

DCDC Converter B250 24V/14V/20A

This type of DCDC converter is widely employed in the electrical vehicle industry in applications where electrical isolation between input and output is not necessary (common minus pole). The converter can work as charger. Battery back current at converter switch-off is less 4 mA and saves battery charge.

FEATURES:

- closed solid eloxal coated heatsink case
- overheat protection - current limit decrease (no turn-off)
- short-circuit proof
- water-resist - up to IP54 ¹⁾
- LED at the output ¹⁾
- EMC ensured
- designed to work with a board battery 12 V nom. at the output

SPECIFICATIONS:

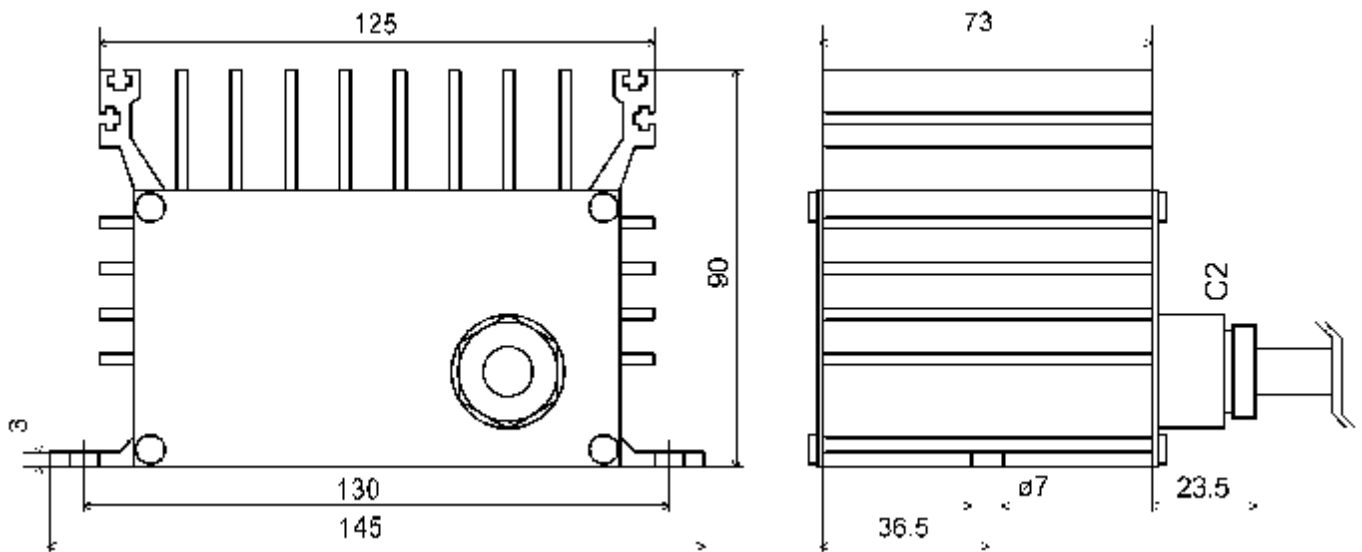
Input voltage (nom.):	24 V (start voltage 26.5 V at opt. H)
Input voltage range:	18 V – 35 V
Shutdown voltage (UVLO):	17 V (25 V to save an input battery, opt. H)
Output voltage:	14 V (adjustable when lid removed 12 V .. 14.5 V)
Cont. output current:	20 A (vertical fins, 35 °C max.)
Output current limit:	20 A
Protections:	
Incorrect input connection & breakdown	built-in fuse 30 A /32A
Input undervoltage	electronical circuit
Overload and output short-circuit	electronic output current limit
Overheat	electronical current limit decrease
Output voltage ripple (0 – 50 MHz):	<10 mV rms
Line / load regulation:	<1 %
EMC - conducted emissions:	EN 55022 level A
Efficiency (nom. Input, cont. current, typ.):	93 %
Switching frequency:	65 kHz
UVLO/no load current consumption:	3 mA / 22 mA
Connection:	see Options
Ambient temperature range (cont. power):	-25 °C .. +35 °C (no convection, vertical pos.)
Max. ambient temperature (derated power):	+50 °C
Storage temperature:	-40 °C - +70 °C
Dimensions (WxHxD):	145x90x95 mm (dependent on terminals)
Weight:	0.7 kg

Notes:

1) see Options

Warranty: 2 years. Broken converters can be repaired by the manufacturer (Ekotronic Ltd.) at its premises.

DIMENSIONS:



Note: There is option C2 (IP54 terminal) shown on the picture

OPTIONS:

Cn - Case environmental protection

- C0 - IP40 (without terminals)
- C1 - IP42 - silicon stick, moulded rubber grommet
- C2 - IP54 - silicon stick, compression type cable gland (PG11)
- C3 - IP20 (VDFK4 screw terminals (Phoenix) or cooler)
- F2 – standard EMI suppression (EN 55022 – A), other upon customer’s request**
- H – higher input (start at 2.2V/c, UVLO at 2.08V/c)**

Ln - Indication LED on case

- L1 - connected to output
- L2 - converter work indication (independent on accu connected)

Sn - Built-in fuse

- S1 - input fuse
- S2 - output fuse (against failed reverse battery current)

- T – Thyristor crowbar at the output**

- U - Output voltage option 13.6 V – 14,0 V**

- V - Pot for output voltage adjustment (between heatsink fins or under lid)**

Xn - Special requirements (connectors, mounting etc.)

- X0 - crimp ferrules ended wires
- X1 - 6.35x0.8mm tab housing, 4 positions, tin plated brass
- X2 - standard screw terminals 4 poles (2 x COM)
- X3 - VDFK4 screw terminals 4 mm² (Phoenix)
- X9 – isolated screw bolts M6 on a lid
others upon customer’s request.

Yn - alternative colors of wires

- | | +IN | -IN | +OUT | -OUT | GND |
|--|-------|-------|---------|------------|------------|
| <input type="checkbox"/> Y0 | red | black | red | black | |
| <input checked="" type="checkbox"/> Y1 | red | blue | black | brown | |
| <input type="checkbox"/> Y2 | brown | blue | 2xblack | black+blue | (gn.& yl.) |