



■ Transportation Solutions

# Relay modules with positively driven contacts

Product Portfolio

**IRIS**  
*Certification*

**LTZE**   
TRANSPORTATION

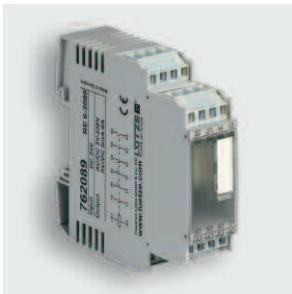
# Relay modules with positively driven contacts

## Design Minicompat



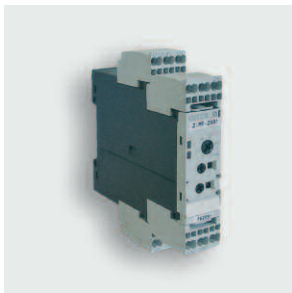
Width	Terminals	Contacts	Switching Current	Contact mounting*	DC 24V	DC 36V	DC 72V	DC 96V	DC 110V
22.5 mm	spring	2	5mA – 5A	1NO/1NC	731754	•	•	•	•

## Design Microcompact - Housing material in compliance with class I2 / F2 acc. to NFF 16 102



Width	Terminals	Contacts	Switching Current	Contact mounting*	DC 24V	DC 36V	DC 72V	DC 96V	DC 110V
22.5 mm	spring	6	5mA – 6A	4NO/2NC	762089	762095	814009.0072	•	762090

## Design Timing relay



Width	Terminals	Contacts	Switching Current	Contact mounting**	DC 24V	DC 36V	DC 72V	DC 96V	DC 110V
22.5 mm	spring	1	5mA – 3A	2CO	762091	(extended voltage range power supply DC 24 – 110 V)			

- Available on request  
Temperature range: -40 °C to +70 °C (Class T3 according to EN 50155)
- \* Positively driven contacts according to EN 50205 application type A
- \*\* Positively driven contacts according to EN 50205 application type B

## A very safe family.

Relays with positively driven contacts are used in safety-related applications for the isolation of different voltage potentials. A complete family with relays for railway applications is available for this application case.

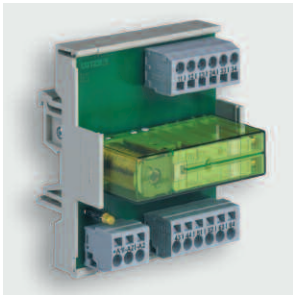
The relays meet the EN 50205, IEC/EN 60255 und IEC 60664-1 standards and are thus ideal for safety-relevant applications. Typical areas of application include door control, vehicle coupling, as well as driver's safety devices (DSD) and other ATP functions related to the power and raking controllers. The modules can also be employed for the emergency braking override.

To address the different areas of activity, the relays can be supplied with from 2 sets of contacts (1NO/1NC) up to 8 sets (7NO/1NC). The contact sets are positively driven and thus offer maximum safety. All creepage distances and clearances are designed as  $\geq 5.5\text{mm}$  and so offer substantially improved isolation.

The modules further demonstrate their suitability for use on rail vehicles thanks to their cage clamp terminals as well as the wide variety of operating voltages available; they can be ordered in all common voltages from DC 24 V to DC 110 V. The comprehensive standard range is supplemented by special versions, customised on request.

# Relay modules with positively driven contacts

## Design Varioprint 65 mm



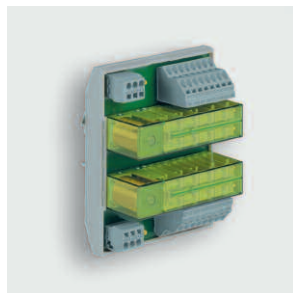
Width	Terminals	Contacts	Switching Current	Contact mounting*	DC 24V	DC 36V	DC 72V	DC 96V	DC 110V
Varioprint 65 mm	spring	6	5mA – 6A	3NO/3NC	•	•	•	•	•
	spring	6	5mA – 6A	4NO/2NC	716300	•	•	•	716301
	spring	6	5mA – 6A	5NO/1NC	•	•	•	•	•

## Design Varioprint 90 mm



Width	Terminals	Contacts	Switching Current	Contact mounting*	DC 24V	DC 36V	DC 72V	DC 96V	DC 110V
Varioprint 90 mm	spring	8	5mA – 6A	2NO/6NC	•	•	•	•	•
	spring	8	5mA – 6A	3NO/5NC	•	•	•	•	•
	spring	8	5mA – 6A	4NO/4NC	•	•	•	•	•
	spring	8	5mA – 6A	5NO/3NC	716302	•	•	•	716303
	spring	8	5mA – 6A	6NO/2NC	•	•	•	•	•
	spring	8	5mA – 6A	7NO/1NC	716307	•	•	•	•

## Design Varioprint 92 mm



Width	Terminals	Contacts	Switching Current	Contact mounting*	DC 24V	DC 36V	DC 72V	DC 96V	DC 110V
Varioprint 92 mm	spring	2x8	5mA – 6A	2NO/6NC	716375	•	•	•	•
	spring	2x8	5mA – 6A	3NO/5NC	•	•	•	•	•
	spring	2x8	5mA – 6A	4NO/4NC	716306	•	•	•	716305
	spring	2x8	5mA – 6A	5NO/3NC	•	•	•	•	•
	spring	2x8	5mA – 6A	6NO/2NC	•	•	•	•	•
	spring	2x8	5mA – 6A	7NO/1NC	•	•	•	•	814007.0110

- Available on request  
Temperature range: -40 °C to +70 °C (Class T according to EN 50155)
- \* Positively driven contacts according to EN 50205 application type A

## Requirements of relay modules with positively driven contacts

Relays with positively driven contacts are used in safety-related applications for the galvanic isolation of different voltage potentials. Self-monitoring systems can be realized with these relays. According to the European standard EN50205, a relay with forcibly guided contact consists of at least one opener and one closer. Opener and closer may never be closed at the same time over the entire service life. In the event of a fault, the contact distance must

amount to at least 0.5 mm. Higher standards are additionally placed on the isolation values. The contamination level 2 is thus defined for relays with positively driven contacts. With contact spring assemblies and other conducting parts in the relay, it must be ensured that in the event of breakage or separation of such parts that no short circuit or electrical connection can result from this.

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