

# DSE9470 MKII, DSE9472 MKII, DSE9476, DSE9480 MKII & DSE9481MKII

## INTELLIGENT BATTERY CHARGERS

### 5 AMP, 10 AMP & 20 AMP, 12 VOLT & 24 VOLT OPTIONS



#### ADVANCED FEATURES

- Intelligent three and four stage charging profiles
  - Configurable to suit 12V and 24V applications
  - 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
  - Three LED indicators
  - Switched mode design
  - Fully customisable battery charging curves
- Full Protection**
- AC input under voltage
  - AC input over voltage
  - Battery charger output over voltage
  - Battery charger output over current
  - Battery under voltage alarm

- Automatic battery detection
- Automatic battery charger self test
- Output short circuit and inversion polarity with auto recovery
- Automatic power de-rating at high ambient temperatures.
- Optional battery temperature compensation using PT1000 temperature sensor with over temperature protection

#### 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 display option - DSE2541

#### KEY BENEFITS

- Fully flexible to maximise the life of the battery
- Suitable for a wide range of battery types
- 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 AC supply. No need to disconnect through high load conditions such as cranking or when the engine is running.

#### SPECIFICATIONS

##### AC SUPPLY

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

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

**DC OUTPUT**  
**DSE9470 MKII OUTPUT**  
10 A DC at 24 V DC

**DSE9472 MKII OUTPUT**  
5 A DC at 24 V DC

**DSE9476 OUTPUT**  
20 A DC at 24 V DC

**DSE9480 MKII OUTPUT**  
10 A DC at 12 V DC

**DSE9481 MKII OUTPUT**  
5 A DC at 12 V DC

**RIPPLE AND NOISE**  
<1%

**EFFICIENCY**  
>86%

**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

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

**DIMENSIONS**  
**OVERALL**  
70 mm x 200 mm x 130 mm  
2.7" x 7.9" x 5.1"

**WEIGHT**  
0.75 kg

**OPERATING TEMPERATURE RANGE**  
-30 °C to +55 °C  
-22 °F to +131 °F

**STORAGE TEMPERATURE RANGE**  
-30 °C to +70 °C  
-22 °F to +158 °F

#### RELATED MATERIALS

##### TITLE

DSE9400 Series Configuration Suite PC Software Manual  
DSE Configuration Suite Installation & Operator Manual  
DSE9000 Series Installation Instructions  
DSE9476 Installation Instructions  
DSE9000 Series Operator Manual

##### PART NO.

057-159  
057-151  
053-049  
053-185  
057-085

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## INTELLIGENT BATTERY CHARGERS 5 AMP, 10 AMP & 20 AMP, 12 VOLT & 24 VOLT OPTIONS

The DSE9400 series is a range of intelligent battery chargers that can be programmed for different charging curves to maximise the life of the battery.

The chargers do not include any moving parts to give added durability and reliability. They will also continue to operate during engine running.

The DSE9400 series of intelligent battery chargers are programmed using the user-friendly DSE Configuration Suite PC software. The chargers can be either DIN rail or chassis mounted, using the fixing holes that are built into the case. The charger's stylish design includes three coloured LEDs to indicate charging status and fault conditions.

Multiple modules can be linked together to provide a larger current output.

### 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

#### OPERATING TEMPERATURE RANGE

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 @ +/-7.5 mm,  
8 Hz to 500 Hz @ 2 gn

#### HUMIDITY

BS EN 60068-2-30  
Db Damp Heat Cyclic 20/55 oC @ 95% RH 48 Hours  
BS EN 60068-2-78  
Cab Damp Heat Static 40 oC @ 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

