



# Automotive Line – ENA75 Series

## 75W VEHICLE DC/DC CONVERTER

### Specifications

#### INPUT

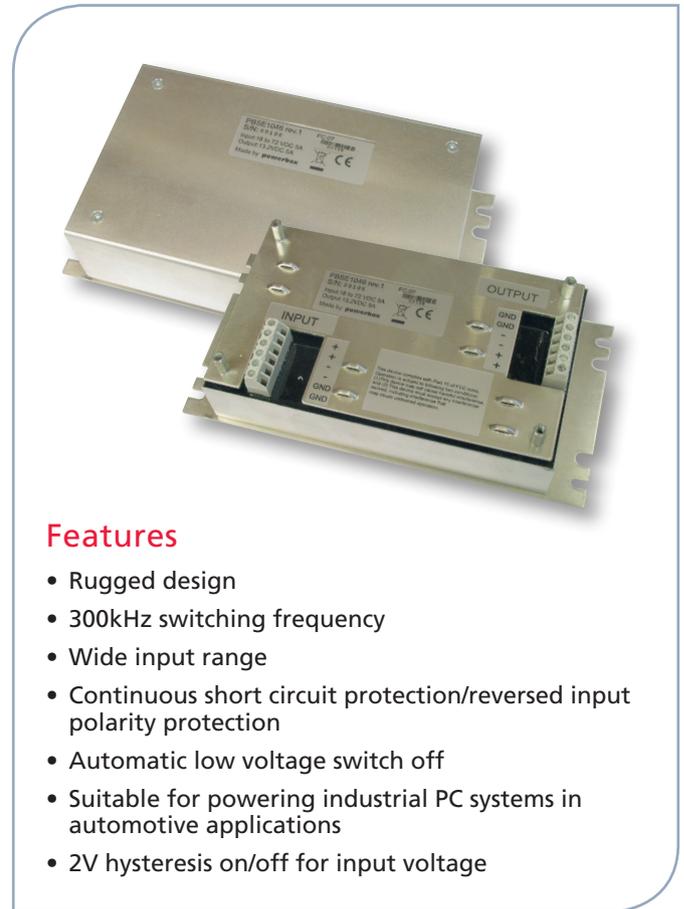
Nominal voltage range	9-36, 18-72, 50-150VDC.
Tolerance	See input undervoltage shut off section.
Frequency	DC.
Input undervoltage shut off	The power supply contains a circuit that will shut off the unit when the input voltage is below the low threshold. The unit will not start until the input voltage have been above the high threshold for a specified time. Factory preset.
Input source current	Input current at $U_{in}=58V$ ( $P_{out} = 60W$ ): <1,4A. Input current at $U_{in}=50V$ ( $P_{out} = 60W$ ): <1,6A.
Efficiency	Efficiency at $P_{out} = 60W$ $U_{in}=72V$ : >78%. $U_{in}=96V$ : >78%.
Grounding	Both input and output voltage are isolated from chassie. Decoupling capacitor to chassie are used on all inputs and outputs.
Input fusing	The DC/DC converter is overload protected and will limit input current. However a fused, 3,4-4 A slow blow, supply source is recommended.
Hold up capability	Energy reserve At 60W load, $U_{in} = 63 VDC$ : >1ms.

#### OUTPUT

Power	75W continuous.
Output voltages	See table.
Ripple and noise	<100mVp-p DC to 20MHz over nominal input voltage range. <300mV at operating temperature below $-30^{\circ}C$ .
Derating	Derate output power to 60% at $U_{in}<12.5VDC$ (9-36VDC version).

#### PROTECTION

Low input voltage protection	The unit is equipped with a low input voltage protection circuit. The supply will only start up if the input voltage has been above a certain threshold for a certain time. This circuit will prevent uncontrolled oscillations when operated from a voltage source with high impedance, (eg. Long supply cables with significant conductor resistance).
Input polarity protection	Input is protected against continuous connection of reversed polarity of at least 1,2 x $U_{in}$ by the use of a series diode.
Output short circuit	Continuous short circuit protection. Typical characteristics: see drawing.
Overtemperature	Overtemperature protection.
Temperature coefficient	$\pm 0.03\%/^{\circ}C$ .
Short circuit protection	Continuous.
Line regulation	$\pm 0.2\%$ max. Min 0.25A load required.
Load regulation	$\pm 0.2\%$ max. Min 0.25A load required.
Overtoltage prot. trip range	115-140%, % $V_o$ nom.
Current limit	110%-160% nominal output.



### Features

- Rugged design
- 300kHz switching frequency
- Wide input range
- Continuous short circuit protection/reversed input polarity protection
- Automatic low voltage switch off
- Suitable for powering industrial PC systems in automotive applications
- 2V hysteresis on/off for input voltage



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### ENVIRONMENTAL

Temperature	Operating ambient: -35°C to +50°C, 0-85% RH. Operation, mounting base: -35°C to +70°C. Storage: -40°C to +85°C, 0-85% RH.
Cooling	Sufficient cooling shall be provided via mounting base, see maximum temperature specified.
Vibration, sinusoidal	IEC 68-2-30, test FC; pr EN 1789 min. 2 g. Frequency: 5-500Hz. Sweep: 1 oct/min. Cycles: 4 scans per 3 axes. Duration: 3h.
Shock, half sinus	IEC 68-2-29, test Ea: min. 30g. 18 pulses in 6 directions. Pulse duration 6ms.
Bump, half sinus	IEC 68-2-29, test Eb; prEN 1798 min. 15g. Frequency: 1-3 Hz. 31000 pulses in 6 directions. Pulse duration 6 ms.
Reliability	Working life: 90000h at Tbase=50°C.

### GENERAL

Mechanical specifications	The supply is potted in a metallic case. 4 threaded inserts on 1 side for mounting to cooling base.
Dimensions	Maximum dimensions, mounting plate not included. Width: 160mm, Height: 49mm, Depth: 95mm.
Connections	Screw terminal max 2.5mm <sup>2</sup> cables.
Weight	1050g.

### STANDARDS

Safety standard	UL 60950, CE.
Isolation	Prim - secondary 500VDC. Prim - chassis 500VDC. Secondary - chassis 500VDC.
EMC	Emmission: EN 61000-6-4 Class A. Immunity: EN 61000-6-2. FCC 47, Part 15, section 15.207 (conducted 450KHz-30MHz), section 15.209 (radiated 30-1000MHz) Class A device. Industrial trucks - EMC compatibility EN 12895. Input voltage burst: EN61000-4-4, test level 2, burst duration 15 ms. Frequency 5KHz, max 2KV. Input voltage surges: EN61000-4-5, 1,2/50 us, max. 500VDC.

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	MAX CONTINUOUS OUTPUT CURRENT
ENA75 5140	9-36VDC	13.2VDC	5.68A
ENA75 5142	18-72VDC	13.2VDC	5.68A
ENA75 5146	50-150VDC	13.2VDC	5.68A
ENA75 5149*	9-36VDC	24VDC	3.1A
ENA75 5152*	18-72VDC	24VDC	3.1A
ENA75 5155*	50-150VDC	24VDC	3.1A

\* Minimum quantities required.

### Mechanical

