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POWER ELECTRONICS

DCDC Converter D600 80V/ 12V/ 40A

This type of DCDC converter has been developed to serve as a board voltage stabilizer in industry. It transforms main battery voltage to the stabilized isolated level.
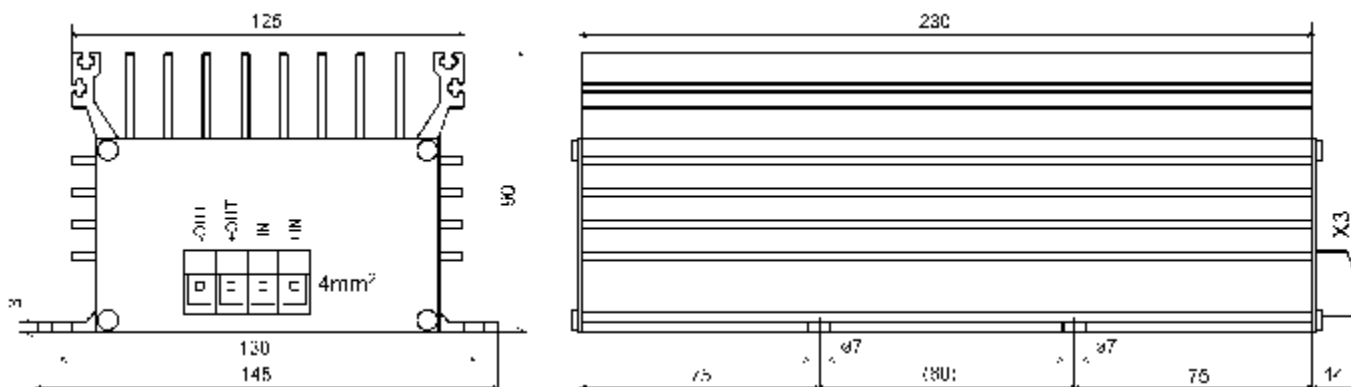
FEATURES:

- closed solid eloxal coated heatsink case [1]
- output isolated from the input
- overheat protection - current limit decrease (no turn-off)

- short-circuit proof (5 s)
- effective input filter
- EMC ensured

SPECIFICATIONS:

Input voltage (nom.):	80 V
Input voltage range:	56 V – 100 V
Shutdown voltage (UVLO):	50 V
Output voltage (no load):	12.5 V ±0,25 V [1]
Output current (cont.):	32 A
Output current limit:	40 A
Protections:	
Incorrect input connection & breakdown	6x30 mm fuse 16A/ 250 V at the input
Input undervoltage	electronical circuit
Overload and short-circuit	electronic output current limit
Overheat	electronical current limit decrease
Output voltage ripple (0 – 1 MHz):	<10 mV rms
Output voltage ripple (25 Hz – 5 kHz):	<2 mV rms
Line / load regulation:	< 2 %
EMC - conducted emissions:	EN 55022 level A
Safety:	EN 60950
Input/output circuit isolation:	2 kV AC
Input/case isolation:	1,5 kV AC
Output/case isolation:	500 V DC
Switching frequency:	65 kHz
Efficiency (nom. input, cont. current, typ.):	84 %
No load & UVLO current consumption:	max. 4 W
Connection:	screw terminals 10mm^2 (opt. X2) or flying leads (X0)
Ambient temperature range (cont. current):	–25 °C .. +35 °C (no convection, vertical pos.)
Max. ambient temperature (derated power):	+50 °C (derated power)
Storage temperature:	-40 °C - +70 °C
Dimensions (WxHxD):	145x90x245 mm
Weight:	2.5 kg

1) see options

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DIMENSIONS :

INSTALLATION AND MAINTENANCE NOTES:

The converter is mounted by four screws preferably vertically (wires at the bottom) or horizontally (in this case the power capability of the converter may be slightly reduced). **The case must be connected to the ground of the vehicle.**

It's not recommended to mount the converter directly to the motor or to the gearbox. Case environmental protection must be considered in case of possible water influence.

When connecting the converter into the vehicle electric circuitry, it is necessary to keep proper polarity (+/- poles) !

The converter doesn't contain any moving parts, therefore no maintenance is required. It's recommended to check connector tabs and mounting screws at least once a year.

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OPTIONS:

- ❑ **B – Battery at the output - used as a charger**

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

- ❑ **D - "+D" wire for charging check light (12 V, max. 5 W)**
- ☑ **F2 – standard EMI suppression (EN 55022 – A), other upon customer's request**

  Ln - Indication LED on case
  - ☑ L1 - connected to output
  - ❑ L2 - converter work indication (independent on accu connected)

  Mn – Microcontroller used in the converter (charger)
  - ❑ M2 - conservation voltage when recharged (IUOU characteristic)

  Sn - Built-in fuse
- ☑ S1 - input fuse
- ❑ S2 - output fuse (against reverse battery current - only for option B)
- ❑ **U - Output voltage option for converters without battery at the output (13.6 V)**
- ❑ **V - Pot for output voltage adjustment**
- ❑ **W - Extended input voltage range (upon customer's request)**

  Xn - Special requirements (connectors, mounting etc.)
  - ☑ X0 - crimp ferrules ended wires
  - ❑ X2 - standard screw terminals 6 (10) mm^2
  - ❑ X6 - VDFK4 + standard screw terminals
  - ❑ X7 - 6.35x0.8mm tab housing, 6 positions
  - ❑ X8 - 6.35x0.8mm tab housing, 8 positions
    others upon customer's request.

  Yn - Alternative colors of wires

		+IN	-IN	+OUT	-OUT	+D	K	GND
❑	Y0	red	black	red	black	white	yellow	
☑	Y1	red	blue	black	brown	white	yellow	
❑	Y2	red	blue	black+white	brown+grey			(gn.& yl.)
	or	red	blue	black+wh.	brown+grey			(gn.& yl.)
❑	Y3	brown	blue	2xblack	black+blue	black	black	(gn.& yl.)
❑	Y4	brown	blue	3xblack	2xblack+blue			(gn.& yl.)

Note: standard options are marked.