

## ZX1.5-R medium voltage switchgear

Single- and two -phase gas insulated medium voltage switchgear for railway power supply



ZX1.5-R, part of ABB's well-proven ZX1 family, offers maximum flexibility for railway AC systems by providing a cost effective and reliable power supply. It ensures a high level of operator and system safety combined with ease of servicing

### Key features of the product

- Modular, compact and flexible design with plug-in technology
- Arc resistant design, classified AFLR 31.5 kA, 1 second, according to IEC 62271-200
- Single busbar system, for single- and two- phase 25kV system applications, derived from proven three-phase standard panels from ABB ZX family
- Vacuum switching technology with proven VD4 operating mechanism
- "Sealed for life" SF6 insulated panel
- Busbar and circuit breaker compartments each monitored by a density sensor
- Fit for advanced control and protection terminal or "classic" protection relays

### Customer benefits and savings

- Easy to adapt and integrate to current and voltage client requirements
- Minimum space required
- Easy to install in containers or below ground
- No SF6 gas handling on site, reduced risk of

- human errors, short erection and limited HV tests during the commissioning phase
- Easy to combine thanks to plug and socket panel to panel connections
- Maintenance-free components
- Highest reliability of supply (containment of live parts in an enclosed SF6 environment)
- Long lasting high operational availability
- Maximum safety (reduced health and safety risk)

### ABB as your competitive edge

- More than 100 years of expertise in rail best practices
- Dedicated rail professionals and a lean organization
- Global supplier with global footprint
- Proven track record with many customer references worldwide
- Manufactured internally by ABB with full monitoring and control of the entire design, production and delivery process
- Unrivalled level of engineering support and after-sales service

<b>Technical data</b>				
Rated voltage		kV	27.5	2x27.5
Number of phases			1	2
Rated continuous current		A	...2000	...2000
Rated frequency		Hz	50	50
Rated frequency withstand voltage	Phase to ground	kV	95	95
	Phase to phase	kV	-	140
Rated lightning impulse withstand voltage	Phase to ground	kV	200	200
	Phase to phase	kV	-	325
Electrical endurance at rated short circuit current			30	30
Rated short-circuit breaking current for CB		kA	31,5	31,5
Rated short-circuit making current		kA	80	80
Rated peak withstand current		kA	80	80
Rated short time withstand current, 4s		kA	31.5	31.5
Rated operating sequence			O-0.3s-CO-180s-CO	
Rated total opening time		ms	Ca 60	Ca 60
Rated total closing time		ms	Ca.80	Ca.80
Rated filling level for insulation (Pre)		kPa	130	130
Alarm level for insulation (Pae)		kPa	120	120
Minimum functional level for insulation (Pme)		kPa	120	120
Degree of protection	Gas tank		IP65	IP65
	Low voltage compartment		IP4X	IP4X <sup>(1)</sup>
Ambient air temperature	Maximum	°C	+40	+40
	24 hour average, Maximum	°C	+35	+35
	Minimum	°C	-5	-5
Operating altitude <sup>(2)</sup>		m	...1000	...1000
Dimensions	Height (for transport)	mm	2100	2100 <sup>(3)</sup>
	Depth	mm	1300-1800	1300-1800 <sup>(4)</sup>
	Width	mm	500/800	800
	Height of cable fixing	mm	1250	1250
Standard applied			GB 3906, TB/T 2803, GB 1984, IEC 62272-200, IEC 62271-100, EN 50152-1	

- 1) Higher degree on request
- 2) Higher altitude on request
- 3) Additional 200mm depth for pressure release system
- 4) Based on number of cables for each phase

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