



DSEBC2410Ei 24 Volt, 10 Amp Intelligent Enclosed Battery Charger

Part Numbers: BC2410Ei-01, BC2410Ei-02, BC2410Ei-03



Overview

The DSEBC2410Ei is an enclosed intelligent battery charger designed to work with multiple battery types across a wide range of applications. The advanced technology has been developed to automatically detect system settings and charging profiles including cell voltage and boost voltage to provide high-levels of charging support.

The DSEBC2410Ei is UL listed for use on emergency generators. The lightweight enclosed design allows the charger to be installed in multiple environments simply and quickly.

Key Features

- Multiple chargers can be connected in parallel to achieve higher charging / power supply currents
- Can be permanently connected to a battery and a mains (utility) supply
- Fully configurable two, three or four stage charging profiles to optimise charging efficiency
- Integrated DSENet® / RS485 port providing ability to be connected to a DSE module as an expansion unit, or Modbus RTU support PC configuration using DSE Configuration Suite
- Option to be used as a battery charger, power supply or both
- Automatic / manual boost and storage charge functionality to help maintain battery condition
- Deep-sleep mode reduces current consumption from the battery down to below 10mA when mains is not present
- Configurable for 12 V / 24 V and 5 A / 10 A

Product Approvals

- + CE
- + UL Listed: Standard UL 1236

Product Documentation

053-251 – DSEBC2410Ei Installation Instructions

057-316 – DSEBC2410Ei Operator Manual

057-315 – DSEBC2410Ei Configuration Suite PC Manual



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Registered in England & Wales No.01319649
VAT No.316923457

055-269/06/26 (3)

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Specifications	
AC Supply	
Minimum Supply Voltage	90 V _{AC} with Charge Output De-rate 108 V _{AC} without Charge Output De-rate
Maximum Supply Voltage	305 V _{AC}
Frequency Range	48 Hz to 64 Hz
Maximum Operating Current	Configured as 12 V: 1.5 A _{AC} at Vin=230 V _{AC} , 2.5 A _{AC} at Vin=110 V _{AC} Configured as 24 V: 3 A _{AC} at Vin=230 V _{AC} , 5 A _{AC} at Vin=110 V _{AC}
Typical Standby Current (DC Charge Output Off)	0.05 A _{AC} Regardless of Supply Voltage
Efficiency	Greater than 87 %
Charge Output	
Voltage Range	Configured as 12 V: 12 V _{DC} to 15.5 V _{DC} Configured as 24 V: 24 V _{DC} to 31 V _{DC}
Voltage Ripple and Noise	Less Than 1 % of Configured Boost Voltage
Voltage Load Regulation	2 %
Voltage Line Regulation	Less Than 0.01 % Requested Charge Output Voltage
Current Range	1 A _{DC} to 5 A _{DC} With Maximum Charge Output De-rate 0 A _{DC} to 10 A _{DC} Without Charge Output De-Rate
Maximum Current Limit	1 A _{DC} to 10 A _{DC}
Current Limit Accuracy	±10 % of Configured Maximum Current Limit
Digital Input	
Number	1
Type	Contact Between Terminals
Closed Voltage Threshold	Less than 2.1 V _{DC}
Open Voltage Threshold	Greater than 6.6 V _{DC}
Temperature Sensor Input	
Number	1
Type	PT1000
Charger Fail Output	
Number	1
Type	Changeover Volt-Free Contact
Volt-Free Contact Output Rating	3 A _{DC} resistive at 30 V _{DC}

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Specifications	
Protections	
AC Supply	Over and Under Voltage Over and Under Frequency
Charge Output	Reverse Polarity Under and Over Voltage Over Current Short Circuit
Battery Charger	Battery Charger Over Temperature Battery Charger Self Test Temperature Sensor Test
Battery	Disconnection Over Temperature
Communications	
USB B	1 Programming Port
RS485 / DSENet®	1 Modbus RTU Port / 1 Expansion Port
Temperature	
Operating Temperature	-30 °C to +55°C / -22 °F to +131 °F
Operating Temperature with De-rate	-30 °C to +80 °C / -22 °F to +176 °F
Storage Temperature	-30 °C to +80 °C / -22 °F to +176 °F
Dimensions	
Overall (W x H x D)	170 mm x 305 mm x 116.6 mm / 6.69 " x 12.0 " x 4.59 "
Weight	Boxed: 2.34 kg (5 lb 2 oz) Unboxed: 2.16 kg (4 lb 12 oz)
Mounting	
Type	Base mounted to a vertical surface with connection terminals to the bottom
Mounting Holes	Diameter 7 mm (0.276 "), 63.5 mm X 291 mm (2.5 " x 11.46 ") centres

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Related Products		
DSEGenSet®		
DSEG8900	7" Colour Parallel Genset Controller	G8900-01
DSEG8660	Mains (Utility) Controller	G8660-01
DSEG8600	Parallel Genset Controller with Integral Heater	G8600-01
DSE8660 MKII	Auto Transfer Switch & Mains (Utility) Control Module	8660-02
DSE8620 MKII	Synchronising Auto Mains (Utility) Failure Load Share Control Module	8620-02
DSE8610 MKII	Synchronising & Load Sharing Auto Start Control Module	8610-02
DSE7420 MKII	Auto Mains (Utility) Failure Control Module	7420-03
DSE7410 MKII	Auto Start Control Module	7410-03
DSE7320 MKII	Auto Mains (Utility) Failure Control Module	7320-03
DSE7310 MKII	Auto Start Control Module	7310-03
DSE6120 MKIII	Auto Mains (Utility) Failure Control Module	6120-05
DSE6110 MKIII	Auto Start Control Module	6110-05
DSEControl®		
DSEE400	Engine Only Control Module	E400-01

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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
Electrical Safety	
BS EN 61010	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory use.
Temperature	
BS EN 60068-2-1	Ab/Ae Cold Test -30 °C
BS EN 60068-2-2	Bb/Be Dry Heat +80 °C
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% Relative Humidity 48 Hours
BS EN 60068-2-78	Cab Damp Heat Static 40 °C at 93% Relative Humidity 48 Hours
Shock	
BS EN 60068-2-27	Three shocks in each of three major axes 15 Gn in 11 ms
Degrees of Protection Provided by Enclosures	
BS EN 60529	IP20

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Terminal Description	
Pin	Description
OP-	Charge Output Negative
OP+	Charge Output Positive
DC-	Local DC Supply Negative
DC+	Local DC Supply Positive
SCR	DSENet® / RS485 Screen
B	DSENet® / RS485 B
A	DSENet® / RS485 A
LK1	Configurable Digital Input
LK1	Configurable Digital Input
PTC	Temperature Sensor Input
PTC	Temperature Sensor Input
NC	Normally Closed Contact of Charger Fail Changeover Relay
COM	Common Contact of Charger Fail Changeover Relay
NO	Normally Open Contact of Charger Fail Changeover Relay
L	AC Supply Live
N	AC Supply Neutral
E	AC Supply Earth

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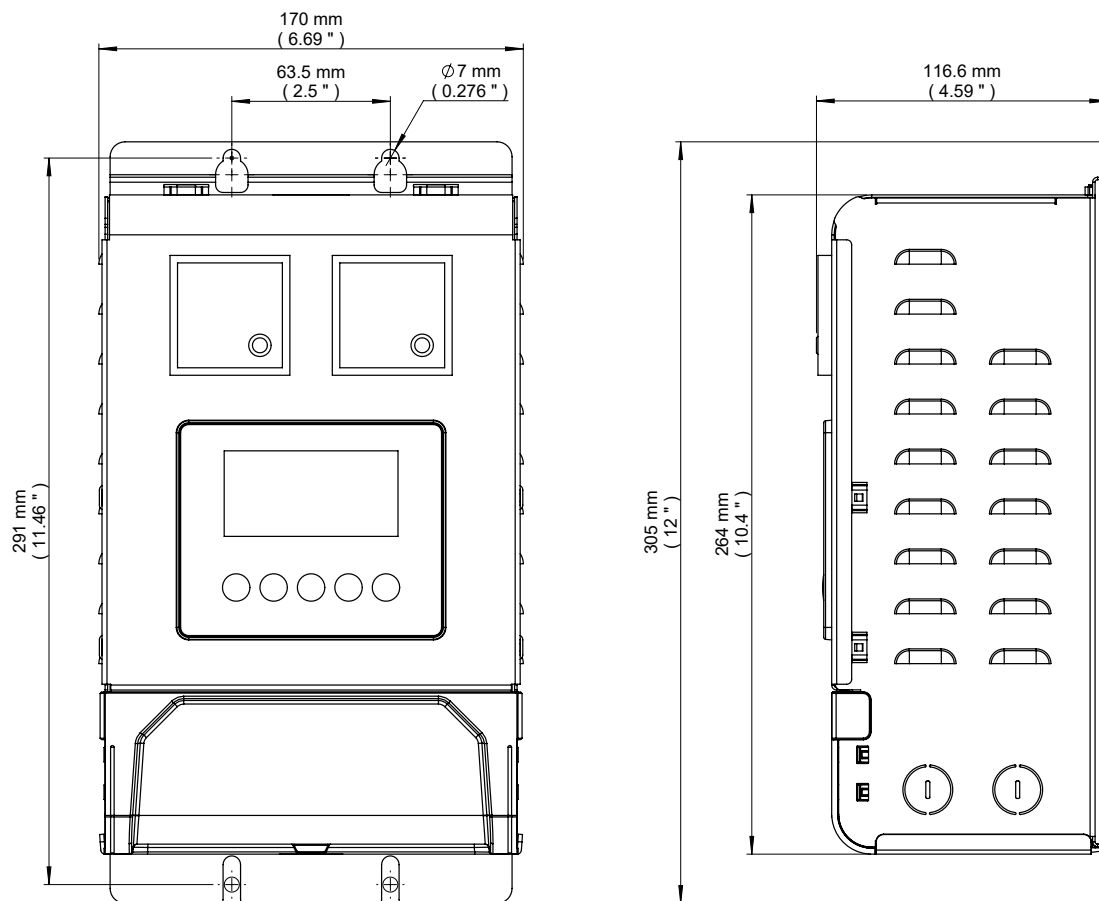
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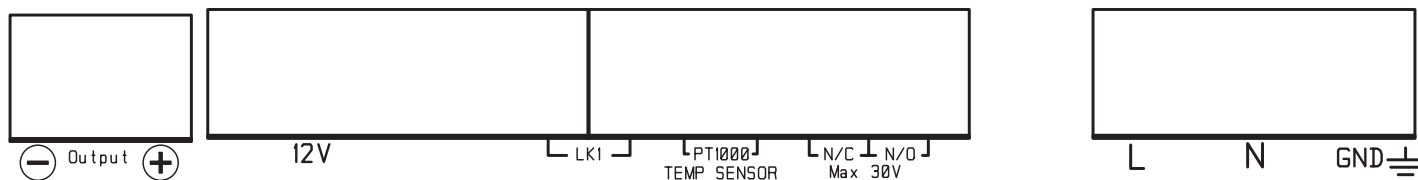
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Technical Drawing



Connection Label



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