

## 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

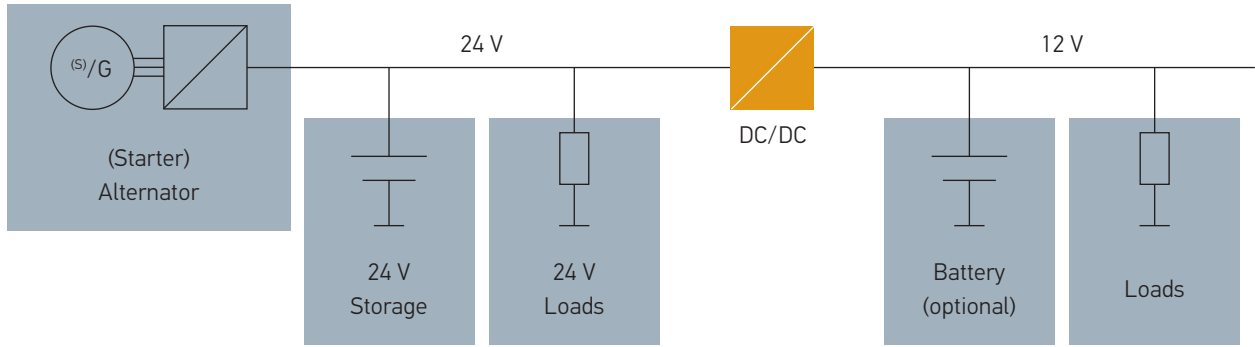
### Application

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

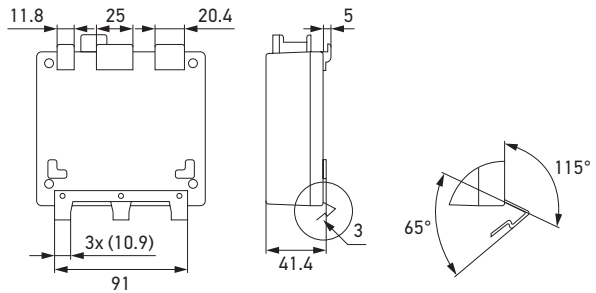


# TECHNICAL DETAILS

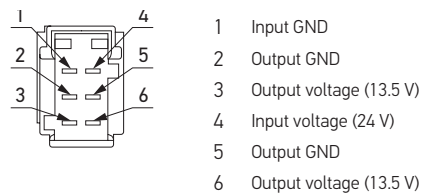
Technical data	
Input voltage	18 – 32 V
Output voltage	13.5 V
Max. power	up to 300 W
Functional Safety	QM
Data connection	N/A
Dimensions	115.5 mm (L) x 105.5 mm (W) x 41.4 mm (H) without mounting bracket
Weight	approx. 600 g
Working temperature	- 40°C to +75°C
Connector	6-pole Tyco right angle header 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