

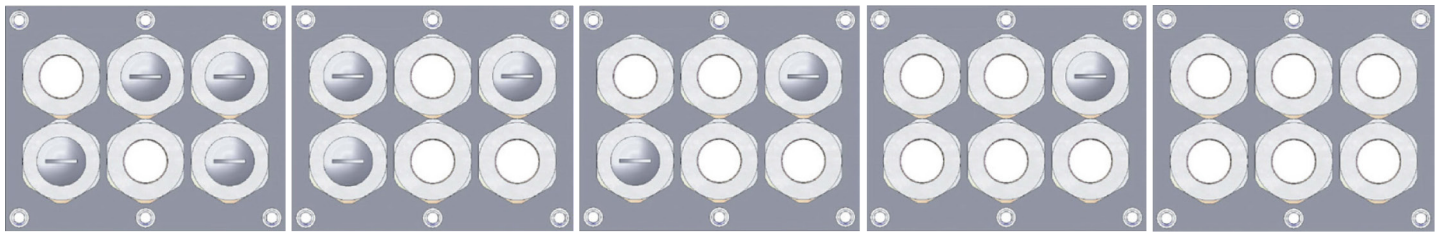
# High speed bi-directional circuit breaker for DC applications

## DCBreak 900 V / 1800 V in metallic enclosure

<b>Main circuit</b>			
Rated operational voltage (Ue)	900 V	1800 V	
Highest non-permanent voltage (Umax <sub>2</sub> )	1000 V	1950 V	
Rated insulation voltage	2300 V	2300 V	
Rated impulse withstand voltage	18 kV	18 kV	
Rated operational current (Tamb =+40 °C)	1400 A	1400 A	
Conventional free air thermal current (Tamb =+40 °C)	1400 A	1400 A	
Rated short-circuit making and breaking capacity	30 kA	30 kA	
Rated time constant T1	30 kA/0 ms	17 kA/0 ms	
Rated time constant T2	30 kA/15 ms	30 kA/15 ms	
Rated time constant T3	30 kA/50 ms	30 kA/40 ms	
Rated time constant T4	30 kA/150 ms	30 kA/100 ms	
Operational performance capability	C3	C3	
Direct over-current release	0.9 - 1.1 kA	0.9 - 1.1 kA	
	1.1 - 1.3 kA	1.1 - 1.3 kA	
	1.3 - 1.8 kA	1.3 - 1.8 kA	
	1.8 - 2.5 kA	1.8 - 2.5 kA	
	2.5 - 3.6 kA	2.5 - 3.6 kA	
Peak arc voltage x Ue	2.5	2.5	
Power frequency withstand voltage (50 Hz, 1 min)			
	Across main contacts (open)	6.6 kV	6.6 kV
	Main circuit (closed) to earth and control circuit	6.6 kV	6.6 kV
Low voltages circuit to earth	1.5 kV	1.5 kV	
Standard applied	IEC 60077-3 and IEC 61373	IEC 60077-3 and IEC 61373	
<b>Control circuit</b>			
Nominal voltage	24 / 36 / 48 / 72 / 110 V	24 / 36 / 48 / 72 / 110 V	
Nominal closing power (Tamb=+20°C)	1000 W	1000 W	
Nominal holding power (Tamb=+20°C)	10 W	10 W	
Control type	Holding resistance (not included)	Holding resistance (not included)	
<b>Auxiliary contacts circuit</b>			
Number of standard contacts	2 NO / 2 NC	2 NO / 2 NC	
	4 NO / 4 NC	4 NO / 4 NC	
	6 NO / 6 NC	6 NO / 6 NC	
	8 NO / 8 NC	8 NO / 8 NC	
Contact material	Hard Silver	Hard Silver	
Rated voltage (potential free contacts)	24 to 110 V	24 to 110 V	
Rated current	10 A	10 A	
Maximum breaking current			
	Ohmic load at 110 V DC	1 A	1 A
	Inductive load = 15 ms at 110 V DC	0.3 A	0.3 A
Minimum let-through current at 24 V DC 10 mA	10 mA	10 mA	
<b>Operating conditions</b>			
Ambient temperature (according to class T1 of IEC 60077-1 Table 2)	T. amb	Air temperature external to vehicle	-25 °C ÷ + 40 °C
		Inside vehicle compartment temperature	-25 °C ÷ + 50 °C
		Inside cubicle temperature	-25 °C ÷ + 70 °C
Relative humidity			95% at 40 °C
Altitude	h		≤ 1400 m
Minimum mechanical durability		200 000 operations	200 000 operations
Mechanical lifetime		500 000 operations	500 000 operations
Altitude max		1400 m	1400 m
Humidity max		95%	95%
Pollution degree		PD3	PD3

## Power and Control Connection details

### Cable gland

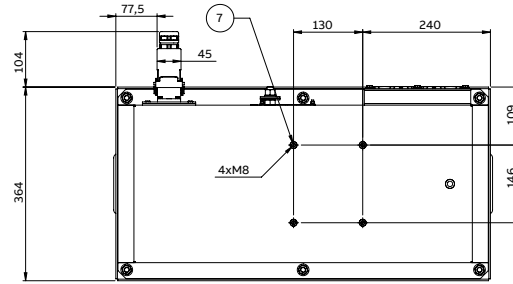


Connectors type

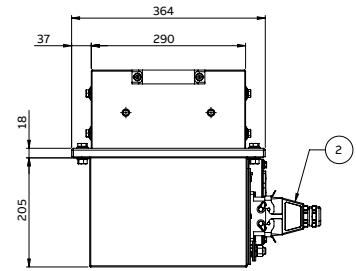
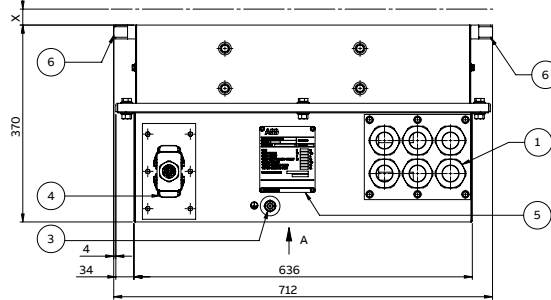
Harting

Harting

## Protective enclosure dimensions



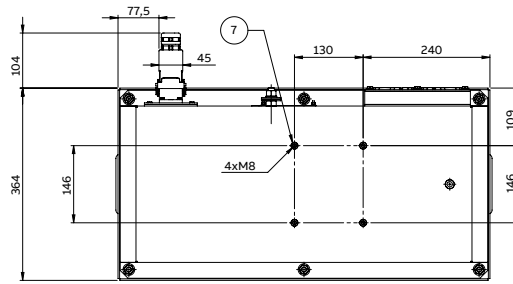
VIEW A



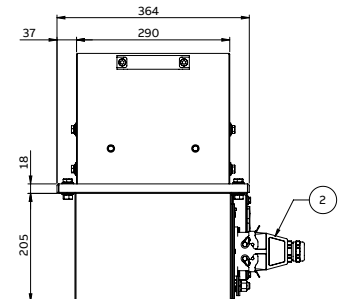
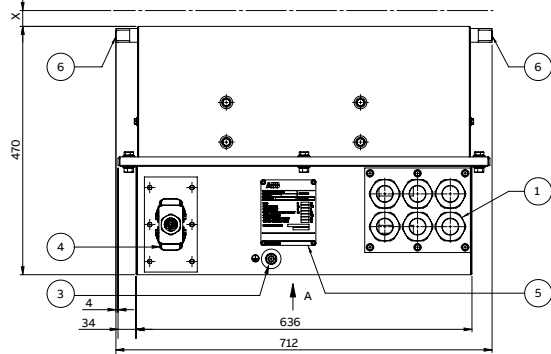
### DCBreak 915 B

- Key
- 1 - Main Cable Connections Cable Glands
  - 2 - Auxiliary Circuit Connector Plug type Harting (supplied loose)
  - 3 - Earthing connection point
  - 4 - Auxiliary Circuit Connector feeding socket type Harting
  - 5 - Aluminum nameplate
  - 6 - Lifting Handles
  - 7 - Fixing Points
  - 8 - Minimum Clearance for Arc Chute Removal: 30mm

Circuit breaker weight (kg) 28



VIEW A



### DCBreak 1815 B

- Key
- 1 - Main Cable Connections Cable Glands
  - 2 - Auxiliary Circuit Connector Plug type Harting (supplied loose)
  - 3 - Earthing connection point
  - 4 - Auxiliary Circuit Connector feeding socket type Harting
  - 5 - Aluminum nameplate
  - 6 - Lifting Handles
  - 7 - Fixing Points
  - X - Minimum Clearance for Arc Chute Removal: 30mm

Circuit breaker weight (kg) 38

ABB Spa  
Via Friuli, 4  
24040 Dalmine  
Italy

[abb.com/mediumvoltage](http://abb.com/mediumvoltage)  
[abb.com/contactcenters](http://abb.com/contactcenters)

ABB Sécheron Ltd  
Medium Voltage Products  
Rue des Sablières 4-6/Voie 11A - ZI Meyrin-Satigny  
CH - 1217 Meyrin, Switzerland  
Phone: +41 58 586 22 11  
[info.abbsecheron@ch.abb.com](mailto:info.abbsecheron@ch.abb.com)  
[abb.com/railway](http://abb.com/railway)

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB AG. Copyright © 2022 ABB. All rights reserved.