swoboda
technologies

SWOBODA EVENT DATA RECORDER
FOR BUSSES AND HEAVY DUTY VEHICLES

The Swoboda EDR is suitable to detect & record important safety relevant data.

INTRODUCTION

The Swoboda Event Data Recorder (EDR) is an autonomous system designed for recording of mechanical impacts and shock events according to european regulation. This black box solution operates without the need for specialized knowledge and is completely maintenance-free.
It is optimized for a smooth homologation process and is scalable for both low- and high-volume production.

ADVANTAGES

- Fulfils UNECE R169 for heavy duty vehicles class N3 and M3
- SAE J1939 compliant
- Easy to integrate
- Cybersecurity features
- Firmware update via protected USB
- Data export into csv file
- Designed & manufactured by the european market leader of crash data recorder

FEATURES & BENEFITS

- Built in acceleration and gyro sensor with high accuracy
- Logging of external acceleration/gyro sensors
- Easy integration in CAN networks, also for proprietary messages
- Cybersecurity features by hardware key management system
- Small package size & extremely robust design with a high-quality reinforced pocket housing
- Data export for import into 3rd party software
- Operation temperature: -40 °C to +85 °C
- Protection class: IP54 (optional IP67), resistant to splash water, oil and dust
- Supply voltage: 12 V / 24 V DC (min. 8.5 V / max. 30 V)
- Current consumption: typ. 50 mA @ 24V DC; standby < 350 µA
- Reverse polarity and ESD protection
- 2x CAN (optional: LIN, RS232, 4x I/O, GNSS)
- Nonvolatile record data storage
- Battery buffered Real-Time-Clock
- Green technology: unique intelligent energy saving system

APPLICATION AREAS

- Busses
- Heavy duty trucks
- Construction machineries

Any questions about this product?
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OPERATING CHARACTERISTICS & PROPERTIES

GENERAL	REMARKS
Standards	UNECE R169 Regulation 2024/2220 article 2,3,4,5 UNECE R10 SAE J1939 -31, -71, -73 UNECE R155 on component level UNECE R156 on component level ISO 21434 on component level
Cybersecurity	Communication is protected by a hardware management key system Firmware update over USB is protected both mechanically and by software The enclosure is sealed with a tamper seal
Protection class	IP54 (optional IP67)
Temperature range	-40 °C to +85 °C (non-condensing, operation and storage)
Housing material	PC/ABS
Weight	165 g ± 5 g
Mechancial dimensions	33 mm x 80 mm x 119 mm (height x width x length)
Mechancial connector	System: JAE MX23A18NF1 Service: Neltron 120508

ELECTRONIC	REMARKS
Supply voltage:	12 V DC / 24 V DC (min. 8.5 V / max. 30 V)
Current consumption:	Active mode: typ. 50 mA @ 24V DC Standby mode: < 350 µA
Polarity protection:	Yes
3D high resolution acceleration sensor:	Measuring range: ±16 *g* Data resolution: 0.244 m*g*
3D high impact acceleration sensor:	Measuring range: ± 200 *g* Data resolution: 49 m*g*
3D gyroscope sensor:	Measuring range: ± 500 °/s Data resolution: 0.0175 °/s
CPU:	32-bit ARM core processor
Real time module:	Battery buffered, integrated, temperature compensated real-time clock (RTC)
Internal memory:	4 MB flash memory
Status notification:	2 LEDs (green & red)
Communication interface:	2x CAN; optional: LIN, RS232
CAN-Bus:	2x independent CAN buses with wakeup function Baudrate: up to 1MBaud
Service interface:	Protected USB high speed interface