ELECTRICAL
SAFETY
SOLUTIONS

Sécheron

KEY MULTIPLIER,
DOOR LOCK
type **KM, DL**

RAIL VEHICLES

GENERAL INFORMATION

The **Key Multiplier KM** is one of the elements of the safety key interlocking chain used on rail vehicles to guarantee the highest safety level to people accessing high voltage equipment for inspection or maintenance. We take a simple, step-by-step approach where one safety device is triggered only when the previous device in the traction chain has been locked in the earthed position. This principle is implemented through a cascade of security keys and associated locks.

The Key Multiplier enables to collect the key/s (Master key/s) released from the upstream's earthing switch/es locked in the earthed position, to keep it/them captive, and then to release new keys (called Slave Keys) necessary to access the next step.

Based on the vehicle's safety interlocking scheme and the upstream earthing switch/es configuration, such Key Multiplier function can also sometimes be directly integrated in the earthing switch (for instance BTE0x.04 range).

The **Door Lock DL** is usually the ultimate key interlocking device of this safety interlocking chain. It is installed on the door of the high voltage compartment where the technician must access for performing his inspection or maintenance work. It guarantees all high voltage electrical equipment of the vehicle to be kept in the earthed position, as long as the ultimate key remains in the hand or pocket of the technician.

SAFETY INTERLOCKING SCHEME

Example for AC rail vehicles

Pneumatic interlocking valve, **BSV**

Manual Earthing switch integrated in AC circuit breaker, **MACS**

Earthing switch for traction converters type **BTE03.04**

Key multiplier, **KM**

Door lock, **DL**
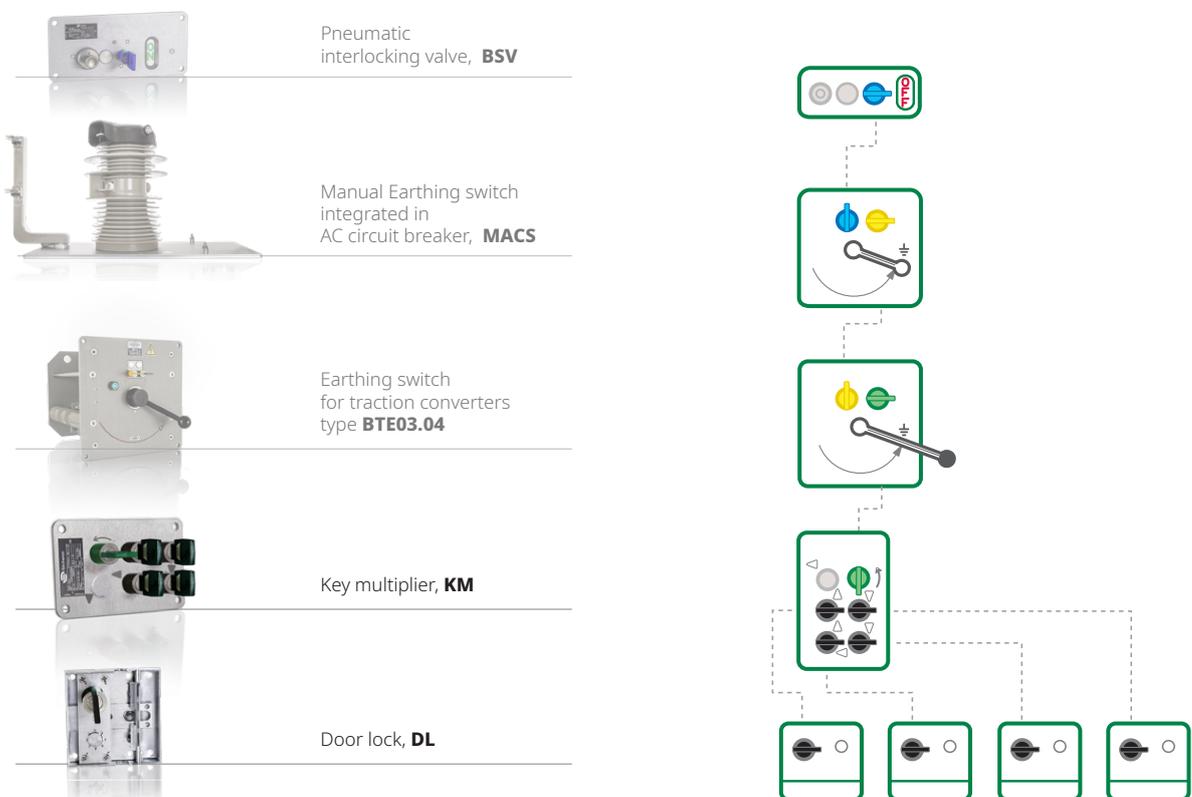
INFORMATION FOR PRODUCT INTEGRATION

Sécheron

MAIN DIMENSIONS

⫽ SEQUENTIAL KEY MULTIPLIER
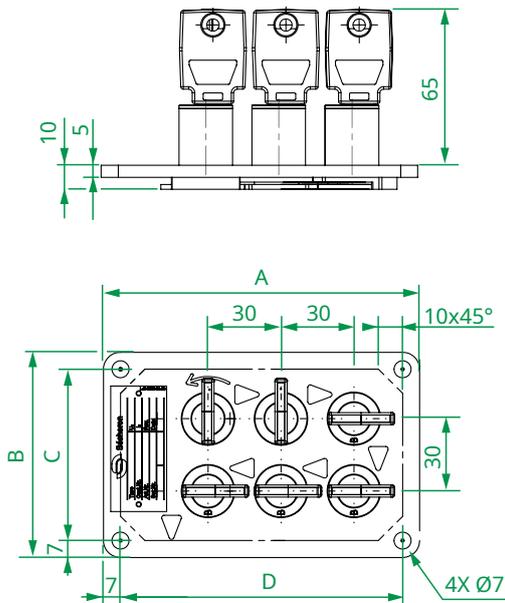
Key on the key multiplier has to be turned sequentially, one after the other following the indication engraved on the front plate.

Cylindre numbers	mm			
	A	B	C	D
2-4	100	85	71	86
5-6	130	85	71	116
7-10	190	85	71	176
11-12	190	115	101	176

⫽ LOCK FOR RIGHT DOOR
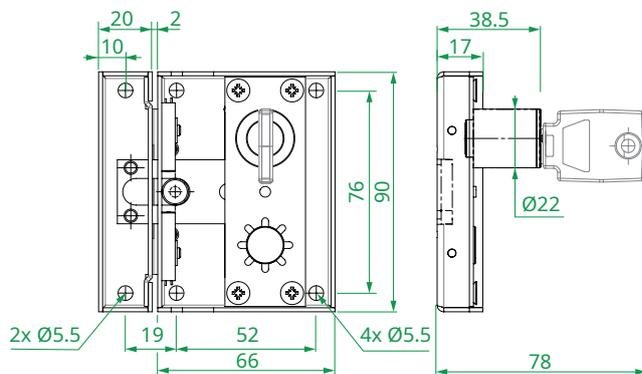
Door Lock's counter part

⫽ LOCK FOR LEFT DOOR
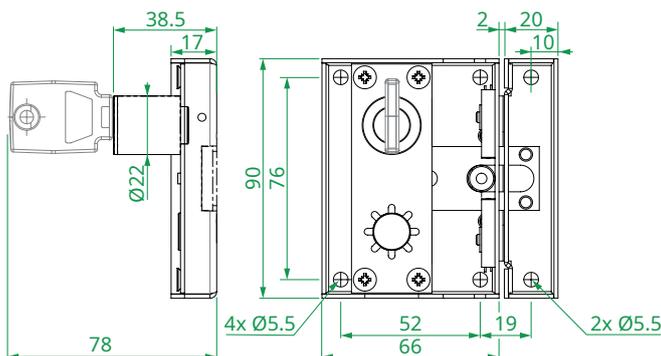
DESIGNATION CODE FOR ORDERING

- Be sure to establish the designation code from the latest version of our brochure by downloading it from the website: www.secheron.com/products-solutions/ess/earthing-safety/key-multipliers-door-locks/
- Be careful to write down the complete alphanumerical designation code with 8 characters (**KM**) or 6 characters (**DL**) 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 brochur e, please contact Sécheron.
- The bold characters of the designation code define the device type

KEY MULTIPLIER KM

Example of customer's choice:	**KM**S	1	B	04	C	1
Line:	10	11	12	13	14	15

Line	Description	Designation	standard	Options	Customer's choice
10	Product type	Key Multiplier - KM	**KM**S		**KM**S
11	Quantity of Master locks	1	1		
		2	2		
		...		...	
		6		6	
12	Master lock & key color	Blue		A	
		Yellow	B		
		Green	C		
		Black	D		
		White		E	
		Red		F	
13	Quantity of Slave locks	1	01		
		2	02		
		...	..		
		8	08		
		...		..	
		12		12	
14	Slave lock & key color	Blue		A	
		Yellow		B	
		Green	C		
		Black	D		
		White	E		
		Red		F	
15	Individual key/lock codification per train unit [1]	No	0		
		Yes		1	

DOOR LOCK DL

Example of customer's choice:	**DL**	R	Y	C	1
Line:	10	11	12	13	14

Line	Description	Designation	standard	Options	Customer's choice
10	Product type	Door lock - DL	**DL**		**DL**
11	Door opening	Right hand swing	R		
		Left hand swing	L		
12	With counter part	Yes	Y		
		No		N	
13	Lock & key color	Blue		A	
		Yellow		B	
		Green	C		
		Black	D		
		White	E		
		Red	F		
14	Individual key/lock codification per train unit [1]	No	0		
		Yes		1	

[1] Codification is used on request, each code is unique, tipically incremental numbering.

Signature:

Name:

Place and date:

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