

ARC 3020

High-speed circuit breaker for 3000V DC applications

GENERAL DESCRIPTION

The Alstom high-speed circuit breaker range, ARC, for DC applications consists of apparatuses which ensure the protection of the rolling stock and sub-station components. The ARC circuit breakers have a common general base structure and a specific upper arc chute assembly.

They include an intrinsic bi-directional current trip according to the operational voltage.

These circuit breakers are also equipped with an electromagnetic control and are available in the following ranges: 750 Vdc, 1500 Vdc, 3000Vdc for thermal currents ranging from 1200A to 5000A.

PRODUCT CATEGORIES:

- Regional Trains
- High-Speed Trains

The ARC 3020 circuit breakers are direct current unipolar devices with a bi-directional over-current and electrical trip.

CUSTOMER BENEFITS

- Service proven product used on projects throughout the world since 1999
- Benefiting from Alstom's wide railway expertise over the whole product life-cycle
- Reduced number of components
- High reliability
- High number operations without maintenance
- Easy maintenance without completely dismantling the circuit breaker
- Compact design for vertical or horizontal operations

KEY REFERENCES

- AGV for NTV (Italy)
- Euroduplex for ONCF (Morocco)
- Pendolino for PKP (Poland)
- X'trapolis for EFE CHILE (Chile)
- Regional trains for RENFE (Spain)
- Pendolino for Trenitalia (Italy)
- X'trapolis for PRASA (South Africa)



TECHNICAL SPECIFICATIONS

Traction input voltage	3000V		
Thermal current	2000A (at 55°C)		
Type of circuit breaker	Bi-directional		
Nominal Operating Temperature	Min -25°C	Max +70°C	
Storage Temperature	Min -40°C	Max +70°C	
Altitude	up to 1400m		
Humidity	95% at 70°C		
Mechanical endurance	250 000 Cycles (at 25°C)		
Weight	80 kg		
Dimension (mm)	509x387x737		
HV connections	HV input and HV output : 17 diameter hole on electrical connection		
LV connections	Burndy connector SMS18R1 (Souriau connector as option)		
Shock and Vibrations	IEC 61373 (Category 1, Class B)		
Fire smoke	EN 45545 HL2 R23		
Standard	ISO 9001 & IT IS (International Railway Industry Standard)		

BREAKING CAPACITY

Prospective current (kA) O-20s-CO-60s-CCO	25	25	35	50
L/R (ms)	2	15	30	50
Voltage (V)	3600V			

VARIANTS

- Electronic control panel
- Electromagnet device variant :
48, 72, 96 or 110V
- Tripping range variants :
1200 to 2500 A
1800 to 3600 A
3000 to 5000 A

OPTIONS

- Mounting chassis for roof mounting,
vertical or horizontal mounting
- Ultra-fast tripping device

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