

BRIEF INFORMATION

DC/DC Converter 24 V / 12 V

- Energy transfer from 24 V to 12 V power supply up to 300 W (passive air cooling)
- Power supply of conventional 12 V loads e. g. lights, ECUs, sensors, actuators, etc.
- Hardware-only solution (no CAN / LIN) for easy integration
- Built-in protection from short circuits and reverse polarity
- Efficiency up to 90 %

PRODUCT FEATURES

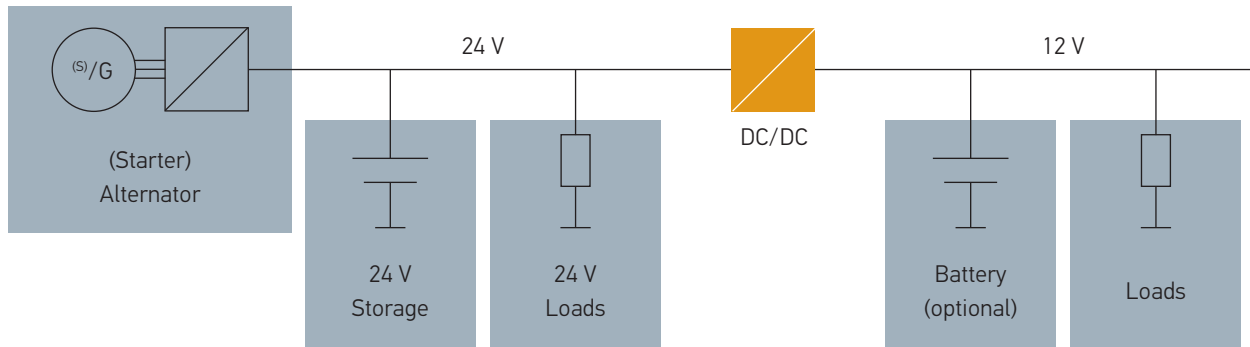
Application

With the use of this 24 V / 12 V converter, 12 V loads can be used in a 24 V based E / E-architecture. The DC/DC converter is designed to provide power to conventional 12 V accessories such as fans, lights, navigation and infotainment systems. The output can be provided to standard 12 V cigarette lighter adapters for connecting additional accessories.

Design and function

The 24 V / 12 V converter is a state-of-the-art switch mode power supply employing high reliability automotive grade components. It can accept wide range input voltages from 18 V to 32 V and provides a stable 13.5 V output power at 20 A rated current. The integration into the vehicle E / E architecture is made as simple as possible as the hardware-only solution does not require software adaptations from other ECUs. The module offers excellent load and line regulation with an efficiency of up to 90 % at rated conditions. To reduce electromagnetic noise, it uses spread spectrum techniques for driving MOSFETs. Protection against reverse polarity of input supply, output short-circuit, over-temperature, over-current etc. is integrated. Passive air cooling ensures extremely low maintenance. It is intended to be used inside the cabin (IP 30) and snaps to the mounting bracket (not included).

FUNCTIONAL DIAGRAM



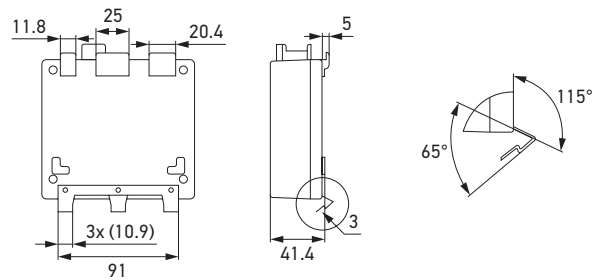
TECHNICAL DETAILS

Technical data

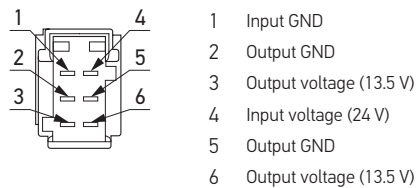
Input voltage	18 – 32 V
Output voltage	13.5 V
Max. power	up to 300 W
Functional Safety	QM
Data connection	N/A
Dimensions	115.5 mm (L) x 105.5 mm (W) x 41.4 mm (H) without mounting bracket
Weight	approx. 600 g
Working temperature	-40°C to +75°C
Connector	6-pole Tyco right angle header No. 9-966140-5
Mating connector*	No. 8-968970-02 (Tyco)
Cooling concept	Air passive
Protection class	IP 30
Operating Temperature	-40°C to +85°C
Efficiency	up to 90 %
Ripple	< 200 mVpp
No-load current	< 5 mA
PWM Center frequency	200 kHz (with dithering)
Mounting point**	bracket

* This accessory is not included. Available from Tyco.
 ** This component is not included. Available on request.

Technical drawing



Pin assignment



PROGRAM OVERVIEW

Product image	Description	Part number
	DC/DC, 24 V – 12 V converter	on request