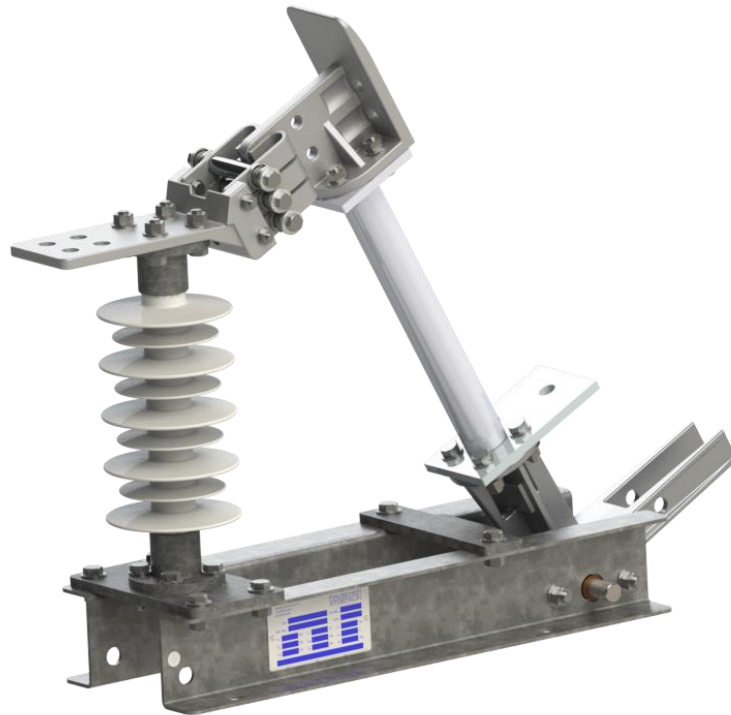


Earthing Switch FHE-B2

Earthing switch for 15 kV and 25 kV AC-overhead lines



The earthing switch FHE-B2 is used to earth isolated sections of contact lines in railways with an AC voltage up to 25 kV.

The earthing switch FHE-B2 is of rocker type with one fixed insulator and one aluminium bolt. This ensures a safe and solid earthing point and is able to carry short circuit currents. The robust aluminium rod takes over the switching procedure and acts as a key element by carrying up to 100kA (peak withstand current).

The flat terminals allow different connections.

The earthing switch is operated motorised or manually by rod or Flexball® (flexible rod).

All switches are manufactured according to IEC 62271-1:2007 and IEC 62271-102:2001.

Thanks to very long experience in the branch, our company has been awarded with accreditations by different national railways.

Features and benefits

- Compact design
- All steel parts either in stainless steel or hot-dip galvanised
- Solid and stable base frame
- Insulator available in porcelain or alternatively in silicone
- Excellent earth connection thanks to the bolt and earth-terminal in aluminium
- Fixing on the supporting structure either by clamping (free setting) or screwing (holes in the base frame)
- Easy on-site installation and setting
- All copper conducting parts either silver, nickel or tin-plated
- Practically maintenance-free
- Options:
 - Status indication with voltage-free contacts (1x open, 1x closed); 2 limit switches and terminal box
 - Porcelain insulators instead of silicone insulators
 - Pre-arcing horns for increased making capacity

Technical data

Rated values		15kV	25kV	
Nominal voltage	U_n	15	25	kV
Rated insulation voltage (acc. to IEC 62497-1)	U_{Nm}	17.5	27.5	kV
Rated voltage (acc. to IEC 62271-1)	U_r	36	52	kV
Rated frequency	f_r	16.7	50	Hz
Rated normal current	I_r	2'000	2'000	A

Withstand values		15kV	25kV	
1 minute power frequency withstand voltage (dry and wet)	U_a			
A – To earth and between poles		70	95	kV
B – Across the isolating distance		95	110	kV
Impulse withstand voltage (1.2/50 μ s)	U_{Ni}			
A – To earth and between poles		170	250	kV
B – Across the isolating distance		195	290	kV

Short-circuit-current		15kV	25kV	
Rated short time withstand current	I_k	40	31.5	kA
Rated peak withstand current	I_p	100	80	kA
Rated duration of short circuit	t_k	1	3	s

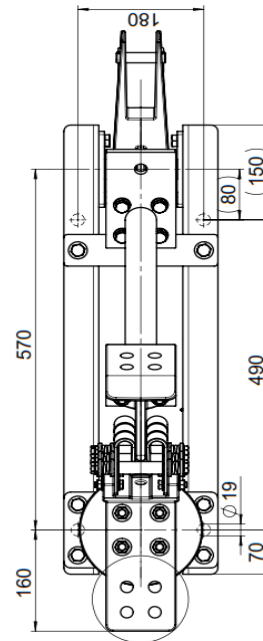
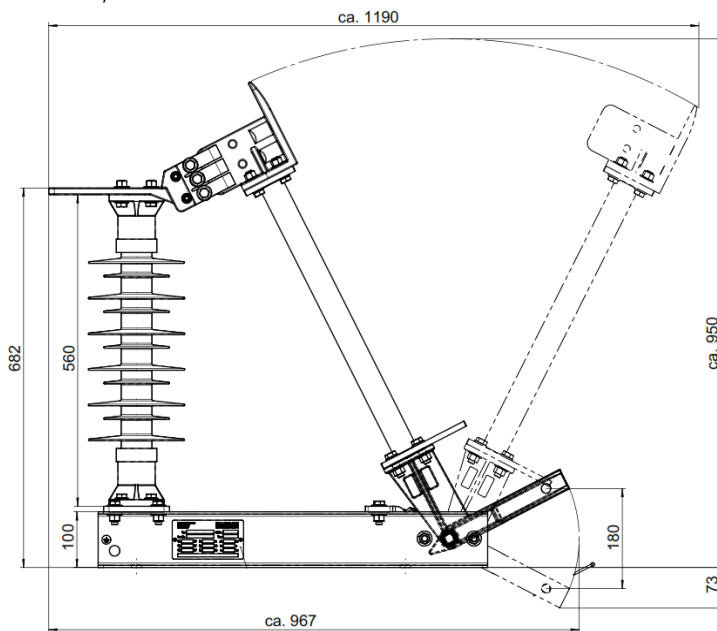
Making and breaking current		15kV	25kV	
Peak making current (Standard, class E0)		0	0	kA

Geometrie		15kV	25kV	
Minimum creepage distance (silicone insulators)		870	1255	mm
Operating stroke		120	180	mm
Weight		32	36	Kg
Further dimensions		See drawing		

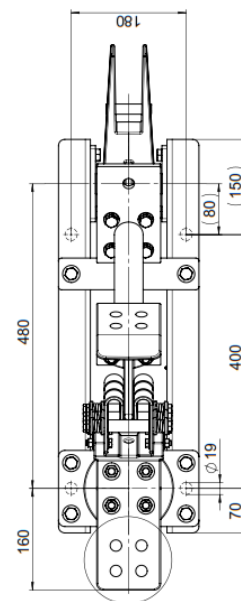
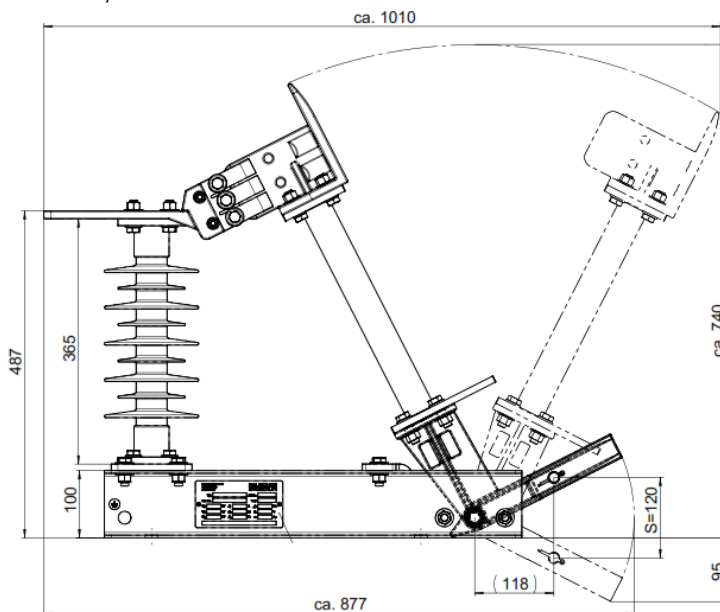
Lifetime			
Mechanical life		10'000	Cycles
Peak making current (Standard, class E0)	I_{ma}	0	Switches
Environmental conditions			
Operating temperature		-30 to +40	°C
Relative humidity		100	%
Solar radiation		1'000	W/m ²
Operating altitude		1'000	a.s.l
Icing		10	mm
Pollution degree (acc. to IEC 62497-1)		PD4B	
Wind speed		34	m/s
Optionen		FHE-B2	
Status indication			✓
Bipolar switch			✓
Pre-arcing horns (higher peak making current)			✓
Norms			
EN 50152-2	Railway applications - Fixed installations - Particular requirements for alternating current switchgear - Part 2: Disconnectors, earthing switches and switches with nominal voltage above 1 kV		
IEC 62505-2	Railway applications - Fixed installations - Particular requirements for a.c. switchgear - Part 2: Single-phase disconnectors, earthing switches and switches with Un above 1 kV		
IEC 62271-1	High-voltage switchgear and controlgear - Part 1: Common specifications		
IEC 62271-102	High-voltage switchgear and controlgear - Part 102: Alternating current disconnectors and earthing switches		
IEC 62497-1	Railway applications - Insulation coordination - Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment		

Dimensional drawings

FHE-B2-25/S



FHE-B2-15/S



Ordering information

Basic types	Description	Article-No.
FHE-B2-25/S	Earthing switch 25 kV with silicone insulators	21868
FHE-B2-15/S	Earthing switch 15 kV with silicone insulators	21830

Options:

- I = Status indication with voltage-free contacts (1x open, 1x closed); 2 limit switches and terminal box
- P = Porcelain insulators instead of silicone insulators
- V = Pre-arcing horns for higher short circuit making current

The information given in this document is subject to change without notice