RELAYS FOR VEHICLES

Product overview

E-T-A
ENGINEERING TECHNOLOGY

YOUR STRONG PARTNER

for on-board electrical systems in vehicles

You are looking for classic or innovative switchgear for your vehicles? Switch your loads reliably and efficiently with electronic, hybrid or mechanical relays. E-T-A products make your vehicles safer and more reliable and help save installation space and increase efficiency - always a step ahead of the state-of-the-art.

INCREASED UPTIME

Nuisance vehicle downtimes are the worst case in a professional environment. They cause time losses and extra costs. Our robust and fail-safe products increase your vehicle uptime. Our electronic, hybrid or mechanical relays allow wear-free or low-wear switching for the entire service life of your vehicles.

INCREASED EFFICIENCY

An increasing number of loads in vehicles require more installation space and power. E-T-A's compact relays and power distribution systems help save space and reduce wiring efforts.

RELIABILITY IN EXTREME SITUATIONS

Thanks to their robust design, our products provide safety even under extreme environmental influences such as shock and vibration.


E-T-A

SOLID STATE RELAYS WITH OR WITHOUT SPECIAL FUNCTIONS

Fast and wear-free switching

Electronic solid state relays are highly attractive due to their long typical life, silent switching and robustness against environmental influences.

The electronic solid state relay portfolio is used in all applications where mechanical relays soon reach their limits. They combine high-end power semi-conductors with comprehensive know-how in the areas of heat management, EMC-compliant design and overcurrent protection. The solid state relay electronics switch wear-free, silently and extremely fast. This is how it guarantees full operational readiness for the entire vehicle service life.

The ESR10 product group particularly features reliable switching and compact design. By including a microcontroller, further functions are activated for the ETR10 and EXR10 product groups, e.g. overcurrent and short circuit protection, undervoltage detection, wire break detection, current measurement, ON-/OFF delay. You can conveniently select the required functions in our online relay configurator. E-T-A solid state relays are available for DC 12 V and DC 24 V applications and are specifically suitable for applications in buses, trucks, agricultural and construction machinery, specialty vehicles and passenger cars.

TYPICAL APPLICATIONS

- Passenger cars
- Trucks
- Buses
- Construction machinery
- Agricultural vehicles and forestry equipment
- Specialty vehicles
- Boats

YOUR BENEFITS

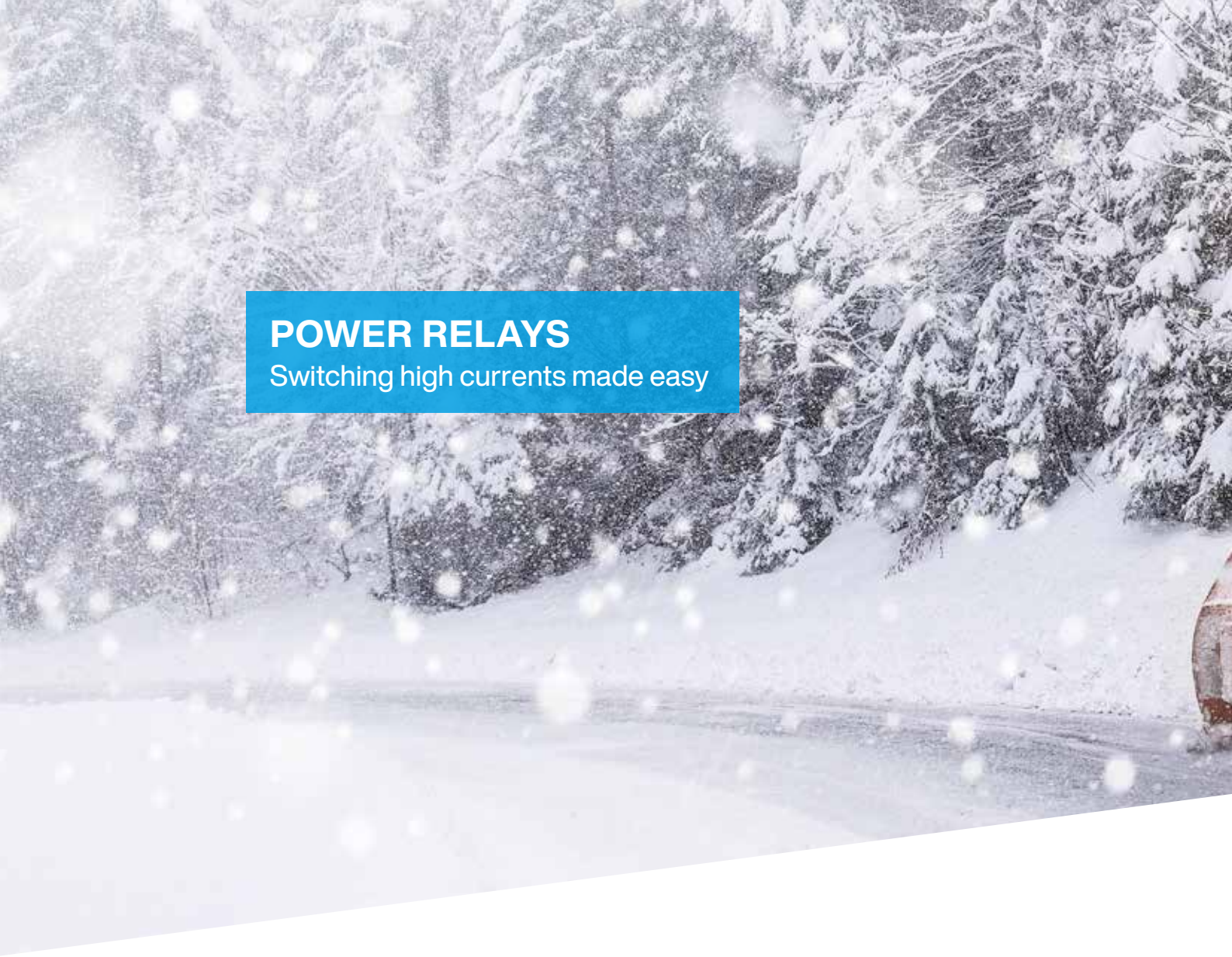
- **Full operational readiness** for the entire vehicle service life through wear-free switching
- **Flexible use** of the devices through extraordinary robustness against environmental influences such as dust, humidity and vibration
- **Easy integration** of additional functions such as overcurrent protection, timer functions or voltage monitoring

ESR10 Electronic standard relay in micro design

ETR10 Electronic timer relay with overcurrent protection

EXR10 Electronic multifunctional relay with or without overcurrent protection

Configure the optional hardware and relay functions for your solid state relays.



POWER RELAYS

Switching high currents made easy

E-T-A's power relays are perfectly suitable for utility and specialty vehicles where reliability and operational safety play an important role.

Our power relay portfolio for utility and specialty vehicles ranges from the electro-mechanical MPR10 and MPR20 power relays to the hybrid HPR10 power relays up to the electronic EPR10 power relays. These innovative products provide real added value and are increasingly being used for switching high current loads and disconnecting the battery from the on-board electrical system. E-T-A's power relays are well-proven and highly economic solutions for many challenges in the application range of protecting, switching and controlling.

YOUR BENEFITS

- Improved CO2 emission values through reduced holding capacity
- Increased operational readiness for the entire service life through compact, robust, water- and dust-proof design
- Increased space savings through a specifically compact design

TYPICAL APPLICATIONS

- Buses
- Trucks
- Construction machinery
- Agricultural vehicles and forestry equipment
- Specialty vehicles

MPR10 With HDSCS plug

MPR10 Bistable power relay

MPR20 Monostable power relay

HPR10 Hybrid power relays

EPR10 Electronic power relay

HIGH-VOLTAGE RELAYS

for the electrified power train

The HVR10 is based on a hybrid switching concept and combines the benefits of physical isolation with the performance of semi-conductors.

It combines physical isolation of an electro-mechanical contact with the performance of state-of-the-art semi-conductor technology. The hybrid switching system provides arc-free switching and allows repeated and reliable disconnection in the event of an overload of up to 2 megawatts (2,000 A / 1,000 V).

The device can handle higher short circuit currents up to 5,000 A until the fast high-voltage fuse trips. The fist-sized device can switch and permanently carry 300 A up to 100,000 times, arc-free and wear-free. The innovative self-monitoring function immediately signals critical operating conditions to the control unit.

TYPICAL APPLICATIONS

- Buses, trucks, construction machinery and specialty vehicles with electrical power train
- Charging stations, energy storages and main relays in the vehicle

YOUR BENEFITS

- **Reliable disconnection** even in critical situations up to 2,000 A at 1,000 V
- **High protection** of the on-board electrical system through integral error detection and indication
- **Long typical life** through arc-free switching

High performance in a compact design

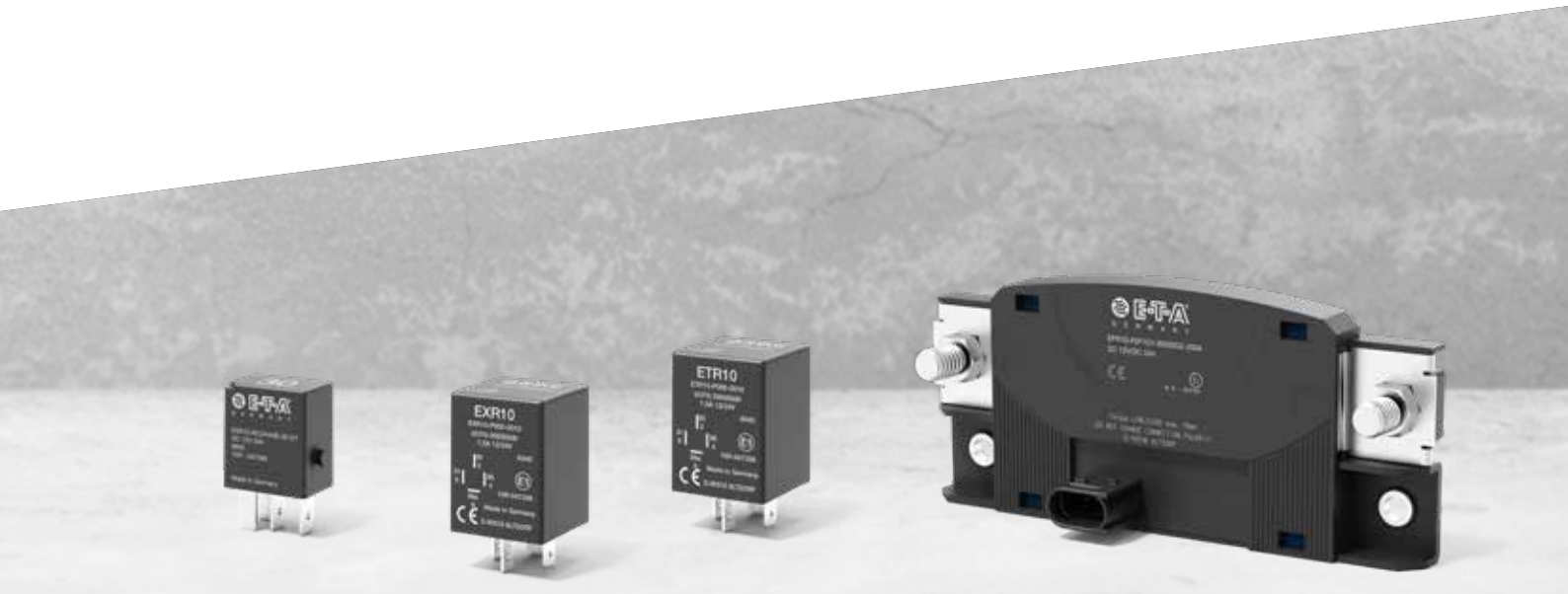
Overcurrent protection

Arc suppression

TECHNICAL DATA

Power and high voltage relays

	ESR10	EXR10	ETR10
			
Rated voltage	12 V/24 V	12 V/24 V	12 V/24 V
Continuous current	10A, 17A, 30A	1 A, 2 A, 3 A, 5 A, 7.5 A, 10 A	1 A, 2 A, 3 A, 5 A, 7.5 A, 10 A
Contact system	electronic	electronic	electronic
Terminal	ISO 7588 MICRO	ISO 7588 MINI	ISO 7588 MINI
Design	Cubic enclosure 22.8 x 15.4 x 26 mm (without clamping arm)	Cubic enclosure 30 x 30 x 40 mm	Cubic enclosure 30 x 30 x 40 mm
Features	Solid state relay in MICRO design	Electronic special relay with diagnosis and overcurrent protection function	Electronic timer relay with customer-specific configuration



EPR10	HPR10	MPR10	MPR20	HVR10
				
12 V/24 V	12 V, 24 V, 48 V	12 V, 24 V, 48 V	12 V, 24 V, 48 V	900 V
50 A, 75 A, 100 A, 125 A, 150 A, 175 A, 200 A	100 A, 200 A, 300 A	100 A, 200 A, 300 A	100 A, 200 A, 300 A	300 A
electronic	mechanical	mechanical	mechanical	hybrid
Studs	Studs HDSCS plug	Studs HDSCS plug	Studs HDSCS plug	Studs
Flat module enclosure	Cylindrical enclosure	Cylindrical enclosure	Cylindrical enclosure	Cubic enclosure
Electronic power relay with optional over-current detection and disconnection	Electronic power relay with customer-specific software for harsh operating conditions	Bistable mechanical power relay for harsh operating conditions	Monostable mechanical power relay for harsh operating conditions	Powerful and compact 900 V high voltage relay with arc suppression

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