

MV Fuses



**ABB PTMV Division
Factory in Przasnysz**



BA Medium Voltage Products

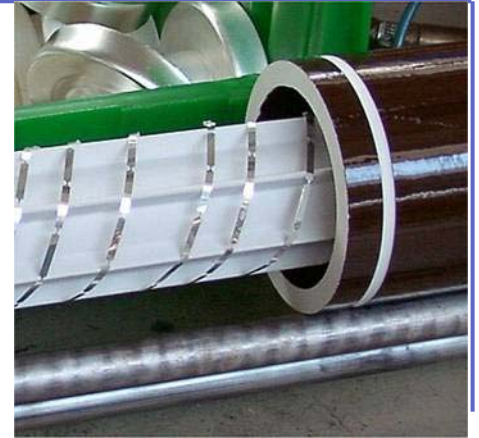
IndustrialIT
enabled™



Active Product

Level 0: Information

BU 3420 - MV fuses –what is this?



HV current limiting fuses main groups

1) Back-up fuses

can continuously conduct currents up to their rated current and can disconnect only currents above a specific multiple of their rated current
Suited for application in switch/fuse combinations.

2) General purpose fuse

can continuously conduct currents up to their rated current and can disconnect currents from the smallest fusing current to the rated breaking capacity.

3) Full range fuse

every current that results in a melt-through can be interrupted

MV fuses portfolio

- **GFFF for HV fuses :Poland/Przasnysz**
 - **DIN and BS standard fuses** (back-up and motor protection)
 - **VT fuses**
 - **DC fuses**
- **Gas-expulsion fuses** manufacturers:
USA and Australia
- More info: **Visit Fuses page on**
www.abb.com/mediumvoltage

MV fuses portfolio - *VT fuses*

- VT protection can utilize Back-up fuses or special VT fuses - depending on VT's design.
- ABB produces and recommends to use special VT fuses.
- VT Competitors use Back-up fuses (2 A and higher ratings) or special types VT fuses

MV fuses portfolio - DC fuses

- There are few dimensional standards - depend on tradition on the markets.
- ABB types DC fuses exist on following markets: Poland, Czech, Slovakia, Croatia, Hungary.
- There are Italian types - Italian Railway special requirements – ABB is one of main suppliers
- There is a big DC fuse market - semiconductors protection - main suppliers Bussmann, Ferraz

Fuses in ABB - General Presentation

MV fuses portfolio - *MV DIN HRC fuses*

Back-up fuses

Competitors offer

ABB offer

3,6 - 7,2 kV

(6,3 - 200A), 192, 292, 442 mm

(6 - 100A) **192** mm, (6 - 200A) 292 mm

6 - 12 kV

(6,3 - 200A), 192, 292, 442, 537 mm

(6 - 100A) **292** mm, (6 - 200A) 442 mm

10 - 17,5 kV

(6,3 - 200A), 292, 367, 442 mm

(6 - 63A) 292, **367, 442** mm,
(80 - 125A) **442** mm

10 - 24 kV

(6,3 - 200A), 292, 442, 537 mm

(6 - 125A) **442** mm, (80 - 125A) 537 mm

20 - 36 kV

(6,3 - 63A), 537 mm

(6,3 - 40A), **537** mm



BU 3420 - MV fuses – some pictures

FUSES

Indoor /Outdoor



CEF



WBP / BRT

Power^{IT} Current Limiting Fuses, CEF
Power^{IT} Motor Circuits Fuses, CMF

Catalogue YIMB601051-en



Industrial^{IT}
e-nabloc

Power^{IT} Indoor Voltage Transformer Fuses, WBP
Power^{IT} Outdoor Voltage Transformer Fuses, BRT

Catalogue YIMB612001-en

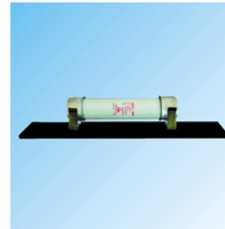


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e-nabloc

ABB

Power^{IT} Indoor Railway DC Fuses, BWT
Power^{IT} Indoor Railway DC Fuses, WBT

Catalogue YIMB622001-en



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e-nabloc

ABB

Indoor



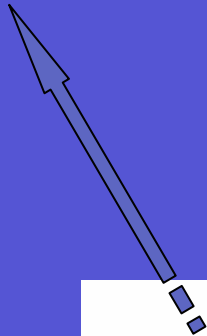
CMF



WBT/WBT

ABB

High Rupturing Capacity Fuses



Features:

- High rupturing capacity
- Indoor/Outdoor
- Low minimum breaking current
- Low power losses /suitable in compact switchgear
- Low arc-voltage
- High breaking capacity
- High current limitation
- Dimensions acc.to DIN/IEC & BS Standards

rated voltage 3,6 - 36 kV
rated current 6,3 - 200 A

Fuses for Voltage Transformers



Features:

- Unlimited breaking capacity
- Short-circuit current limiting
- Small dimensions
- Intended for protection of circuits powered by voltage transformer
- Intended for ABB voltage transformers

Type WBP - Indoor design.

Rated voltages 7.2, 12, 24, 36 kV.

Rated current 0,4 - 0,8 A.

Type BRT - Outdoor design.

Rated voltages 7.2; 12; 17.5; 24; 36 kV.

Rated current 0,8 A.

Fuses for MOTOR circuit applications

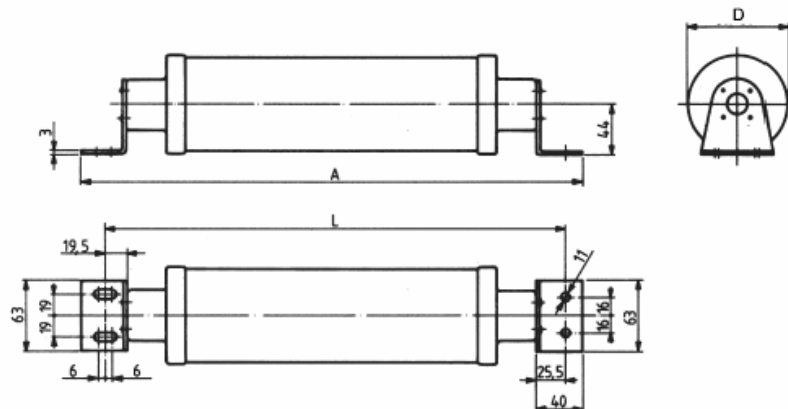


Features:

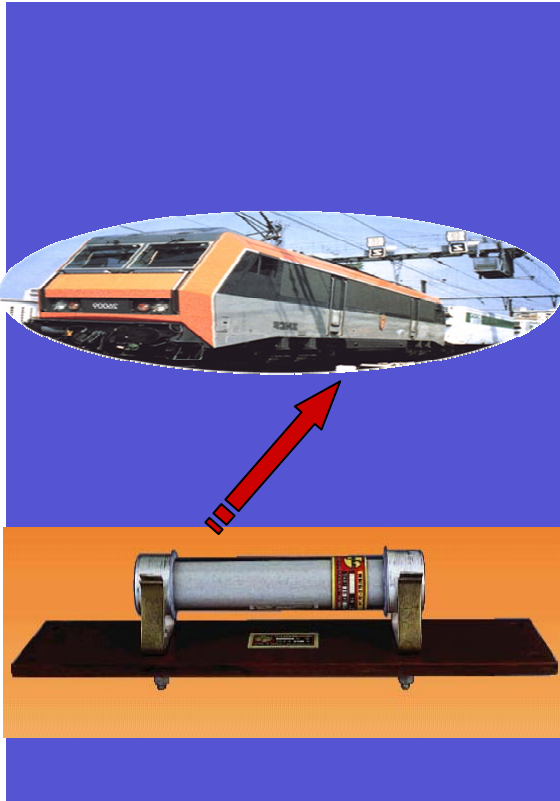
- High voltage current limiting
- Low power losses
- Low minimum breaking current
- High breaking capacity
- Short circuit current limitation
- Dimensions acc.to DIN/IEC & BS Standards

rated voltage 3,6 - 12 kV

rated current 63 - 315 A



Fuses for RAILWAY TRACTION



Features:

- High rupturing capacity
- Short circuit current limiting
- Low switching voltages

Type: WBT...,

Nominal voltage 1.5 - 4 kV DC.

Nominal current I_n 0,6 - 100 A

Breaking current up to 50kA

Type: BWT

Rated voltage U_n 3 kV DC

Rated current I_n 3.15 - 250 A

Minimum breaking current I_{min} 4 x I_n

‘Specifica Generale per la Fornitura di Valvole Fusibili A.T. per Circuiti C.C’.
Trenitalia (Italian Railways)

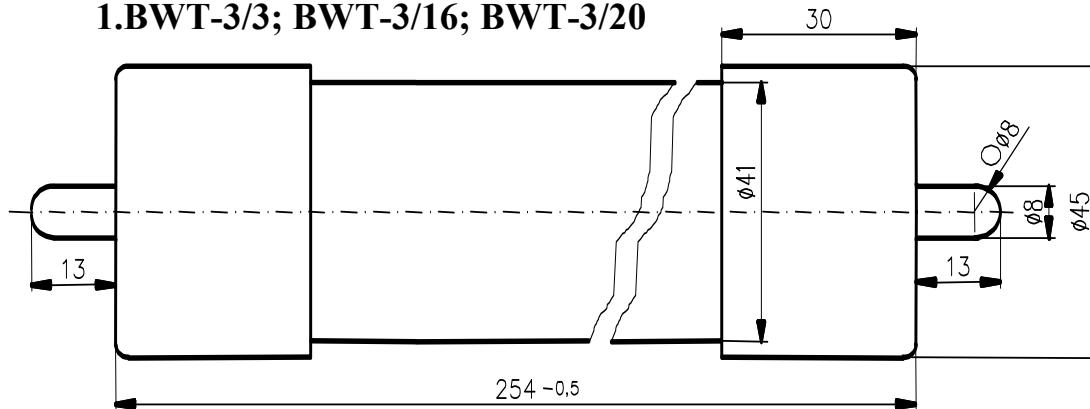
Fuses for RAILWAY TRACTION



Technical parameters:

Rated voltage	Un	3 kV DC
Rated current	In	3, 16, 20 A
Switching voltage (max)	Um	12 kV
Minimum breaking current	Imin	1.6 x In
Maximum breaking current Iws		35 kA

1.BWT-3/3; BWT-3/16; BWT-3/20



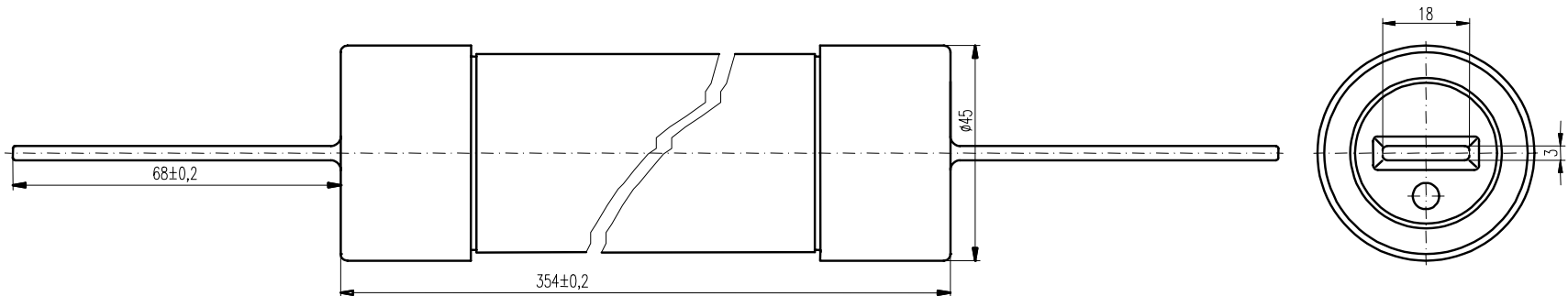
Fuses for RAILWAY TRACTION



2.BWT-3/50-1; BWT-3/80-1

Technical parameters:

Rated voltage	U_n	3 kV DC
Rated current	I_n	50, 80 A
Switching voltage (max)	U_m	8 kV
Minimum breaking current	I_{min}	$4 \times I_n$
Maximum breaking current	I_{ws}	35 kA



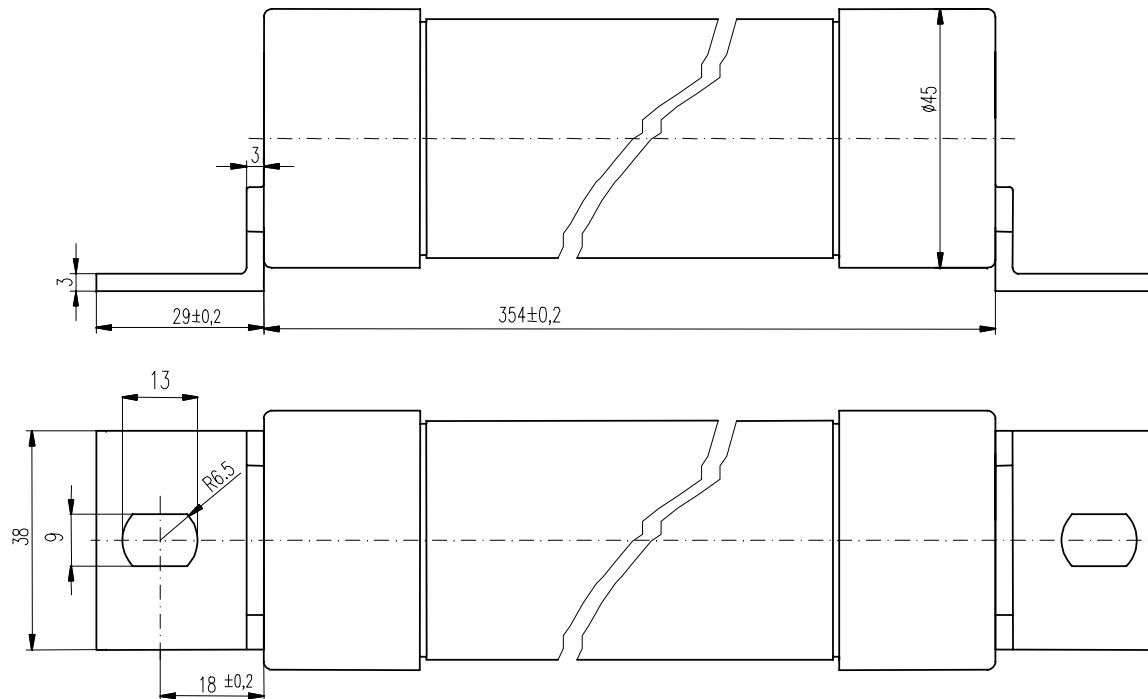
Fuses for RAILWAY TRACTION



Technical parameters:

Rated voltage	U_n	3 kV DC
Rated current	I_n	40, 50, 63, 80 A
Switching voltage (max)	U_m	8 kV
Minimum breaking current	I_{min}	$4 \times I_n$
Maximum breaking current	I_{ws}	35 kA

3.BWT-3/40; BWT-3/50; BWT-3/63; BWT-3/80



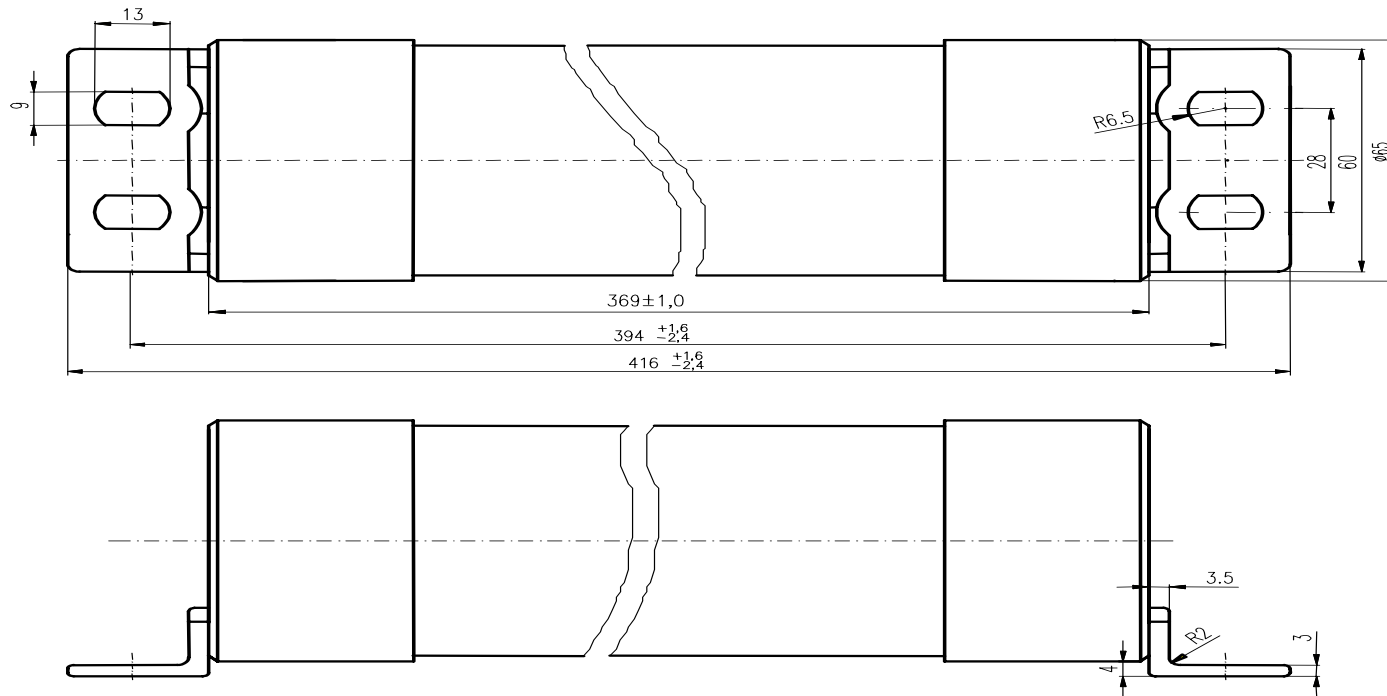
Fuses for RAILWAY TRACTION



4. BWT-3/160; BWT-3/250

Technical parameters:

Rated voltage	Un	3 kV DC
Rated current	In	160, 250 A
Switching voltage (max)	Um	8 kV
Minimum breaking current	Imin	4 x In
Maximum breaking current	Iws	35 kA

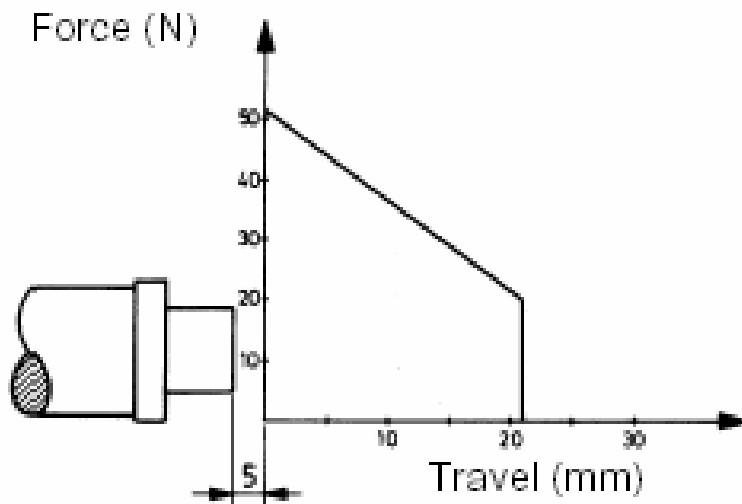


Automated Production Line of ABB fuse link



BU 3420 - Accessories

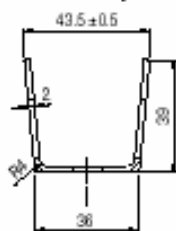
Striker type acc. to IEC: Medium



BU 3420 - Accessories

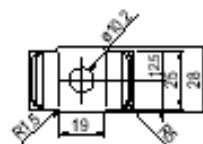
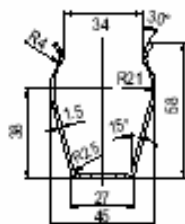
CEF fuse clips

Fuse clips



Old No. NHP400728P1

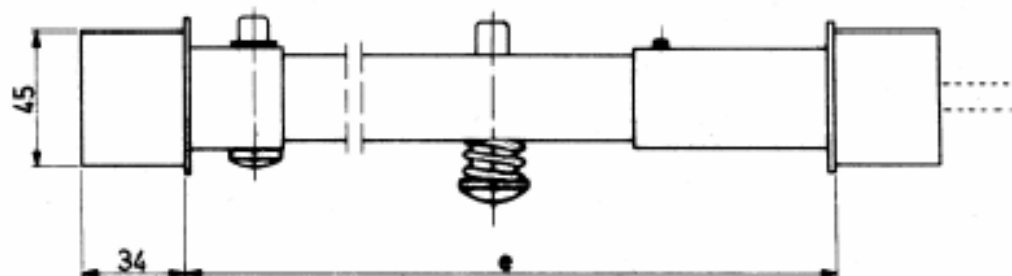
New No. 1YMX400728P0001



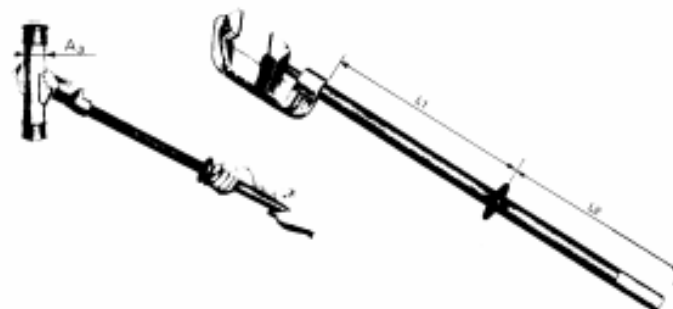
Old No. NHP400727P1

New No. 1YMX400727P0001

CEF test fuse link 3,6 – 36 kV



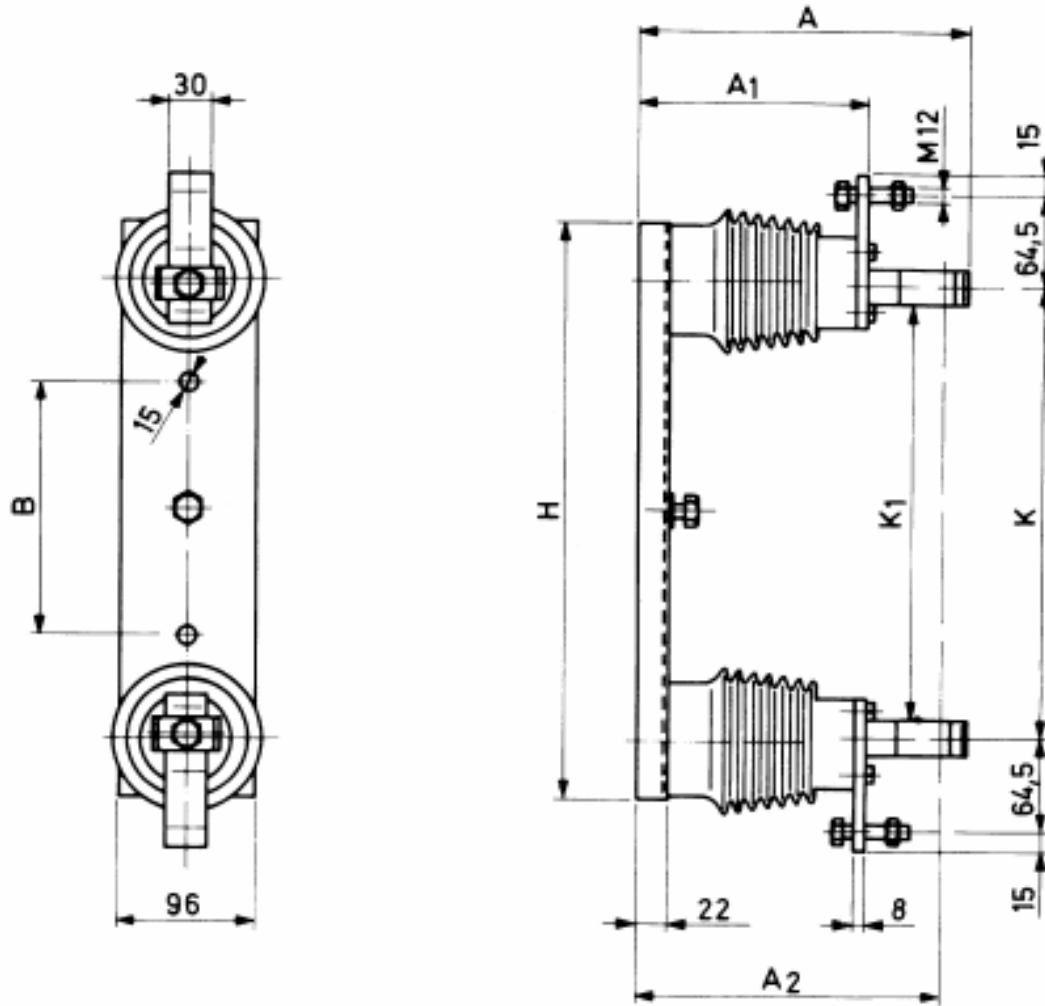
Operating tong for fuse link CEF 3,6 – 36 kV



ABB

BU 3420 - Accessories

Fuse base type UCE



BU 3420 - Fuses

EUROPE: WE+CEE

- ✓AUSTRIA
- ✓BELGIUM
- ✓BELARUS
- ✓BULGARIA
- ✓CROATIA
- ✓CZECH REP.
- ✓DENMARK
- ✓ESTONIA
- ✓FINLAND
- ✓FRANCE
- ✓GERMANY
- ✓GREAT BRITAIN
- ✓GREECE
- ✓HUNGARY
- ✓ICELAND
- ✓IRELAND
- ✓ITALY
- ✓LATVIA
- ✓LITHUANIA
- ✓LUXEMBOURG
- ✓NORWAY
- ✓NETHERLANDS
- ✓POLAND
- ✓PORTUGAL
- ✓ROMANIA
- ✓SLOVAKIA
- ✓SPAIN
- ✓SWEDEN
- ✓SWITZERLAND

ASIA:

- ✓AUSTRALIA
- ✓CHINA
- ✓HONG KONG
- ✓INDIA
- ✓INDONESIA
- ✓JAPAN
- ✓KOREA
- ✓NEW ZEALAND
- ✓MALAYSIA
- ✓PHILIPPINES
- ✓SINGAPORE
- ✓TAIWAN
- ✓THAILAND
- ✓VIETNAM

MIDDLE EAST:

- ✓EGYPT
- ✓ISRAEL
- ✓JORDAN
- ✓KUWAIT
- ✓LEBANON
- ✓SAUDI ARABIA
- ✓SYRIA
- ✓TUNISIA
- ✓TURKEY
- ✓UNITED ARAB EMIRATES

SOUTH&NORTH AMERICA:

- ✓ARGENTINA
- ✓BRAZIL
- ✓CANADA
- ✓CHILE
- ✓COLOMBIA
- ✓ECUADOR
- ✓MEXICO
- ✓PANAMA
- ✓PERU
- ✓USA
- ✓VENEZUELA

AFRICA:

- ✓SOUTH AFRICA
- ✓TANZANIA



Medium Voltage Fuses Family For AC/DC Circuits

type CEF/CMF



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