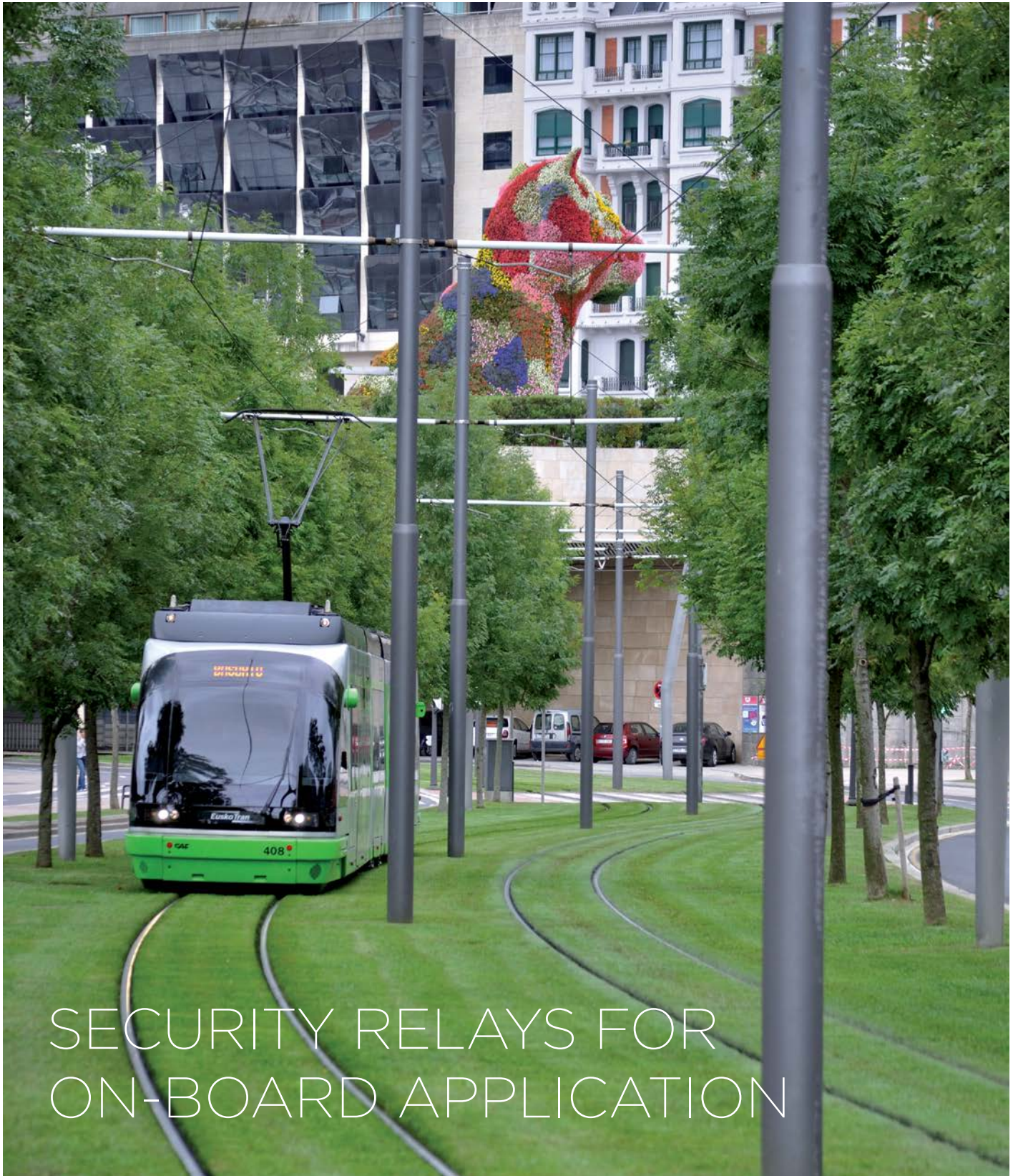


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SECURITY RELAYS FOR
ON-BOARD APPLICATION



Moving together

ANSWERS FOR RAILWAY APPLICATIONS

ARTECHE auxiliary relays guarantee the best features and complete security even in the hardest working environment.

The FF range has been designed to fulfil the most demanding requirements in the railway industry in regards to low duty loads, fire and smoke, etc.

Their design, durability and quality make them suitable for high responsibility controls in the railway sector, highlighting: Interface between infrastructure and rolling stock:

ROLLING STOCK:

- › Boarding doors locking.
- › Brake circuit command.
- › Security loop.
- › Pantograph control.
- › Lighting and air conditioned systems operation.
- › Traction system.
- › Brake systems.

INTERLOCKING AND SIGNALLING: ROLLING STOCK:

- › ASFA systems.
- › RTMC systems.
- › RTMS systems.
- › CBTC systems.
- › ETCS systems.
- › ATO/ATP/ATS/APR... systems.



GENERAL CHARACTERISTICS

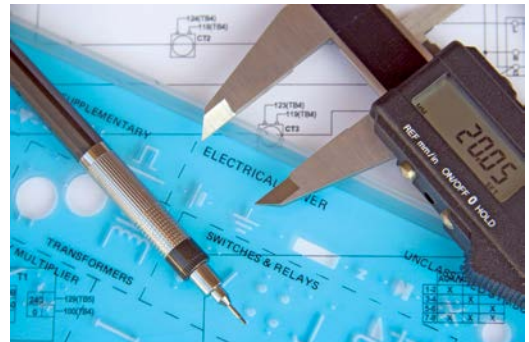
The main features of ARTECHE's auxiliary relays are the following:

- › Security contacts, WELD NO TRANSFER (EN 50205 Standard).
- › NO WELD contacts (NF F 70-031 Standard).
- › Security applications: they can be used in applications up to SIL 4.
- › Capable to operate under low duty loads, activate digital inputs, and operate without any load.
- › Self-cleaning contacts.
- › Extended voltage range. Designed to allow continuous operation even in high ambient temperature, within the whole voltage range.
- › Temperature range from -40°C to +70°C.
- › High level of electrical insulation between input and output circuits.
- › High degree of protection (IP40), with transparent cover, making them suitable for use in salty and tropical atmospheres.
- › Capable to work under ambients with relative humidity around 100%.
- › Simplicity of installation (plug-in relays in a wide range of sockets with different installation configurations).
- › Rugged design.No need of maintenance after installation.



RAILWAY APPLICABLE STANDARDS

- › **EN 60077 Series.** Rolling stock equipment.
 - Part 1: General conditions in service and general terms.
 - Part 2: Electrotechnical components.
- › **EN 50155** (IEC 60571 equivalent). Railway applications - Electronic equipment used on rolling stock.
- › **IEC 61373.** Railway applications - Shock and vibration tests.
- › **NF F 16-101 y NF F 16-102.** Rolling stock fire behaviour.
- › **EN 45545-2.** Railway applications - Fire behavior of materials and components.
- › **RIA 12.** General specification for protection of traction and rolling stock electronic equipment from transients and surges in DC control systems.
- › **EN 50121-3-2:2006.** Electromagnetic compatibility.
- › **EN 50205.** Relays with forcibly mechanically guided contacts. WELD NO TRANSFER
- › **NF F 70-031.** Contact weld resistance tests. NO WELD CONTACTS



RANGE OF PRODUCTS



INSTANTANEOUS RELAYS

- › From 2 to 8 contacts with different options available (push to test button, led, mechanical indication of contact position)
- › Variants for overvoltage coil protection
- › Operating time < 20 ms



TIMERS

- › Up to 10 different functions in the same relay
- › Wide timing range, from 30 ms up to 99 h
- › From 2 to 8 contacts
- › Possibility to combine instantaneous contacts and timed contacts in the same relay
- › Reduction of references for maintenance, as the same reference can cover multiple applications
- › Variant for drop-out timing with one single input



CONTACTORS - HEAVY DUTY RELAYS

- › Instantaneous relays incorporating magnetic blow-out to increase the already high breaking capacity of the standard contacts
- › Range from 2 to 8 contacts and variants for overvoltage coil protection



LATCHING RELAYS

- › Relays with two stable positions maintained by a permanent magnet, which prevents intermediate positions and assures reliability
- › Range from 3 to 8 contacts, including visual indication of the position of the contacts, and variants for overvoltage coil protection
- › No consumption in permanence, only during the change of position



IMPULSE RELAYS

- › Similar to latching relay with a single input. When is powered, a trigger signal changes contact position.

SOCKETS AND ACCESSORIES

- › Different types of sockets allowing DIN rail or panel or flush mounting, as well as front or rear wiring
- › Variants for IP10 and IP20
- › Retaining clips of different types available
- › Optionally security pins to ensure only the correct type of relay can be plugged in a certain socket



RAILWAY APPLICATIONS

MODEL	ROLLING STOCK	SIGNALING	CONTACTS	WELD NO TRANSFER SECURITY CONTACTS	NO WELD CONTACTS
Instantaneous					
RD-2SY	•	•	2 CO	•	•
RF-4SY	•	•	4 CO	•	•
RJ-8SY	•	•	8 CO	•	•
RD-2SYDI / RD-2SYV	•	•	2 CO	•	•
RF-4SYDI / RF-4SYV	•	•	4 CO	•	•
RJ-8SYDI / RJ-8SYV	•	•	8 CO	•	•
Timers					
TDF-2	•	•	2 CO	•	•
TDF-4	•	•	4 CO	•	•
TDF-4DO	•	•	4 CO	•	•
TDF-22	•	•	4 CO (2 inst. + 2 timed.)	•	•
TDJ-8	•	•	8 CO	•	•
TDJ-44	•	•	8 CO (4 inst. + 4 timed.)	•	•
Latching					
BF-3	•	•	3 CO		
BF-4	•	•	4 CO		
BJ-8	•	•	8 CO		
BF-3BB	•	•	3 CO		
BF-4BB	•	•	4 CO		
BJ-8BB	•	•	8 CO		
Contactors					
CD-2	•	•	2 CO (2NO Contactor + 2NC Relay)		•
CF-4	•	•	4 CO (4NO Contactor + 4NC Relay)		•
CJ-8	•	•	8 CO (8NO Contactor + 8NC Relay)		•
CD-2DI	•	•	2 CO (2NO Contactor + 2NC Relay)		•
CF-4DI	•	•	4 CO (4NO Contactor + 4NC Relay)		•
CJ-8DI	•	•	8 CO (8NO Contactor + 8NC Relay)		•
Impulse relay					
RBF-2	•	•	2CO	•	•
RBF-4	•	•	4CO	•	•



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