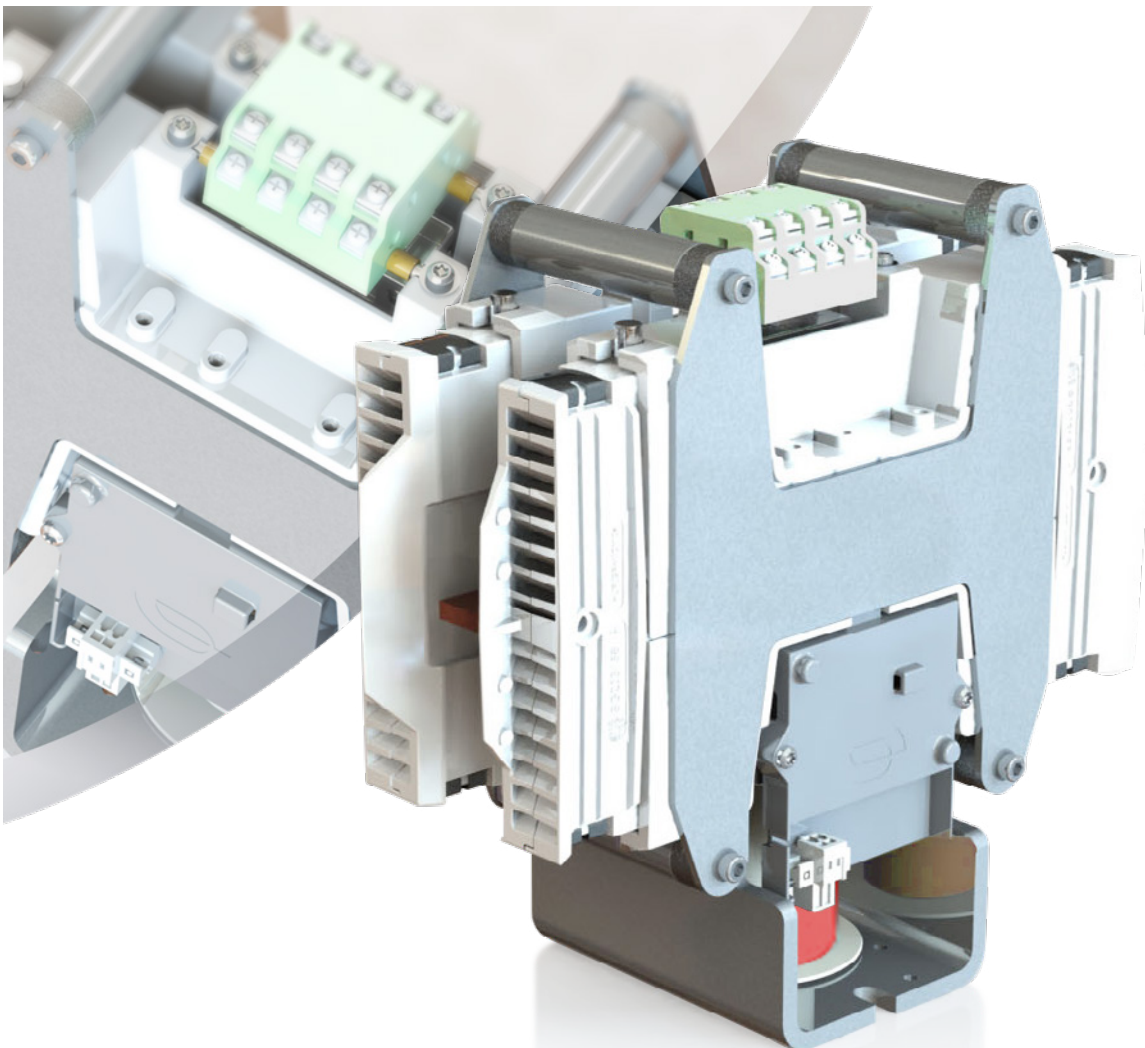


# CONTACTORS

Type **BXS18.0X range**  
Bidirectional DC contactors

ELECTRIC TRANSPORT VEHICLES / FIXED INSTALLATIONS



# GENERAL INFORMATION

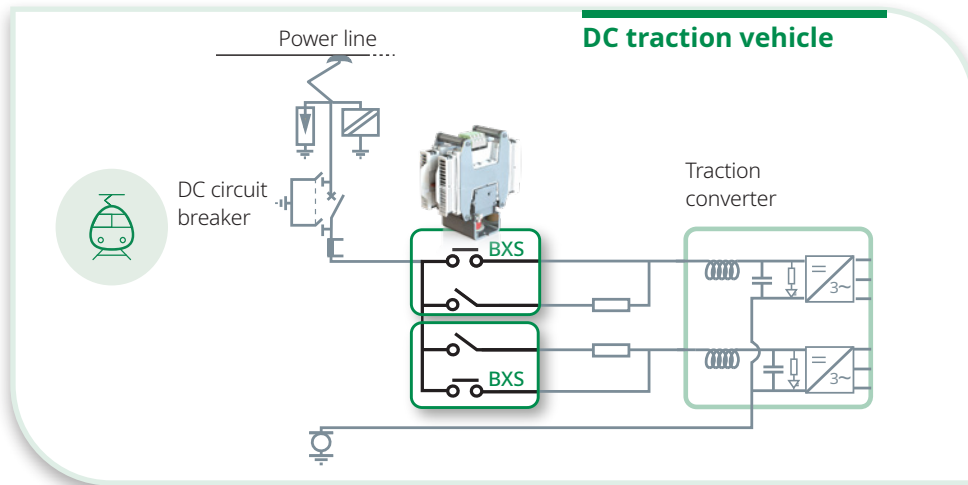
The **BXS18.0X** contactor range has been designed to cover multiple applications on electric transport vehicles and fixed installation up to rated voltage 1.8 kVDC. Taking advantages on the tried and tested design of the BMS range, and thanks to its rational and compact layout, the BXS 18.0X allows to reduce to a minimum the overall volume required in the electrical cubicle.

Its bidirectional current breaking capability, the absence of critical current as well as the high value of short time withstand current make this product perfectly suitable for a variety of applications ranging from Rolling Stock to Industrial and Renewables, both for refurbishment and for new installations.

## APPLICATIONS, TYPICAL EXAMPLES

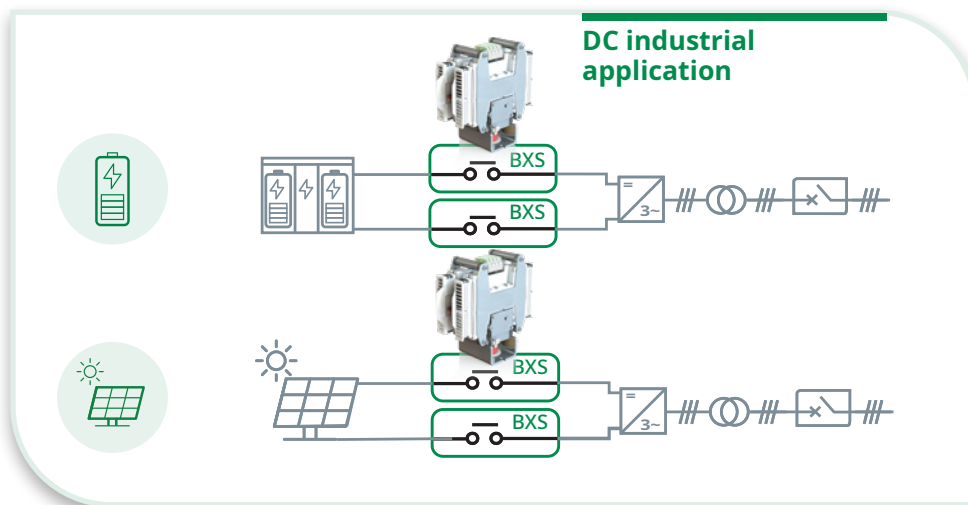
### Transport Vehicles

- Line contactor for DC vehicles



### Fixed installation

- Battery Storage Systems, Solar Farms, etc.



## MAIN FEATURES

- Rated Voltage up to 1800 Vdc
- Conventional free air thermal current 400 and 600 A
- Low voltage control with electronic board
- Suitable for ambient temperature from -40°C to +70°C.
- Reference standards: EN/IEC 60077-1/-2, EN/IEC 61373, EN 45545, EN 50657.

## MAIN BENEFITS

- ✓ Bidirectional current breaking.
- ✓ No critical current.
- ✓ High level of Short Time Withstand Current (STWC).
- ✓ High insulation level against pollution PD3A class.
- ✓ Compact size for effective integration.
- ✓ Reduced insulation clearances required for installation.
- ✓ Up to 4 NO + NC auxiliary contacts.
- ✓ High mechanical and electrical durability.
- ✓ Horizontal or vertical mounting to match tight installation constraint.
- ✓ Low power consumption.
- ✓ Designed for maintenance free operation.

# DATA FOR PRODUCT SELECTION

Symbol	Unit	BXS18.0X
<b>MAIN HIGH VOLTAGE CIRCUIT</b>		
Pole quantity		1
Component category		A2
Type of main contacts		NO Normally Open
Current interruption direction		Bidirectional
Rated operational voltage	$U_r$ [V <sub>DC</sub> ]	1,800
Rated insulation voltage	$U_{Nm}$ [V <sub>DC</sub> ]	2,300
Overvoltage category		OV3
Conventional free air thermal current	$I_{th}$ [A]	400 (T <sub>amb</sub> =+40°C)      600 (T <sub>amb</sub> =+40°C)
Rated operational current/operational frequency	$I_r$ [A]	C2 at 400 A / 15 ms @ 1,800 V <sub>DC</sub>
Short-circuit breaking capacity	$I_{bc} / I_{mc}$ [A]	800 A 15 ms @ 1800 V <sub>DC</sub> 1,600 A 15 ms @ 900 V <sub>DC</sub>
Critical current	[A]	No critical current
Rated short-time withstand current	$I_{cw/t}$ [kA]/[ms]	15 / 100
Power-frequency test voltage (50 Hz / 1min)	$U_a$ [kV]	6.9
Rated impulse withstand voltage	$U_{Ni}$ [kV]	15
<b>LOW VOLTAGE CIRCUIT</b>		
<b>Control circuit</b>		
Nominal supply voltage	$U_n$ [V <sub>DC</sub> ]	[24-36] and [48-110] <sup>(1)</sup>
Range of voltage		[0.7 - 1.25] $U_n$
Typical mechanical closing time <sup>(2)</sup>	$t_{cc}$ [ms]	100
Typical mechanical opening time <sup>(2)</sup>	$t_{co}$ [ms]	30
<sup>(1)</sup> For other voltage, please contact sécheron. <sup>(2)</sup> At $U_n$ and T <sub>amb</sub> = +20°C.		
<b>Auxiliary contacts</b>		
Type of contacts		Dual break type
Rated voltage	[V <sub>DC</sub> ]	24 to 110
Conventional thermal current	$I_{th}$ [A]	6 or 10 A depending from the type
Utilization category according to EN60947		
- AC-15    230 V <sub>AC</sub>		1.0 A
- DC-13    110 V <sub>DC</sub>		0.5 A
Minimum let-through current at 24 V <sub>DC</sub> <sup>(3)</sup>	[mA]	≥ 10 (silver contacts) or 4≤I≤10 (gold contacts)
<sup>(3)</sup> For a dry and clean environment.		
<b>Low voltage interface</b>		
Control circuit		WAGO 734 2-poles cage-clamp connector (standard)
Auxiliary switches		Direct connection (standard) Wired on WAGO 734 20-poles cage-clamp connector (option)
<b>Insulation</b>		
Power-frequency test voltage (50 Hz / 1min)	$U_a$ [kV]	1.5
<b>OPERATING CONDITIONS</b>		
Installation		Indoor
Altitude	[m]	≤ 2,000
Working ambient temperature	T <sub>amb</sub> [°C]	-40 to +70
Humidity		95% at + 40°C
Pollution degree		PD3A
Minimum mechanical durability	N Operations	≥ 2 millions

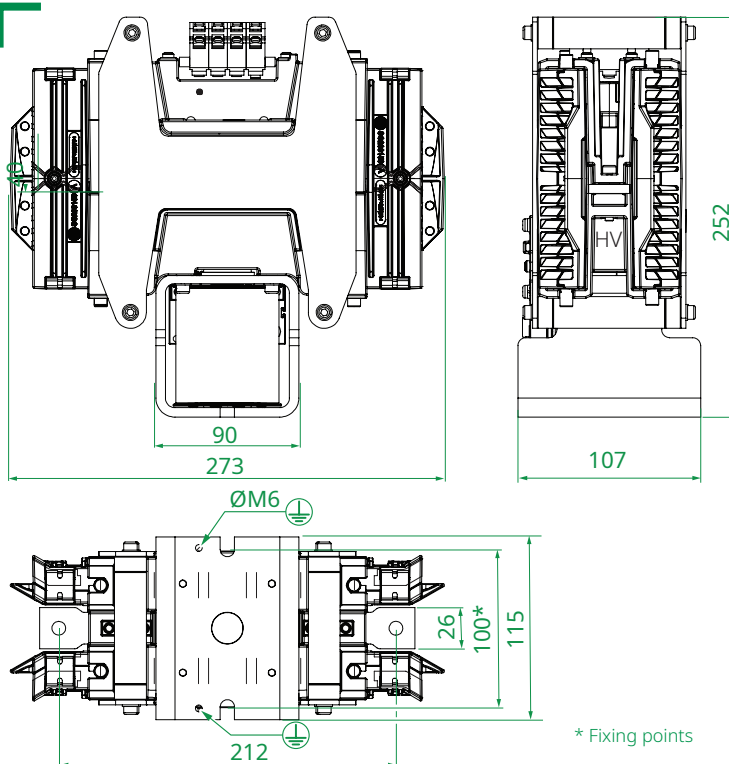
# PRODUCT INTEGRATION

## MAIN DIMENSIONS

<b>HV connections</b>	M8 screws
<b>Earth connections</b>	M6 screw, thread length 5 mm
<b>LV Connections (standard)</b>	Control: WAGO 734 (2 poles) Auxiliary switches: M3 screws WAGO 734 (20 poles) as option
<b>Fixing points</b>	M8 screws

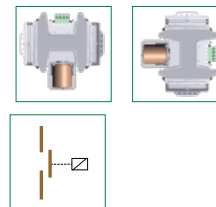
Dimensions without tolerances are indicative. All dimensions are in mm.

### BXS18.0X

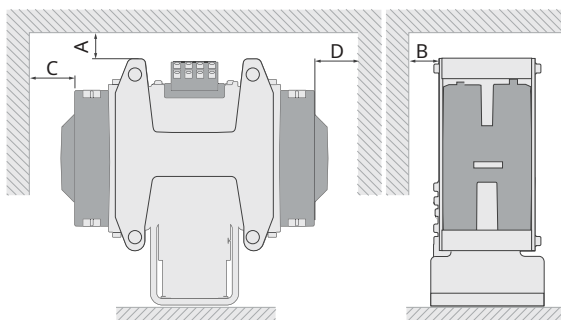


### BXS18.0X

1-POLE  
Horizontal/vertical  
installation



## INSULATION DISTANCES AND WEIGHTS



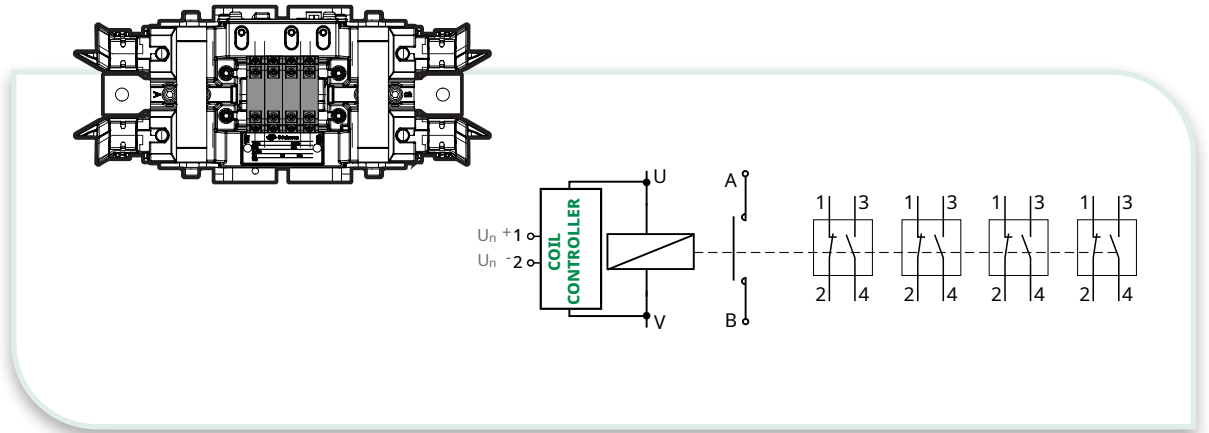
BXS contactors have been homologated according to IEC 60077-2 with the following insulation distances.

contactor type	Insulating distance [mm]								Arc chute removal distance [mm]	Weight: ± 0.5 kg [kg]
	To earthed wall				To insulating wall					
	A	B	C	D	A	B	C	D		
<b>BXS18.0X</b>	20	40	60	60	10	20	60	60	35	1 Pole 7.7 to 8*

\*Depending of the the version.  
Please contact Sécheron

## AUXILIARY CONTACTS CONFIGURATION

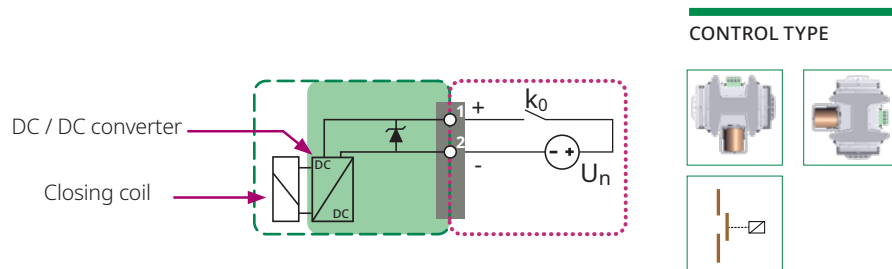
### BXS18.0X



## LOW VOLTAGE CONTROL DIAGRAM

CONTACTOR CONFIGURATION <sup>(1)</sup>	Nominal supply voltage U <sub>n</sub> [V <sub>DC</sub> ]	Closing power (P <sub>c</sub> ) / Holding power (P <sub>h</sub> ) [W] / [W]
<b>BXS.0X</b> horizontal / vertical installation	<b>1 pole</b>	<b>≤ 60 / ≤ 4</b>

<sup>(1)</sup> For details refer to pages 5 & 6.

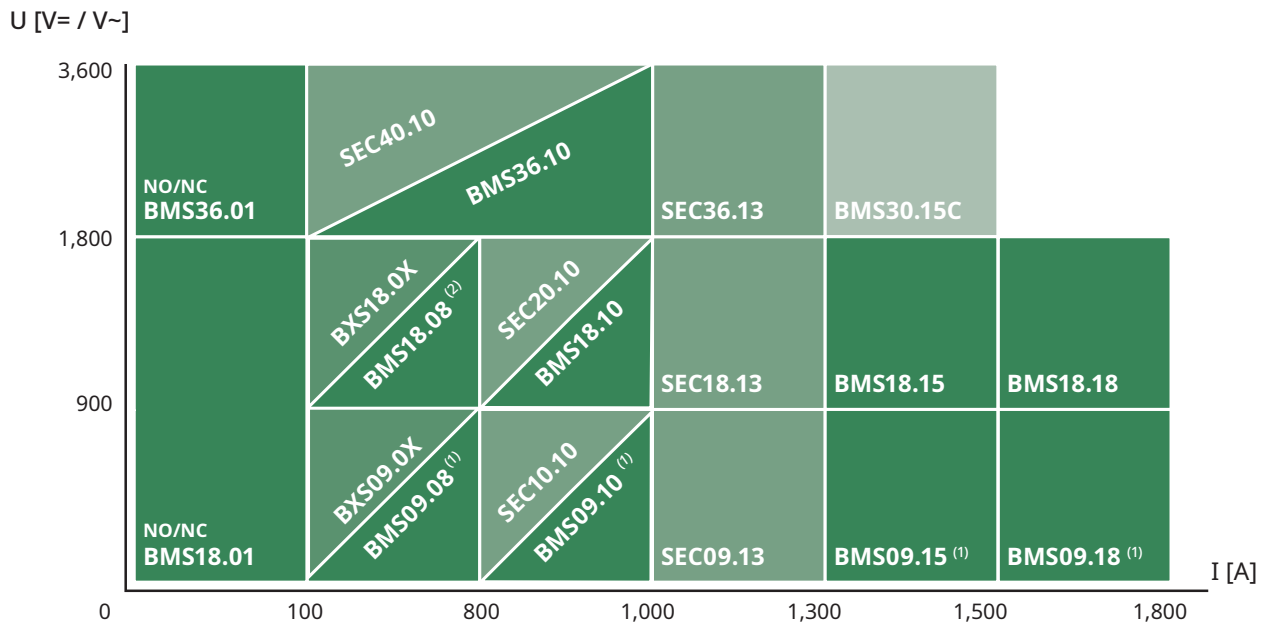


--- Sécheron's scope  
 ..... Customer's scope

Low voltage interface  
 Coil controller

U<sub>n</sub> : DC power supply  
 k<sub>0</sub> : Supply relay

# SECHERON CONTACTORS RANGE



**BMS15.002** and **HS** contactors are still available for delivery on repeat order or as spares.

<sup>(1)</sup> **BMS09...** can be used for rated voltages up to 2,000 V<sub>AC</sub>

<sup>(2)</sup> A specific version of **BMS18.08** can also be used for rated voltage up to 4,000 V<sub>AC</sub>

# DESIGNATION CODE FOR ORDERING

- Be sure to establish the designation code from the latest version of our brochure by downloading it from the website: [www.secheron.com](http://www.secheron.com).
- Be careful to write down the complete alphanumerical designation code with 16 characters when placing your order.
- For technical reasons some variants and options indicated in the designation code might not be combined, therefore validate your configuration with Sécheron before ordering.
- For other configurations not described in the brochure, please contact Sécheron.

<b>Example of customer's choice:</b>	<b>BXS</b>	<b>18</b>	<b>06</b>	Z	1	Z	Z	E	A	Z	V	D
Line:	10	11	12	13	14	15	16	17	18	19	20	21

The bold characters of the designation code define the device type.

**Note:** some combinations may not be possible, therefore validate your configuration with Sécheron before ordering

## DESIGNATION CODE

Line	Description	Designation		Customer's
		Standard	Options	choice
10	Product type	<b>BXS</b>	<b>BXS</b>	<b>BXS</b>
11	Rated operational voltage	1,800 V	18	18
12	Rated conventional free air thermal current	400 A 600 A	04 06	
13	Spare digit		Z	
14	Number of poles	1 pole 2 poles <sup>(1)</sup>	1 2	
15	Spare digit		Z	
16	Spare digit		Z	
17	Nominal supply voltage	24 V <sub>DC</sub> 36 V <sub>DC</sub> 48 V <sub>DC</sub> 72 V <sub>DC</sub> 110 V <sub>DC</sub>	A B C D E	
18	Auxiliary contacts BMS	1NO+1NC - (switch PF) - silver type 1NO+1NC - (switch PF) - gold type 2NO+2NC - (switch PF) - silver type 2NO+2NC - (switch PF) - gold type 3NO+3NC - (switch PF) - silver type 3NO+3NC - (switch PF) - gold type 4NO+4NC - (switch PF) - silver type 4NO+4NC - (switch PF) - gold type	A	C E H K M O P
19	Spare digit		Z	
20	Installation configuration	Horizontal & Vertical	V	
21	Application type	(Direct Current) DC	D	

<sup>(1)</sup> two poles version under development.

Signature:

Name:

Place and date:



**Sécheron SA**  
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CH-Switzerland

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ess@secheron.com

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