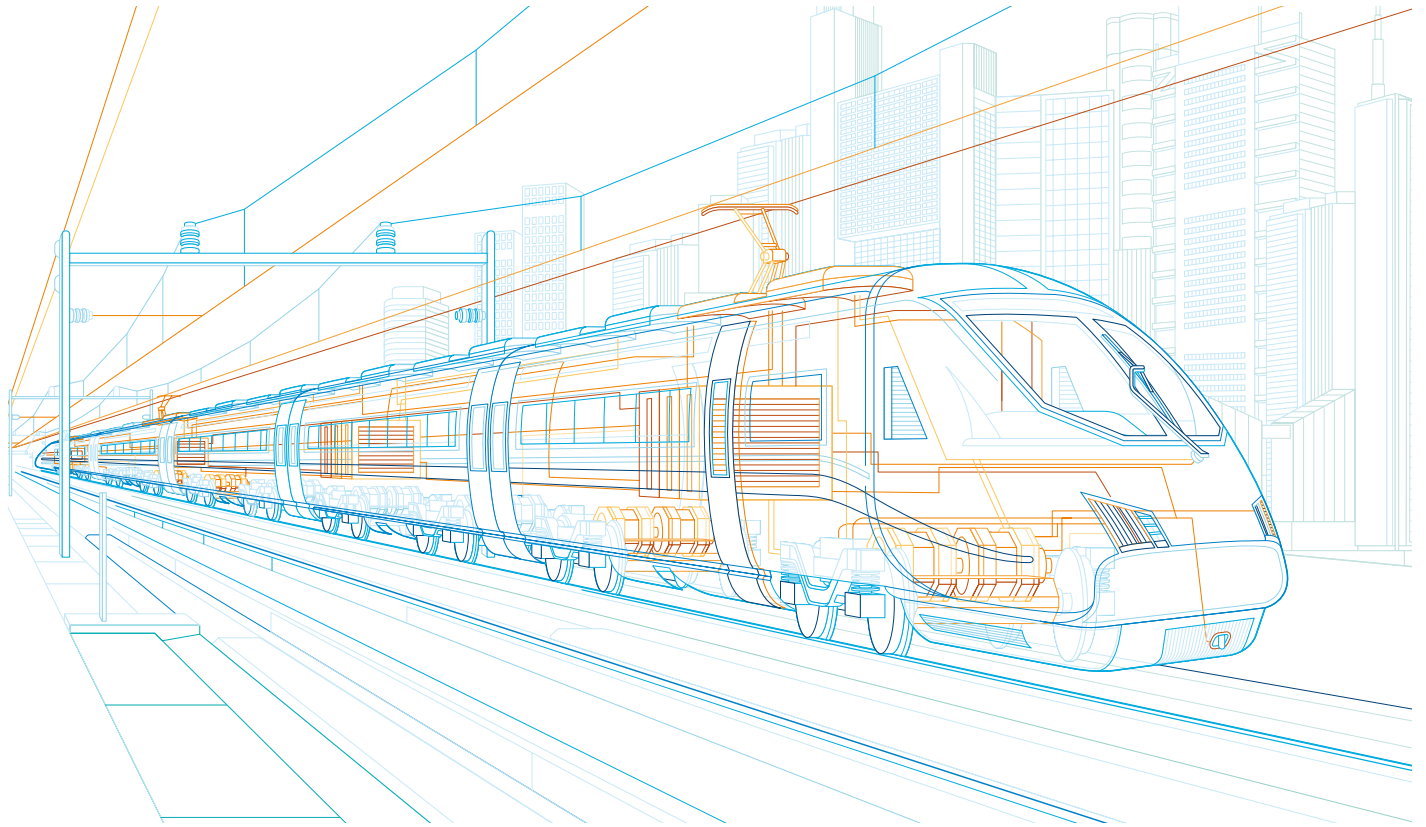


New AF..ZB railway contactors for rolling stock Up to 18.5 kW



New generation of first-class specialized contactors and contactor relays with real benefits for rolling stock applications

- Compact and modular, decreasing the space required in installations
- Light weight, resulting in less energy by axle
- Specifically designed to meet the latest rolling stock application requirements
- Low coil consumption for energy saving
- Less codes for optimized stocks
- Flexible, with high ratings and service capability.



The AF..ZB contactors can be installed in any environment including passenger or driver cabins, for main or urban line trains, underground trains or trams circulating frequently in tunnels or underground passages. Contactors and contactor relays are used in a wide variety of rolling stock applications including lighting, heating, breaking, air conditioning, ventilation and door control.

Advantages compared to conventional technology

DC operated contactors

3-pole contactors AF.ZB..(RT)



Flexible and easy-to-use

	AF09ZB	AF12ZB	AF16ZB	AF26ZB	AF30ZB	AF38ZB
Rated operational power or current	AF09ZB-30-10	AF12ZB-30-10	AF16ZB-30-10	AF26ZB-30-00	AF30ZB-30-00	AF38ZB-30-00
	AF09ZB-30-01	AF12ZB-30-01	AF16ZB-30-01			
AC-3 (400 V)	4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
AC-1 ($\theta \leq 40$ °C)	25 A	28 A	30 A	45 A	50 A	50 A



4-pole contactors AF.ZB..(RT)

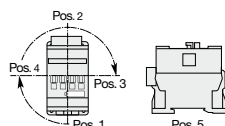


	AF09ZB	AF16ZB	AF26ZB	AF38ZB
Rated operational current	AF09ZB-40-00	AF16ZB-40-00	AF26ZB-40-00	AF38ZB-40-00
	AF09ZB-22-00	AF16ZB-22-00	AF26ZB-22-00	AF38ZB-22-00
AC-1 ($\theta \leq 40$ °C)	25 A	30 A	45 A	55 A

Contactor relays NFZB..(RT)



Type	NFZB22E	NFZB31E	NFZB40E	NFZB44E	NFZB62E	NFZB80E
Nb of contacts	2 N.O. + 2 N.C.	3 N.O. + 1 N.C.	4 N.O.	4 N.O. + 4 N.C.	6 N.O. + 2 N.C.	8 N.O.



- Non-detachable screw connections on all main and auxiliary terminals for standard or ring tongue ferrules for an easy assembly
- Coil connection at the top, bottom or front
- 1-pole auxiliary contact block meeting any contact configuration with only two part numbers (N.O. or N.C. contacts)
- Fixing up to 6 auxiliary contacts regardless of the mounting positions.

Same contactor or contactor relay dimension regardless of the connection type with standard (AF.ZB) or ring tongue (AF.ZB..RT) ferrules.

Improve the compactness of the installations

- Weight reduced by up to 45 %
- Depth reduced by up to 20 %
- Standard 45 mm width modules for both 3-pole and 4-pole contactors
- Side-by-side mounted devices require 15 % less width (without spacing) from -40 °C up to +70 °C.
- There is no need for additional spacing inbetween contactors when electrically or mechanically interlocking.

Turn to the environment with low coil holding consumption reduced up to 68 %

Compliant with RoHS directives

Meet all main rolling stock standards

- Designed in accordance with IEC 60947-4-1, IEC 60947-5-1, IEC 60077 standards and applicable parts of EN 50155 standard
- Withstands shocks and vibrations in compliance with IEC 61373 category 1, class B:
 - functional random vibration tests: 5...150 Hz 1 ms⁻² eff axe / 20 min
 - accelerated random vibration tests: 5...150 Hz 5.70 ms⁻² eff axe / 5 hours
 - shock tests: 5 g 30 ms all axes OX, OY, OZ / 3 shocks per sens.

Reach the highest levels in fire and smoke behavior according to national or european requirements without mounting restriction

French standard: NF F 16-101 / NF F 16-102 category A1 (1)

- weight part > 100 g: severity level 3
- parts close to electrical arc: severity level 4.

Italian standard: UNI CEI 11170, LR4 severity level (1)

- Reaction to fire, ignitability according to EN ISO 11925-2: 30 s
- Smoke class to NF F 16-101: F2 max.

German standard: DIN5510-2

European standard project: CEN/TS 45545 hazard level HL2.

(1) 4-pole AF26/38ZB with standard ferrules, please consult us.

Optimize the number of needed codes

- Electronic coil interface accepting a wide DC control voltage range (0.85 Uc min. ... 1.1 Uc max. acc. to IEC 60947-4-1) including several Uc control voltages used for battery supply (0.7 ... 1.25 Uc according to IEC 60077)
- Only 3 low consumption coil codes to cover all main Uc control voltages
 - 20...60 V DC coil suitable for e.g. 24, 33 and 48 V DC
 - 48...130 V DC coil suitable for e.g. 72, 96 and 110 V DC
 - 100...250 V DC coil suitable for e.g. 220 V DC
- Built-in surge protection: surges and surge suppressors are eliminated.

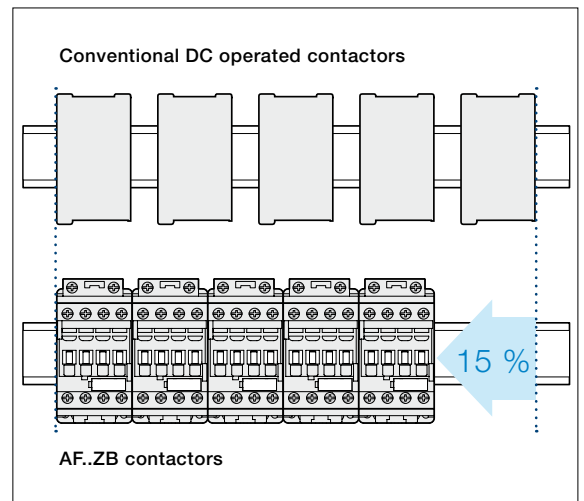


ABB has IRIS certification since 2009 (International Railway Industry Standard certification created by the European Union of railways industry).

ABB manages the manufacturing company and always focuses on optimizing all processes as required by IRIS certification.



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