

SPACE DRIVE II Technical details

- Active Redundancy: triple safety and full motor performance even of a control circuit fails
- Variable interfaces (analog/digital) for connection of various input devices (CAN, LIN, FlexRay)
- Error recording in all processors (3-times per CPU)
- Enough pedal distance and force in all vehicles, even if the vehicle control circuit fails
- Permanent scanning of the component status
- Speed-dependent steering facilitates the same driving performance as with power assisted steering at high speeds
- Display menu in several languages available
- Error codes in clear discription
- Innovative modular system of control elements to match your individuality
- Optimal and best design to fit all vehicles
- Connection for driving school panel
- Different throttle curves are available
- Integrated Interface
- Passwort protected workshop menu
- Ergonomy, operability, flexibility and durability obtain a completely new perceived value
- Individually adaptable software package
- Made in Germany = fast spare parts delivery / high quality
- The SPACE DRIVE II technology conforms to all relevant standards and regulations in Europe
- More than 5.000 sold systems worldwide since 2001
- One-Klick-Support through our innovative completely new designed diagnostic tool
- ISO-Certified and ECE-R79 and ECE-R13 according SAE-Standard, EMC-safe to ECE-R10, functional safety according to ISO 26262 (ASIL D)

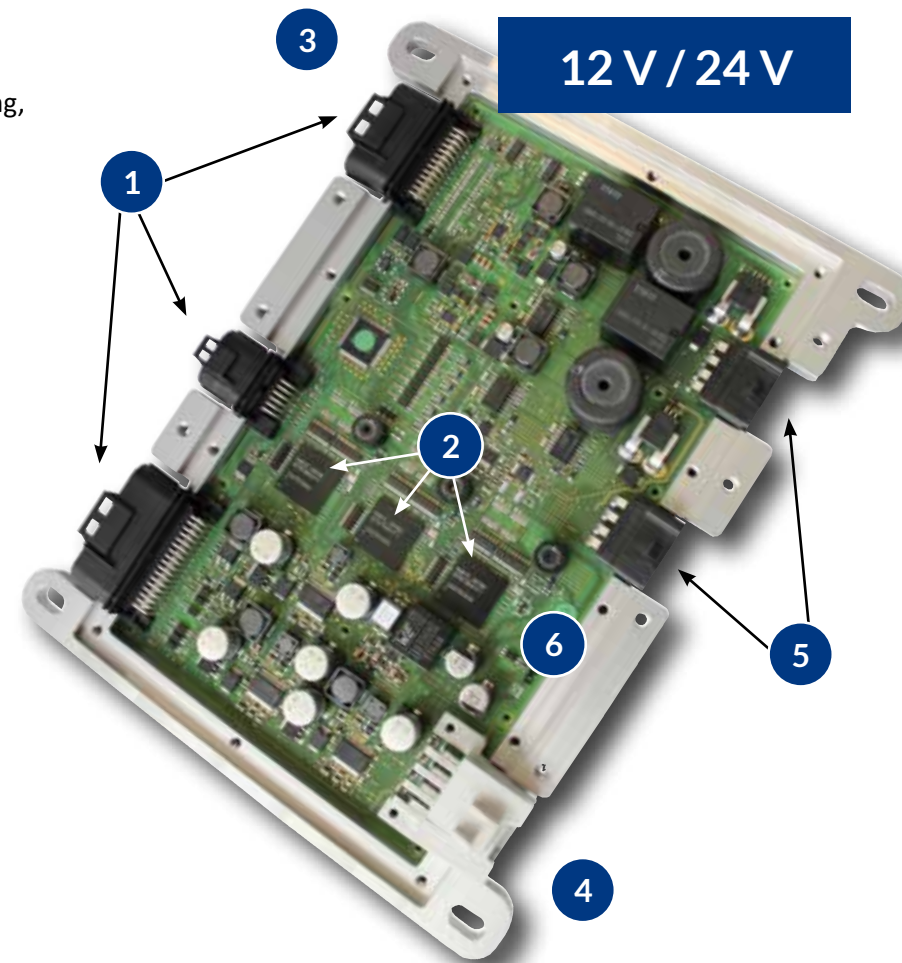
SPACE DRIVE II Operating specifications

Operating temperature	-40°C to +85°C
Storage temperature	-40°C to +125°C
Operating Voltage 12V DC	+10,5V dc to +15V dc
Operating voltage 24V DC	+22V dc to +32V dc
Typical power	ca. 7A per Modul per CPU
Languages	DE, EN, FR, IT, NL, ES,...
Max. load output	100 Amp

Cycle time	10 ms
Start time to ready	less 10 seconds
Digital I/O	8
Redundancy	3-times Redundancy
Diagnostic/ Car Interface	DTC pin / OBD-II
Max. Load	30A per Modul (defined) per CPU
BUS Systems	2x CAN, 2x FlexRay, 2x LIN

SPACE DRIVE II Drive Module

- 1 | Plugs**
 - encoded plug systems IP 65
 - protected against unintended loosening, pull and vibration
 - extended surrounding temperatures (-40 ° - 105 °)
- 2 | High performance processors**
 - 3x 128 MHz
 - Int. 992 kB Flash, 60 kB RAM, 32 kB Data flash
- 3 | Communication (analog/digital)**
 - 2x CAN BUS
 - 2x LIN BUS
 - 2x FlexRay
 - 3x analog input
 - 3x analog evaluation
- 4 | Redundant electric power supply**
 - Galvanically isolated
 - 2x VCC Bat1
 - 2x VCC Bat2
 - 4x GND
- 5 | Servo-Motor output**
 - per 4x 35Amp. Contacts
 - 30 Amp. permanent load
 - 60 Amp. peak load
- 6 | 10 Layer HW printed circuit board**
 - 100 Amp. performance



SPACE DRIVE II Conexion Kit



- Easy installation individually in several cars
- Fast installation - reduced workshop hours
- Perfect communication between car and system by CAN (Speed, Coil)
- Flexible, multiple shielded, very high quality cables
- Protected contacts and highest auto-motive standard
- Coded, no risk of confusion

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Read in the QR code
and go directly to the
product video:



SPACE
DRIVE II

Drive-by-wire
in a new dimension

SPACE DRIVE[®]II Technology -
a brand of PARAVAN Technology

SPACE
DRIVE II

The new PARAVAN Space Drive II - System

More safety, more power, more control - a totally new dimension of drive-by-wire. SPACE DRIVE II is a perfectly coordinated operation system including hard- and software with a revolutionary safety concept. The system can be adapted individually to different drive-by-wire applications in the handicapped sector. PARAVAN Space Drive II: more than 10 years of competence and experience in drive-by-wire technologies. For our innovative in-house developments we have received 50 national and international innovation awards!

The SPACE DRIVE II operation system is a three-step multiple redundant motor driver- and control system for all current electric motors (60 A / DC 12 / 24 V) in application areas with very high safety requirements. Dependent on the application area and the customer requests the system can be delivered in subcomponents and with especially coordinated software modules. All components are street-legal according to ECE-R13 and ECE-R79.



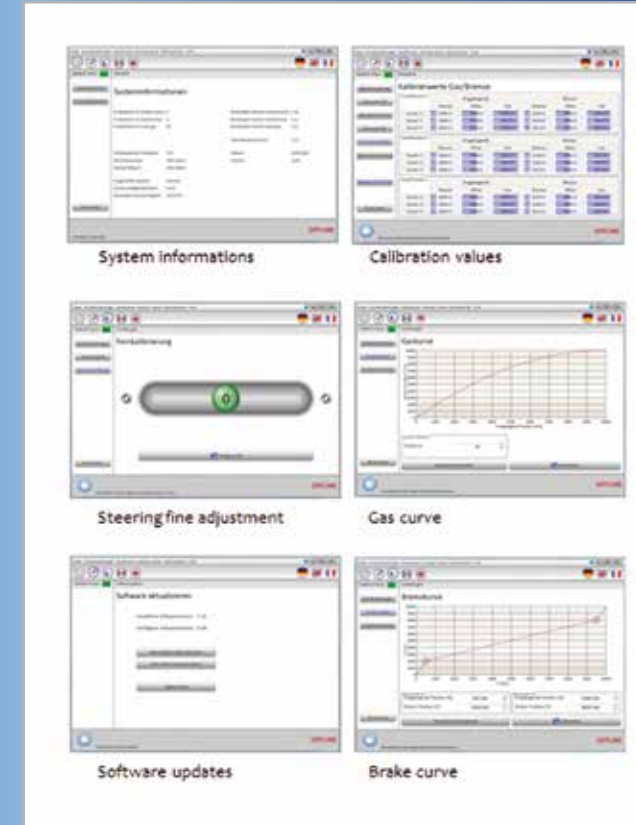
With a revolutionary new safety concept!



SPACE DRIVE II Diagnostic Tool

The new „Diagnostic Tester“ from PARAVAN opens up countless possibilities, such as using only two clicks, all system information will be sent by mail directly to the PARAVAN technology center and now the technicians and engineers have all relevant data for a professional assistance and system diagnostics!

- System status (current values, vehicle data) in real time
- Status display of the position sensors of the input devices and engines in real time
- Transferring parameters during operation (without rebooting the system)
- Fault memory entries with description and additional information
- One click support, data set of all settings and values via Email
- Automatic download of the latest software modules for uploading to the SPACE DRIVE controller
- Graphical support for parameter settings
- Fast diagnostic direct by dealer



SPACE DRIVE II Keyfacts

Safety: 3-times redundant control unit for safety based drive-by-wire/ steer-by-wire applications. The control tasks are executed parallel of three identical processors which supervise each other continuously. For this reason our system outreaches the highest safety requirements. A loss of the conventional steering column would be possible.

Communication: CAN, LIN, FlexRay (3 Amp. per Pin)

Environmental conditions: Robust achievement, environmental tested according to ISO 16750 – Part 5, especially for the application area of mobility.

Extendable: Up to 40 control units are scalable with each other

Connection with own hardware: customer specific extensions are possible - as well for software as for hardware

High driving power: Controlling and regulating up to 100 A at +85°C surrounding temperature

Modular system design: CPU and software, input devices, high performance servomotor, safety cable looms, removal systems

Individual Software Packages!



SPACE DRIVE II Single System



SPACE DRIVE II Dual System

