COLLECTIVE PRODUCT DATA SHEET AND SAFETY MANUAL

Distributor: B.A.M. Andrzej Borowicz | ul. Leśna 38, 86-031 Osielsko | www.bam24.pl **Product Group:** Electronic Voltage Converters – Automotive DC/DC Step-Down Reducers (24V to 12V)

PART I: COLLECTIVE TECHNICAL DATA SHEET

This data sheet identifies and describes the electrical and physical characteristics of the voltage reducers distributed by BAM24.PL. These devices are engineered to step down direct current (DC) voltage from a 24V grid (typical for heavy-duty commercial vehicles) to a stable 12V output required to power standard automotive accessories.

1. Technical Specification Comparison Matrix

Symbol (SKU)	Product Name / Model	Continuous Current	Max Current (Peak)	EAN Code	Weight
PRT006	Voltage Converter 24/12V – Reducer 6A DC/DC RED-6	2A	6A	5902315104822	1.25 kg
PRT012	Voltage Converter 24/12V – Reducer 10A DC-200	10A	17A	5902315105072	0.40 kg
PRT013	Voltage Converter 24/12V – Reducer 30A DC-400	30A	35A	5902315101314	0.60 kg
PRT014	Voltage Converter 24/12V – Reducer 15A DC-200 + Plug	10A / 15A	17A	5902315120686	0.50 kg
PRT016	Voltage Converter 24/12V – Reducer 16A DC/DC RED-16	4A	16A	5902315111622	0.35 kg
PRT019	Voltage Converter 24/12V – Reducer 15A DC-200-PRO	15A	17A	5902315101901	0.45 kg

Symbol (SKU)	Product Name / Model	Continuous Current	Max Current (Peak)	EAN Code	Weight
PRT038	Voltage Converter 24/12V – Reducer 40A DC-600	40A	50A	5902315108134	0.90 kg
PRT053	Voltage Converter 24/12V – Reducer 30A DC-400	30A	35A	5902315106581	0.60 kg
PRT084	Voltage Converter 24/12V – Reducer 60A DC-800	60A	70A	5902315125100	1.80 kg

2. Common Electrical and Operational Parameters

- **Input Voltage Range:** 20V – 30V DC
- **Output Voltage Range:** 12V – 14V DC
- **Optimal Operating Temperature:** 0°C to 40°C
- **Overvoltage Protection Threshold:** 30V – 33V
- **Undervoltage Protection Threshold:** 18V – 21V
- **Primary Intended Use:** Powering 12V onboard appliances such as portable car coolers, mini car vacuums, GPS navigations, CB radios, and parking heaters (Webasto) directly from the 24V electrical grid of heavy-duty trucks (TIR), buses, and construction machinery.

PART II: OCCUPATIONAL HEALTH AND SAFETY MANUAL (H&S)

1. General and Environmental Conditions

- The device must be operated strictly according to its intended design specifications as detailed in this product sheet.
- The installation location for the converter must be completely dry, moisture-free, and protected against direct weather exposure.
- The converter generates heat during regular operation. It is strictly forbidden to obstruct the housing ventilation slots or mount the device in small, unventilated cavities. Recommended

installation zones include under the dashboard, underneath the driver/passenger seat, or inside a factory glove compartment.

2. Safe Installation and Electrical Wiring

- Before commencing any wiring or electrical installation work, the main vehicle power supply must be disconnected (turn off the ignition or disconnect the battery terminals).
- Electrical wire polarity must be observed with utmost discipline:
    - **The Red wire** must be connected to the positive terminal `[+]` of the 24V power supply.
    - **The Black wire** must be connected to the vehicle chassis ground or negative terminal `[-]`.
- Reversing the connection polarity (swapping the positive and negative wires) will lead to catastrophic, irreversible damage to the internal electronics and creates an immediate fire or short-circuit hazard.
- Power cables must be adequately protected against mechanical abrasion from sharp vehicle metal chassis edges using appropriate conduit piping or rubber grommets.

3. Safe Operation and Field Maintenance

- It is strictly prohibited to connect appliances whose current demand (either nominal runtime or peak startup surge) exceeds the maximum peak current limit explicitly specified for each respective model. Electrical overloading will result in permanent failure of the internal power stage.
- The step-down converter should primarily be used while the vehicle engine is actively running to prevent deep discharge of the primary starting battery bank.
- In the event of any malfunction symptoms (e.g., strong burnt odor, excessive housing temperature, electric sparking, or loss of output voltage), immediately disconnect the device from its power source and return it to the distributor's authorized service center.
- Users are forbidden from executing independent repairs, altering the internal circuitry, or disassembling the product shell. Unauthorised tampering voids all warranty privileges and introduces a risk of DC electrical shock.