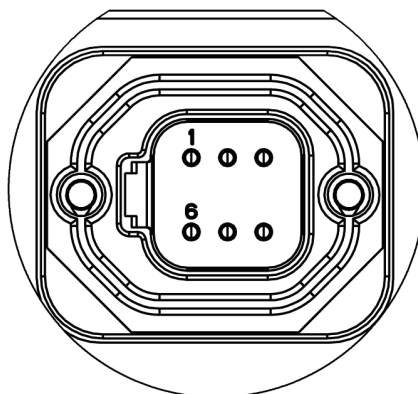


mounting direction



view of plug

DESCRIPTION

The Solid state Relais SSR 150 A CAN is intended for use in vehicles and machines with an on-board system voltage of 12 volts and 24 volts. It is used, for example, for switching of high loads such as a heating element.

TECHNICAL DATA

Housing	heat sink: Anodized aluminum
Connector	DT15-6P
Bolt	M8 (KL30 connection) M6 (load output)
Weight	420 g
Temperature range (ISO 16750-4 compliant)	-40 °C to +85 °C
Environmental Protection	According to ISO 20653:2013 IPX8 in the correct installation position (see mounting direction)
Current consumption (approval pin low active)	45 ± 5 mA at 24 V 35 ± 5 mA at 12 V
Quiescent current	21 µA (at 24 V), 27 µA (at 12 V)
Over-current protection	1 A + Load
Total Inputs and outputs	2 (1 digital input, 1 PWM output)
Input	1 digital input (approval)
Outputs	Configurable as: Digital, positive switching PWM output
Operating voltage	9 to 32 V (Code B at 12 V, Code E at 24 V acc. to ISO 16750-2)
Overvoltage protection	≥ 33 V
Reverse polarity protection	Yes
CAN interface	ISO 11898-2 and ISO 11898-5 capable CAN bus transceiver

REGULATORY APPROVALS AND TESTING

E1 approval	in preparation
Electrical tests	Acc. to ISO 16750 – 2 resp. -4: Short circuit protection Operation Test at Tmin and Tmax Storage Test at Tmax Starting Profile Test B (Load Dump, Ri=7Ω)
	Acc. To ISO 16750-3: Test VII Commercial vehicle, sprung mas- ses (acc. to IEC 60068-2,64) Test for devices on rigid points on the body and on the frame (mechanical shock acc. to IEC 60068-2,27)
	Acc. to ISO 7637-2:2004: Pulse 1, 2a, 2b, 3a, 3b
	Acc. to ISO 10605:2008: Component immunity (± 15kV) Component packaging and handling (± 15kV)

INPUT FEATURES - SUMMARY

Pin 2	Digital input	
	Resolution	1 Bit
Digital input low active (see A)	Input resistance	35 k Ω
	Turn-on threshold	3.8 V
	Turn-off threshold	5.9 V

OUTPUT FEATURES - SUMMARY

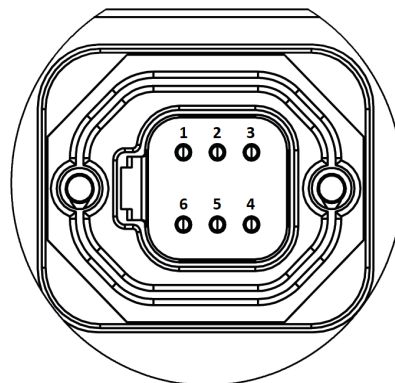
M6 bolt	Protective circuit for inductive loads	Integrated
	Short circuit diagnostics	Possible DTC Signal
PWM output (see B)	Output frequency	50 \pm 0.5 Hz
	Duty-Cycle	0-100 %
	max. switching current (peak)	120 A at Tmax 200 A at Troom
	accuracy INA current sense (peak current feedback)	<50 A \pm 25 % \geq 50-100 A \pm 10 %
	accuracy Vout voltage sense	>100 A \pm 6 %
Short circuit resistance against GND and V _s	Switching-off is controlled by software/hardware	

PIN ASSIGNMENT POWER SUPPLY AND INTERFACES

Pin	Description	Pin	Description
1	Contact 15 / ignition	4	CAN - L
3	CAN - H	5	Ground
		6	not connected

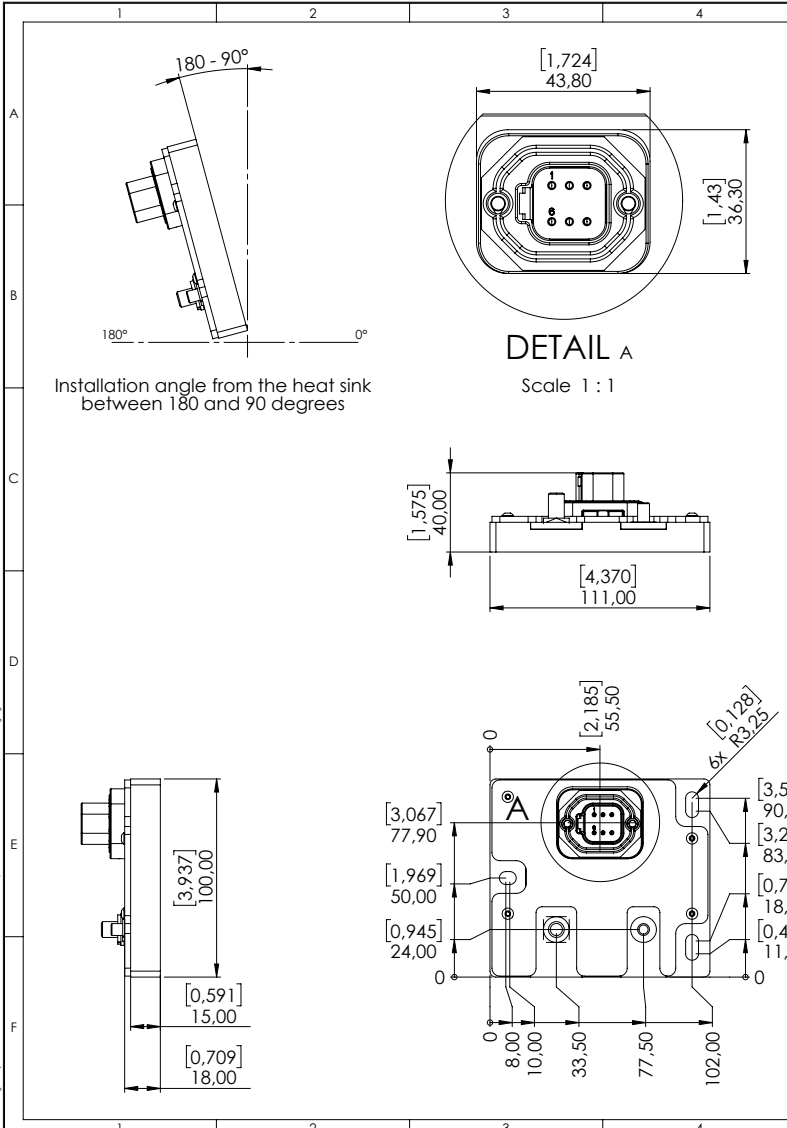
PIN ASSIGNMENT INPUTS AND OUTPUTS

Pin	Signal	Description
2	DI_APPROVAL	Digital input



view of plug

MECHANICAL DATA AND INSTALLATION INSTRUCTIONS



DETAIL A
Scale 1 : 1

Installation Instruction:

- 3 x M6x25mm screws ISO 4017 8.8
- Appropriate washer must be used

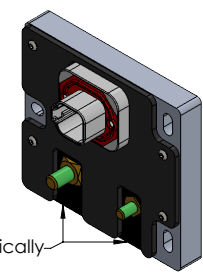
Properties	Values	Unit	Additional Information
Tightening torque of M6	10	Nm	± 10%

Connection Instruction:



Properties	Values	Unit	Tol.
Tightening torque of KL30 [M8]	9	Nm	± 2%
Tightening torque of OUT [M6]	3,9	Nm	± 2%
Minimum cable diameter	16	mm ²	-
Maximum cable diameter	25	mm ²	-

Pin Configuration:

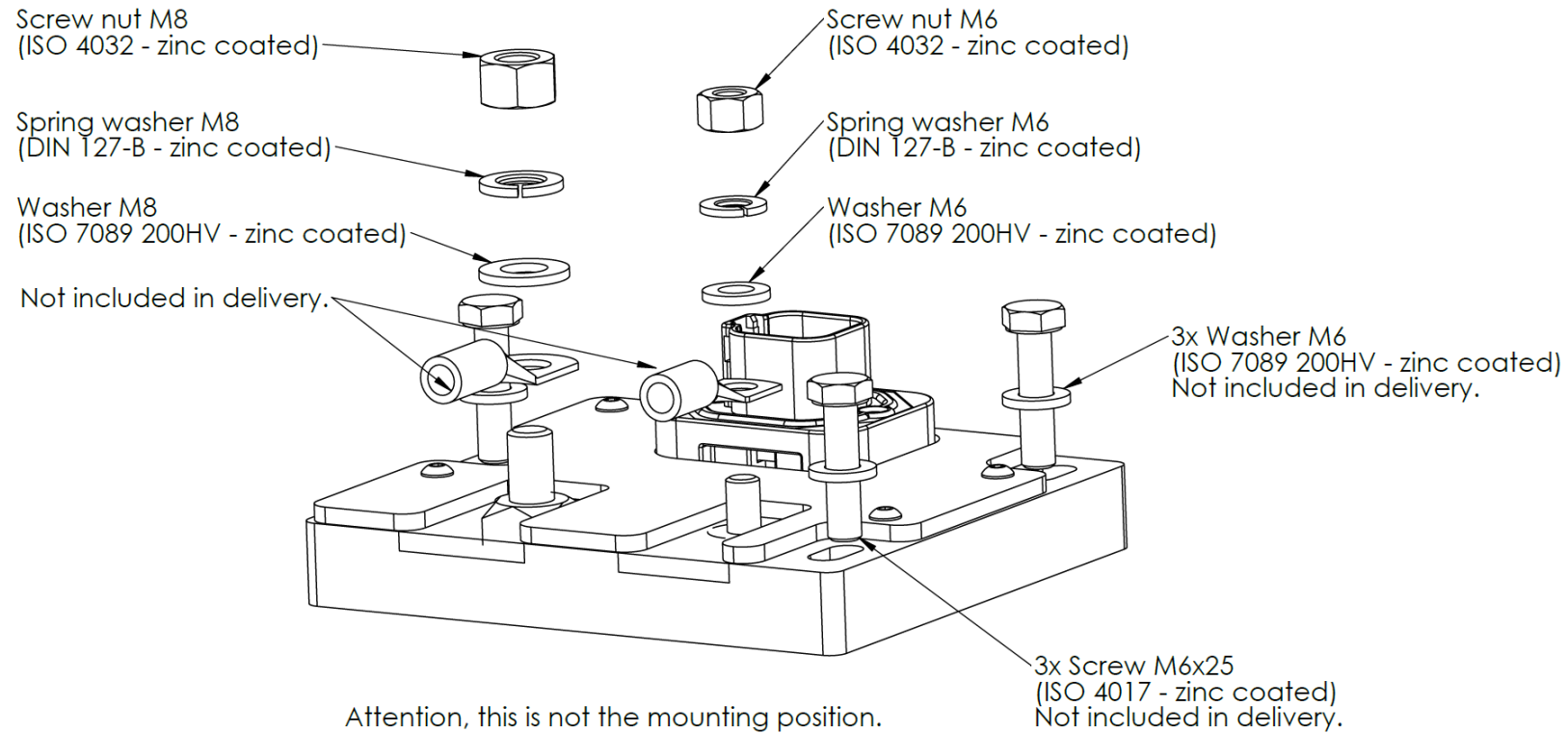
Pin	Signal
1	KL15
2	DI approval
3	CAN_H
4	CAN_L
5	KL31
6	Not connected



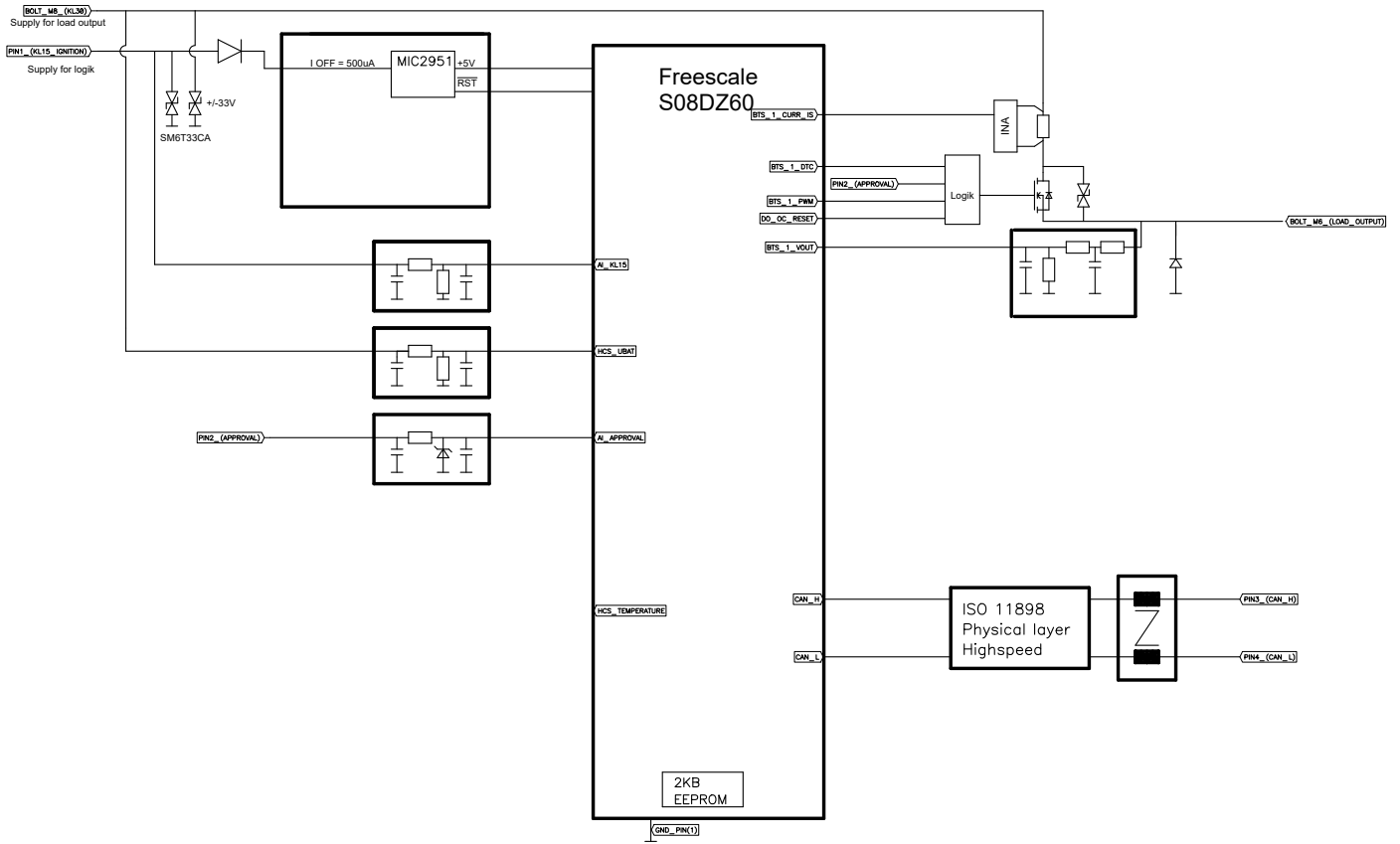
Place cable lug vertically

	MRS Electronic GmbH & Co. KG www.mrs-electronic.de		Allgemeintoleranzen DIN ISO 2768-m (mittel)		Rohabmessung: 100 x 111mm Werkstoff: - Gewicht (g): 495,5 Gewogen (g): 510,5
	Erstellt	02.06.2023	Datum	Name	P.Fehrenbacher
	Gepr.	09.01.2024	Datum	Name	T. Schulz
	Freig.	09.01.2024	Datum	Name	P.Fehrenbacher
Bemerkung:					Solid State Relay SSR 150A
Artikelnummer:	301489	Status	Freigegeben	Format	A3
302182	1:2	Maßstab	Blatt / von	1 / 3	
Identnummer:		1:2	Blatt / von	1 / 3	

MECHANICAL DATA AND INSTALLATION INSTRUCTIONS



BLOCK FUNCTION DIAGRAM



ASSEMBLY OPTIONS AND ORDER INFORMATION

	Inputs	Outputs	Serial Interface	Wake-up source	Remarks
	A DI_APPROVAL	B Output	CAN Bus high speed		
1.170.300.0000	2	M6 Bolt	3, 4	KL15, CAN	-

ACCESSORIES

Description	Order number
Connector bundle SSR150	302335

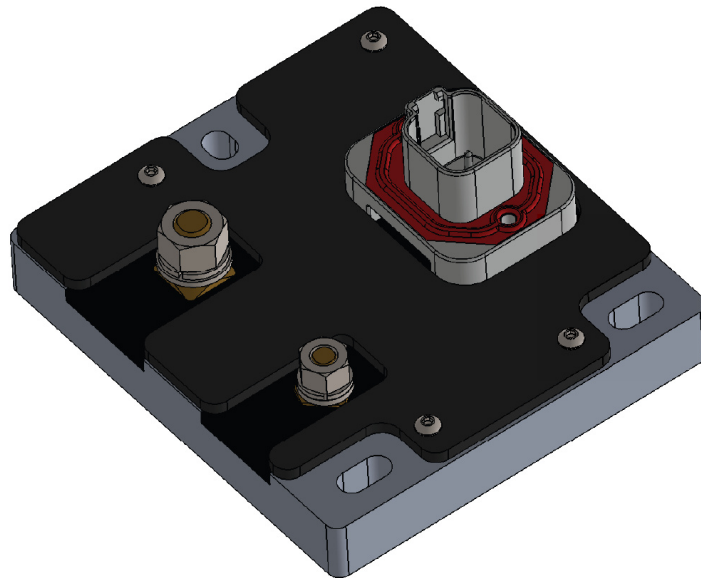


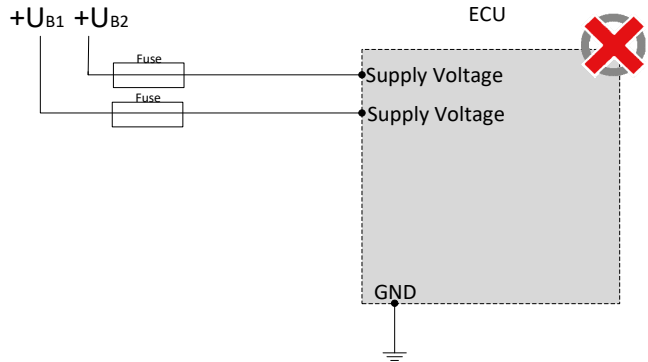
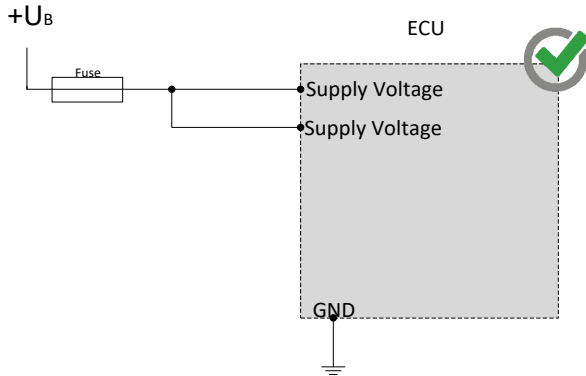
Image similar

MANUFACTURER

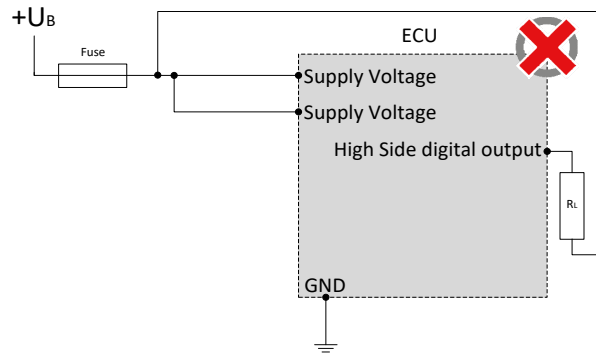
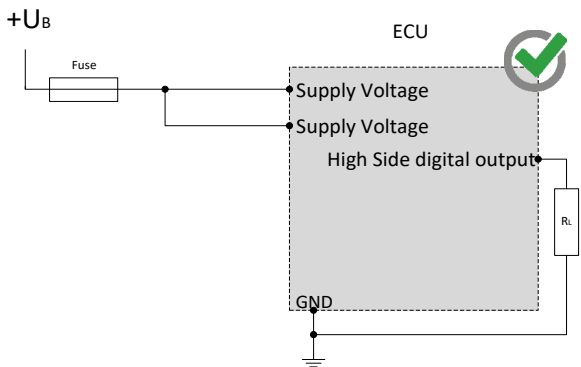
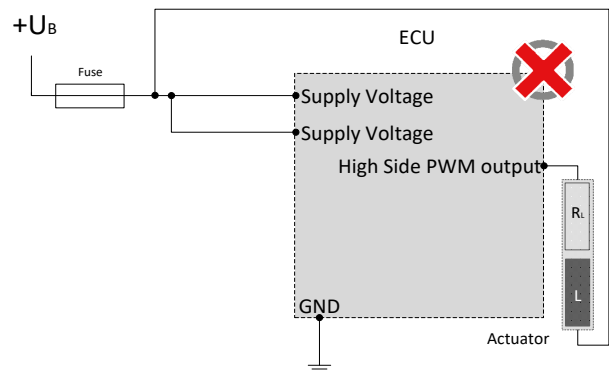
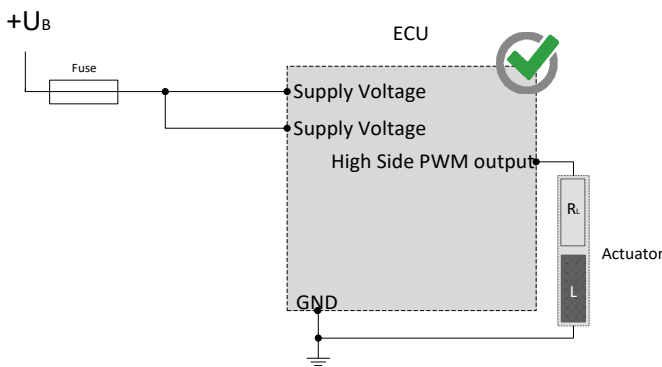
MRS Electronic GmbH & Co. KG
Klaus-Gutsch-Str. 7
78628 Rottweil
Germany

NOTES ON WIRING AND CABLE ROUTING

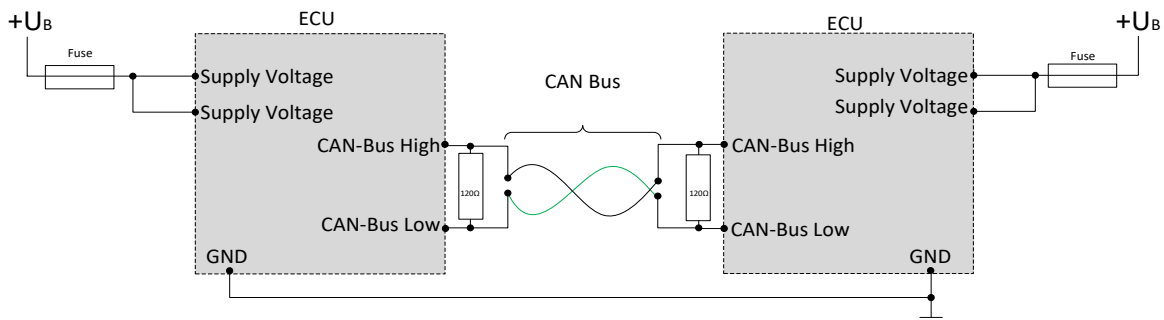
The electronic system and the power outputs of a control unit must be supplied by the same power supply system.



Hightside outputs may only be switched to ground.



CAN bus communication is the main communication between the control unit and the vehicle. Therefore, connect the CAN bus with special care and check the correct communication with the vehicle to avoid undesired behavior.



SAFETY AND INSTALLATION INFORMATION

It is essential to read the instructions in full thoroughly before working with the device.

Please note and comply with the instructions in the operating instructions and the information in the device data sheet, see www.mrs-electronic.de

Staff qualification: Only staff with the appropriate qualifications may work on this device or in its proximity.

SAFETY



WARNING! Danger as a result of a malfunction of the entire system.

Unforeseen reactions or malfunctions of the entire system may jeopardise the safety of people or the machine.

- Ensure that the device is equipped with the correct software and that the wiring and settings on the hardware are appropriate.



WARNING! Danger as a result of unprotected moving components.

Unforeseen dangers may occur from the entire system when putting the device into operation and maintaining it.

- Switch the entire system off before carrying out any work and prevent it from unintentionally switching back on.
- Before putting the device into operation, ensure that the entire system and parts of the system are safe.
- The device should never be connected or separated under load or voltage.



CAUTION! Risk of burns from the housing.

The temperature of the device housing may be elevated.

- Do not touch the housing and let all system components cool before working on the system.

PROPER USE

The device is used to control or switch one or more electrical systems or sub-systems in motor vehicles and machines and may only be used for this purpose. The device may only be used in an industrial setting.



WARNING! Danger caused by incorrect use.

The device is only intended for use in motor vehicles and machines.

- Use in safety-related system parts for personal protection is not permitted.
- Do not use the device in areas where there is a risk of explosion.

Correct use:

- operating the device within the operating areas specified and approved in the associated data sheet.
- strict compliance with these instructions and no other actions which may jeopardise the safety of individuals or the functionality of the device.

Obligations of the manufacturer of entire systems

It is necessary to ensure that only functional devices are used. If devices fail or malfunction, they must be replaced immediately.

System developments, installation and the putting into operation of electrical systems may only be carried out by trained and experienced staff who are sufficiently familiar with the handling of the components used and the entire system.

It is necessary to ensure that the wiring and programming of the device does not lead to safety-related malfunctions of the entire system in the event of a failure or a malfunction. System behaviour of this type can lead to a danger to life or high levels of material damage.

The manufacturer of the entire system is responsible for the correct connection of the entire periphery (e.g. cable cross sections, correct selection/connection of sensors/actuators).

Opening the device, making changes to the device and carrying out repairs are all prohibited. Changes or repairs made to the cabling can lead to dangerous malfunctions. Repairs may only be carried out by MRS.

Installation

The installation location must be selected so the device is exposed to as low a mechanical and thermal load as possible. The device may not be exposed to any chemical loads.

Install the device in such a manner that the plugs point downwards. This means condensation can flow off the device. Single seals on the cables/leads must be used to ensure that no water gets into the device.

Putting into operation

The device may only be put into operation by qualified staff. This may only occur when the status of the entire system corresponds to the applicable guidelines and regulations.

FAULT CORRECTION AND MAINTENANCE



NOTE The device is maintenance-free and may not be opened.

- If the device has damage to the housing, latches, seals or flat plugs, it must be taken out of operation.

Fault correction and cleaning work may only be carried out with the power turned off. Remove the device to correct faults and to clean it.

Check the integrity of the housing and all flat plugs, connections and pins for mechanical damage, damage caused by overheating, insulation damage and corrosion. In the event of faulty switching, check the software, switches and settings.

Do not clean the device with high pressure cleaners or steam jets. Do not use aggressive solvents or abrasive substances.