ekoTRONIC Ltd.
POWER ELECTRONICS

DCDC Converter B400 24 V/12 V/35 A

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 works 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
- output voltage reset possible

SPECIFICATIONS:

Input voltage (nom.):	24 V (start voltage 26.5 V at opt. H)
Input voltage range:	18 V – 35 V
Shutdown voltage (UVLO):	18 V (25 V to save an input battery, opt. H)
Output voltage:	12 V (11.5 V -14.5 V adjustable, factory set 13.6 V ± 1 %)
Cont. output current:	32 A or 400 W
Output current limit:	35 A (32 A at opt. B)
Protections:	
Incorrect input connection & breakdown	fuse 30 A/32V
Incorrect output connection & breakdown[1)]	fuse 2x30 A (DIN 72581), soldered
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 mVrms
Line / load regulation:	<1 %
EMC - conducted emissions:	EN 55022 level A
Efficiency (nom. input, cont. current, typ.):	91 %
Switching frequency:	65 kHz
No load / UVLO current consumption:	max. 50 mA/ 22mA
Connection:	see Options
Ambient temperature range (output 400W):	–25 °C .. +35 °C (no convection, vertical pos.)
Max. ambient temperature (derated power):	+50 °C
Storage temperature:	-40 °C - +70 °C
Dimensions (WxHxD):	145x90x160 mm
Weight:	1.5 kg

Notes:
1) see Options

ekoTRONIC Ltd.
POWER ELECTRONICS

OPTIONS:

☑ **B – Battery on the output**

Cn - Case environmental protection
- ☑ C0 - IP40 (except terminals)
- ❑ C1 - IP42 - silicon stick, moulded rubber grommet
- ❑ C2 - IP54 - silicon stick, compression type cable gland (PG11)

☑ **F2 – standard EMI suppression (EN 55022 – A), other upon customer's request**

☑ **H – higher input (start at 2.2V/c, UVLO at 2.1V/c)**

Ln - Indication LED under the window in the upper lid
- ❑ 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 (under lid)**

☑ **W – higher input voltage range (15V – 35V)**

Xn - Special requirements (connectors, mounting etc.)
- ❑ X0 - crimp ferrules ended wires
- ❑ X7 - 6.35x0.8mm tab housing, 6 positions, tin plated brass
- ☑ X2 - standard screw terminals (4 x 6 mm^2) on a lid
- ❑ X9 – screw bolts M6 on a lid, brass (+input, -com, +output)

others upon customer's request.

Yn - alternative colors of wires (X0 option)

	+IN	-IN	+OUT	-OUT	GND
❑ Y0	red	black	red	black	
☑ Y1	red	blue	black	brown	

Standard options: B400 24/12 BL2S1S2X2

DIMENSIONS: