maintain battery condition
- Digital Microprocessor Technology
- Temperature compensation for battery charging
- Low Output Ripple and superb line regulation
- Available in two variants (LCD display or LCD display & analogue meters)

#### Full Protection

- AC input Under voltage
- AC input Over voltage
- Battery charger output Over voltage
- Battery charger output Over current
- Battery temperature compensation with over temperature protection
- Output short circuit and Inversion polarity with auto recovery
- Automatic power de-rating at high ambient temperatures
- Battery charger failure indication

#### Automatic Boost Mode

- Boosts and equalises cell charge improving battery performance and life

#### Power Save Mode

- Once the battery is fully charged the chargers switch to Eco-Power to save energy

#### Communication

- Can be integrated into external systems through MODBUS RTU using RS485
- Fully configurable via DSE Configuration Suite PC Software
- External remote LCD option



#### KEY BENEFITS

- Fully flexible to maximise the life of the battery
- Suitable for a wide range of battery types
- Switched mode design
- Fault output
- Minimum 86% efficiency throughout full operating range
- No external intervention for boost mode
- Multiple chargers can be linked together to provide larger current output
- Can be permanently connected to battery and mains (utility) supply. No need to disconnect through high load conditions.

#### SPECIFICATION

##### AC SUPPLY

**VOLTAGE RANGE**  
90 V to 305 V (L-N)

**FREQUENCY RANGE**  
48 Hz to 64 Hz (L-N)

##### DC OUTPUT RATING

**DSE9460 OUTPUT**  
5 A DC at 12 V & 24 V DC

**DSE9461 OUTPUT**  
10 A DC at 12 V & 24 V DC

**RIPPLE AND NOISE**  
<1%

**EFFICIENCY**  
>86%

**AUXILIARY OUTPUT**  
100 mA DC at 12 V

**REGULATION**  
**LINE**  
<0.5%

**LOAD**  
2%

**TEMPERATURE SENSOR INPUT**  
PT1000

##### PROTECTIONS

Short Circuit  
DC Over Voltage  
DC Over Current  
Reverse Polarity  
Over Temperature  
AC Under & Over Voltage  
Battery Charger Failure

**CHARGE FAILURE RELAY**  
3 A at 30 V DC volt free relay

##### DIMENSIONS

**OVERALL**  
165 mm x 305 mm x 110 mm  
6.5" x 12" x 4.3"

**WEIGHT**  
2.3 kg

**OPERATING TEMPERATURE RANGE**  
-30 °C to +55 °C  
-22 °F to +122 °F

**STORAGE TEMPERATURE RANGE**  
-40 °C to +85 °C  
-40 °F to +185 °F

#### RELATED MATERIALS

##### TITLE

DSE9000 Configuration Suite PC Software Manual  
DSE Configuration Suite Installation & Operator Manual  
DSE9460/DSE9461 Series Installation Instructions  
DSE9460/DSE9461 Series Operator Manual  
DSE2541 Data Sheet  
DSE2541 Installation Instructions

##### PART NO'S

057-159  
057-151  
053-148  
057-176  
055-160  
053-154

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