



ПАПКА 18

ПРИЛОЖЕНИЕ 10 Други документи за  
Позиция 1 и Позиция 2

ПРИЛОЖЕНИЕ 10.9 Щепселни глави за КРУ  
– за охрана и за вход/изход

Приложение 1

Приложение 2

Приложение 3

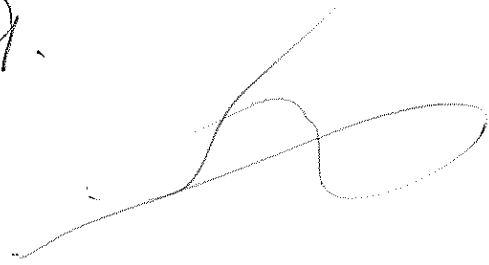
Приложение 4

Приложение 5

Приложение 6

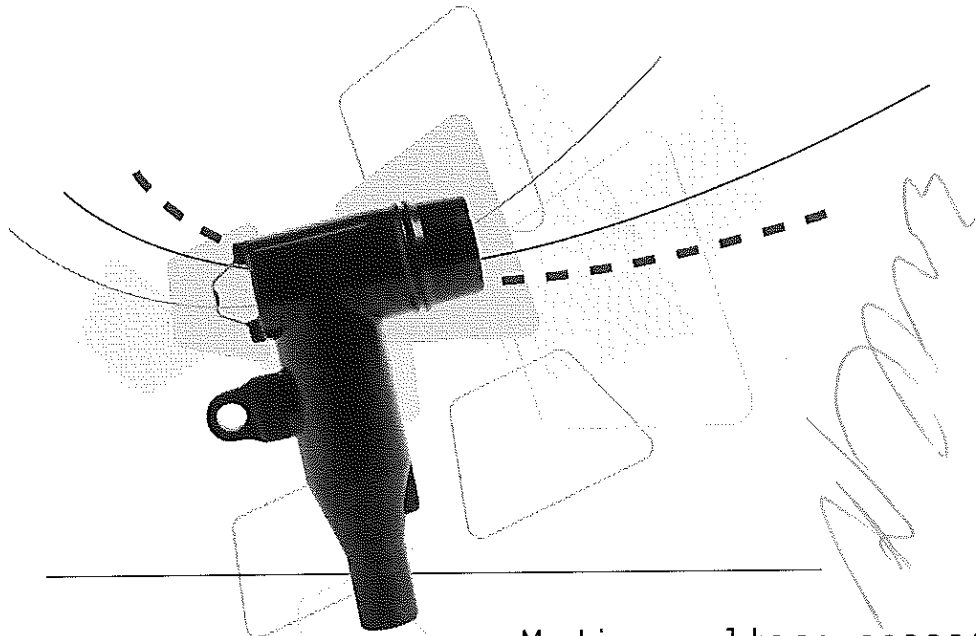
10.9.

1-2



# Euromold

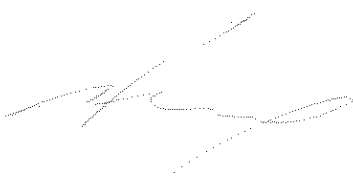
a Nexans company



Medium voltage separable  
connectors and bushings  
- Interface A -  
K 158LR

Catalogue 2012

ВЯРНО С  
ОРИГИНАЛА

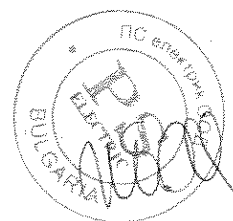


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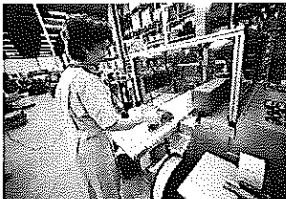
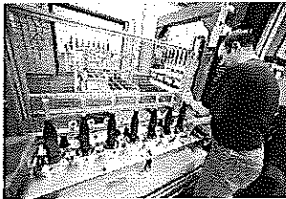
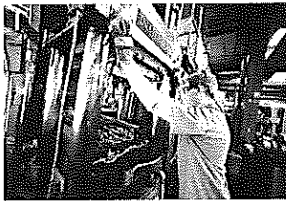
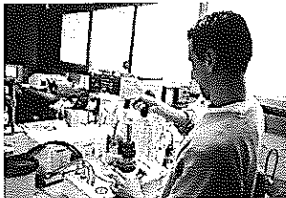
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ВЯРНО С  
ОРИГИНАЛА



**Nexans Network Solutions**  
**Div. Euromold**  
**COMPANY PRESENTATION**



**EUROMOLD**

Euromold is the leading European specialised designer, manufacturer and distributor of prefabricated cable accessories for medium voltage energy distribution. Euromold provides a complete range of accessories for underground cables: premoulded EPDM rubber connectors for cables and epoxy bushings for transformers and switchgear, as well as a large range of cold-shrinkable terminations and joints from 12 to 42 kV. Euromold is also the manufacturer of electrical components for the high voltage accessories of the Nexans group.

**ISO 9001 Certificate**

Since 1992, Euromold's commitment to quality is demonstrated by its ISO 9001 certification.

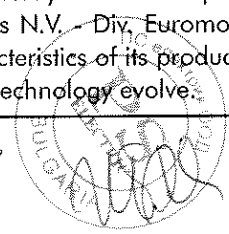
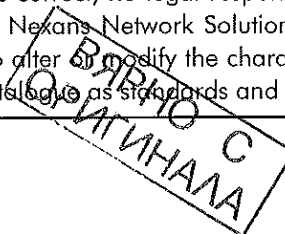
**International standards**

All our products meet the International standards like CENELEC HD 629.1, CENELEC EN 50180, IEC 60137, IEC 60502-4... or country specifications. Official certificates, CESI, KEMA, ATEX... prove the conformity of our products. Long duration tests of existing or new products are continuously performed in our test fields.

**Laboratory accreditation**

Since June 2000, Euromold's independent ELAB laboratory obtained the BELAC accreditation no. 144-TEST conform with the European standards for laboratories ISO 17025 for electrical testing of low and medium voltage cable accessories according to the international standards HD 623 and HD 629.

While every care is taken to ensure that the information contained in this publication is correct, no legal responsibility can be accepted for any inaccuracy. Nexans Network Solutions N.V. - Div. Euromold reserves the right to alter or modify the characteristics of its products described in this catalogue as standards and technology evolve.



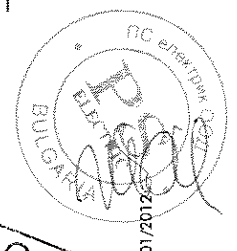
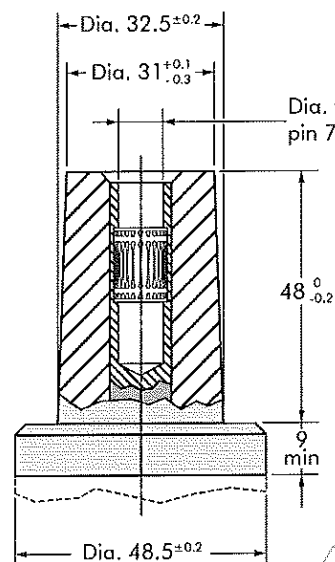
**SEPARABLE CONNECTORS  
AND BUSHINGS  
INTERFACE A**

**I Table of contents**

- 158LR - elbow connector
- 152SR - straight connector
- 151SP - straight plug
- 156SA - surge arrester
- 180AR-1 /-2 /-3 and 180AR-1-G /-3-G - equipment bushings
- 250SFR-P - equipment bushing
- 180A-24P-O - in-air bushing
- PITO-E - plug-in termination
- Accessories
- Bail restraints

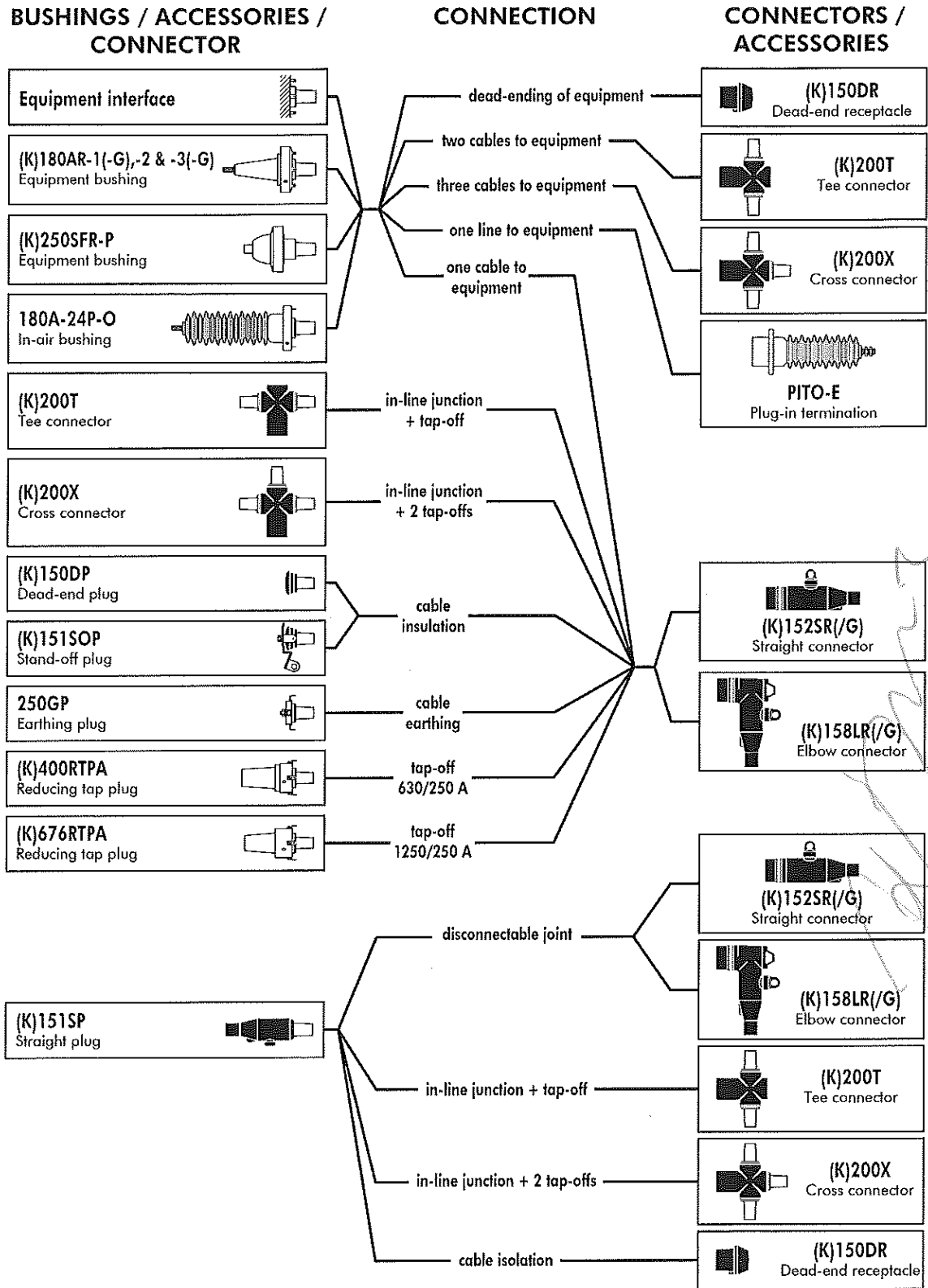
**I Interface A**

Dimensions according to  
European CENELEC EN 50180  
and 50181 (in mm).



ВЯРНО С  
ОРИГИНАЛА

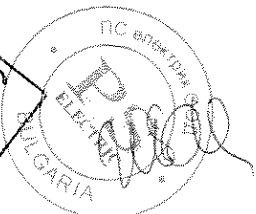
# Connecting possibilities



01/2012

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ВЯРНО С  
ОРИГИНАЛ



## 158LR INTERFACE A ELBOW CONNECTOR

Up to 24 kV - 250 A

### Application

Separable elbow connector designed to connect polymeric insulated cable to equipment (transformers, switchgear, motors...).

Also connects cable to cable, using the appropriate mating part.

### Technical characteristics

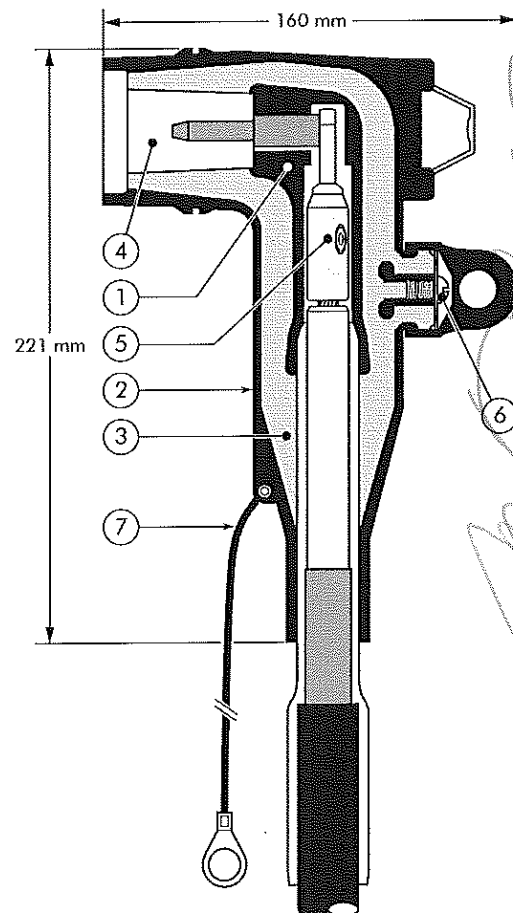
- The thick conductive EPDM jacket provides a total safe to touch screen which ensures safety for personnel.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.

6/10 (12) kV  
6.35/11 (12) kV  
8.7/15 (17.5) kV  
12/20 (24) kV  
12.7/22 (24) kV

### Design

Separable connector comprising:

1. Conductive EPDM insert.
2. Conductive EPDM jacket.
3. Insulating EPDM layer moulded between the insert and the jacket.
4. Type A - 250 A interface as described by CENELEC EN 50180 and 50181.
5. Conductor connector.
6. Voltage test point.
7. Earthing lead (-/G version only).



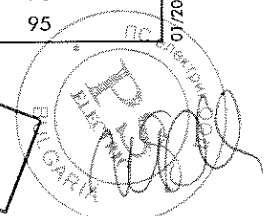
### Specifications and standards

The separable connector 158LR meets the requirements of CENELEC HD 629.1.

Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Conductor sizes (mm <sup>2</sup> )	
			min	max
158LR/G	12	250	16	95
158LR	12	250	70	95
K158LR/G	24	250	16	70
K158LR	24	250	25	95

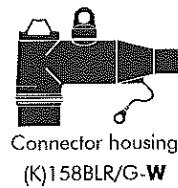
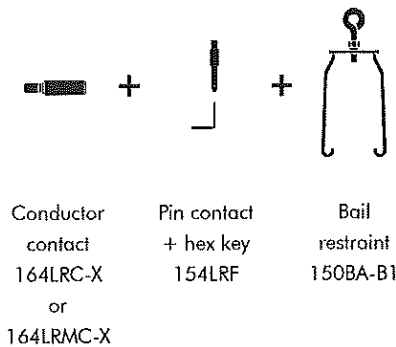
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ВЯРНО С  
ОРИГИНАЛА



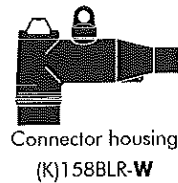
## Kit contents

The complete (K)158LR or (K)158LR/G elbow connector kit comprises the following components:



+ = (K)158LR/G-W-X  
connector kit for  
smaller sizes

Cable reducer  
211CA



+ = (K)158LR-W-X+11TL  
connector kit for  
larger sizes

Cable adaptor  
11TL

The kit also comprises lubricant, wipers, installation instructions and crimp chart.

## Ordering instructions

Select the part number which gives the best centring to the cable core insulation diameter and substitute **X** using table X, according to the conductor size and type.

Add a 'K' for use up to 24 kV.

### Example:

The copper wire screened cable is 24 kV, 50 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 20.4 mm. Order a K158LR-FG-50(K)M-12-2+11TL elbow connector kit.

**For an option with a bolted conductor contact,** specify the ordering part number below.

Table W

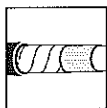
Ordering part number	Dia. over core insulation (mm)	
	min	max
158LR/G-11-X	12.6	16.1
158LR/G-13-X	14.6	18.7
158LR-FB-X+11TL	17.5	20.2
158LR-FG-X+11TL	18.4	21.2
158LR-GA-X+11TL	19.7	22.5
158LR-GAB-X+11TL	21.0	23.8
158LR-GH-X+11TL	23.6	26.4

Table X

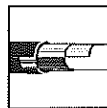
Conductor sizes (mm <sup>2</sup> )	Aluminium		Copper
	DIN hexagonal	Deep indent	DIN hexagonal
16	-	-	16(K)M-11-2
25	25(K)M-12-2	25KM-12-1	25(K)M-11-2
35	35(K)M-12-2	35KM-12-1	35(K)M-11-2
50	50(K)M-12-2	50(K)M-12-1*	50(K)M-11-2
70	70(K)M-12-2	70(K)M-12-1*	70(K)M-11-2
95	95(K)M-12-2*	95(K)M-12-1*	95(K)M-11-2

\* The 158LR-FB is not compatible with these conductor contacts.

Ordering part number	Dia. over core insulation (mm)	Conductor sizes (mm <sup>2</sup> )
158LR/G-13-25.95-14-5	14.6 - 22.7	35 - 70
158LR-GAS-50.95-14-5+11TL	19.7 - 25.4	25 - 95



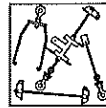
For use with copper wire screened cables. Order: Kit MT.



For use with Alupec or C 33-226 cables. Please contact our representative.



For use with other cable types. Please contact our representative.



For adapted bail restraints: see 'Bail restraints and typical applications'.



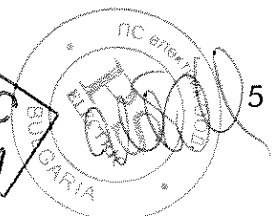
For outdoor applications. Order: +MWS.



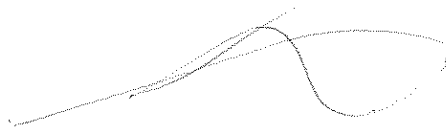
Components can be ordered individually.

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ВЯРНО С  
ОРИГИНАЛА







## 152SR INTERFACE A STRAIGHT CONNECTOR

Up to 24 kV - 250 A

### Application

Separable straight connector designed to connect polymeric insulated cable to equipment (transformers, switchgear, motors...).

Also connects cable to cable, using the appropriate mating part.

### Technical characteristics

- The thick conductive EPDM jacket provides a total safe to touch screen which ensures safety for personnel.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.

6/10 (12) kV  
6.35/11 (12) kV  
8.7/15 (17.5) kV  
12/20 (24) kV  
12.7/22 (24) kV

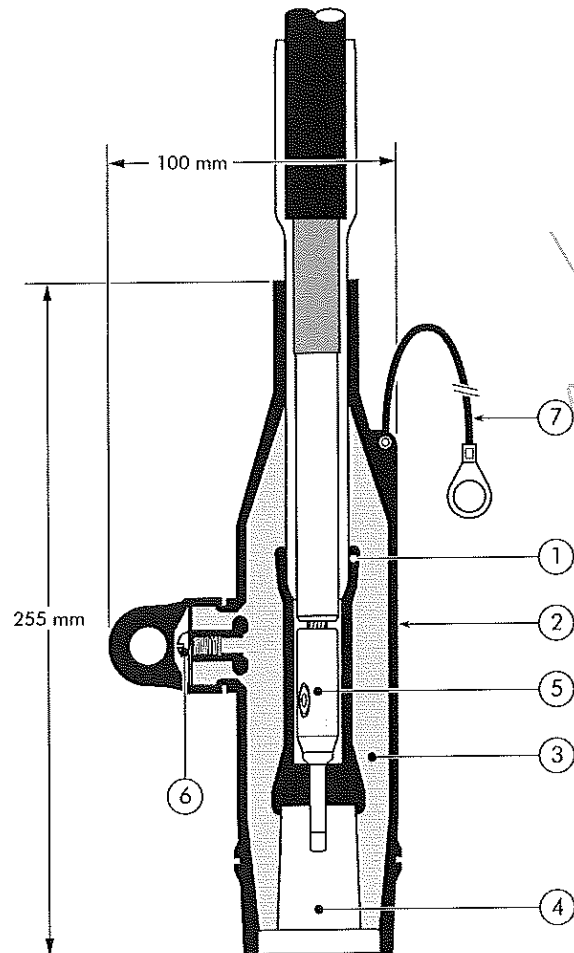
### Design

Separable connector comprising:

1. Conductive EPDM insert.
2. Conductive EPDM jacket.
3. Insulating EPDM layer moulded between the insert and the jacket.
4. Type A - 250 A interface as described by CENELEC EN 50180 and 50181.
5. Conductor connector.
6. Voltage test point.
7. Earthing lead (-/G version only).

### Specifications and standards

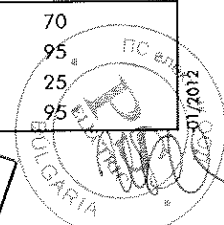
The separable connector 152SR meets the requirements of CENELEC HD 629.1.



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Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Conductor sizes (mm <sup>2</sup> )	
			min	max
152SR/G	12	250	16	70
152SR	12	250	70	95
K152SR/G	24	250	16	25
K152SR	24	250	16	95

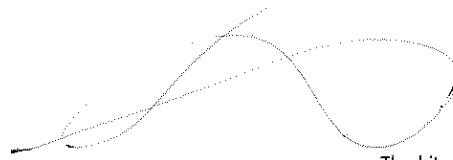
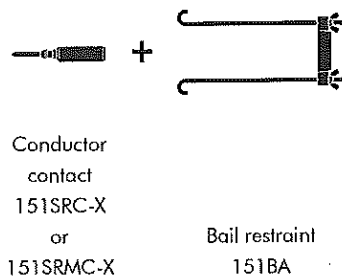
**ВЯРНО С  
ОРИГИНАЛА**



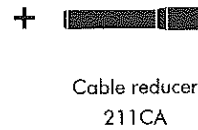
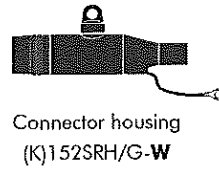
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## Kit contents

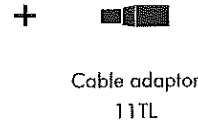
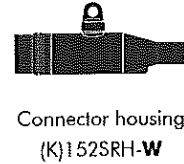
The complete (K)152SR or (K)152SR/G straight connector kit comprises the following components:



The kit also comprises lubricant, wipers, installation instructions and crimp chart.



= (K)152SR/G-W-X  
connector kit for  
smaller sizes



= (K)152SR-W-X+11TL  
connector kit for  
larger sizes

## Ordering instructions

Select the part number which gives the best centring to the cable core insulation diameter and substitute **X** using table X, according to the conductor size and type.  
Add a 'K' for use up to 24 kV.

### Example:

The copper wire screened cable is 24 kV, 50 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 20.4 mm.  
Order a K152SR-FG-50(K)M-12-2+11TL straight connector kit.

**For an option with a bolted conductor contact,** specify the ordering part number below.

Table W

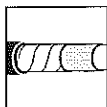
Ordering part number	Dia. over core insulation (mm)	
	min	max
152SR/G-11-X	12.6	16.1
152SR/G-13-X	14.6	18.7
152SR-FB-X+11TL	17.5	20.2
152SR-FG-X+11TL	18.4	21.2
152SR-GA-X+11TL	19.7	22.5
152SR-GAB-X+11TL	21.0	23.8
152SR-GH-X+11TL	23.6	26.4

Table X

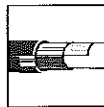
Conductor sizes (mm <sup>2</sup> )	Aluminium		Copper
	DIN hexagonal	Deep indent	DIN hexagonal
16	-	-	16(K)M-11-2
25	25(K)M-12-2	25KM-12-1	25(K)M-11-2
35	35(K)M-12-2	35KM-12-1	35(K)M-11-2
50	50(K)M-12-2	50(K)M-12-1*	50(K)M-11-2
70	70(K)M-12-2	70(K)M-12-1*	70(K)M-11-2
95	95(K)M-12-2*	95(K)M-12-1*	95(K)M-11-2

\* The 152SR-FB is not compatible with these conductor contacts.

Ordering part number	Dia. over core insulation (mm)	Conductor sizes (mm <sup>2</sup> )
152SR/G-13-25.95-14-5	14.6 - 22.7	35 - 70
152SR-GAS-50.95-14-5+11TL	19.7 - 25.4	25 - 95



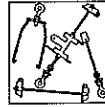
For use with copper tape screened cables.  
Order: Kit MT.



For use with Alupe or C 33-226 cables.  
Please contact our representative.



For use with other cable types.  
Please contact our representative.



For adopted bolted conductor contacts:  
see 'Bolted conductor contacts and typical applications'.



For outdoor applications.  
Order: +MWS.



Components can be ordered individually.

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## 151SP INTERFACE A STRAIGHT PLUG

Up to 24 kV - 200 A

### Application

Separable straight plug designed to connect polymeric insulated cable to cable. Mates with the elbow, straight and branch joint connectors.

### Technical characteristics

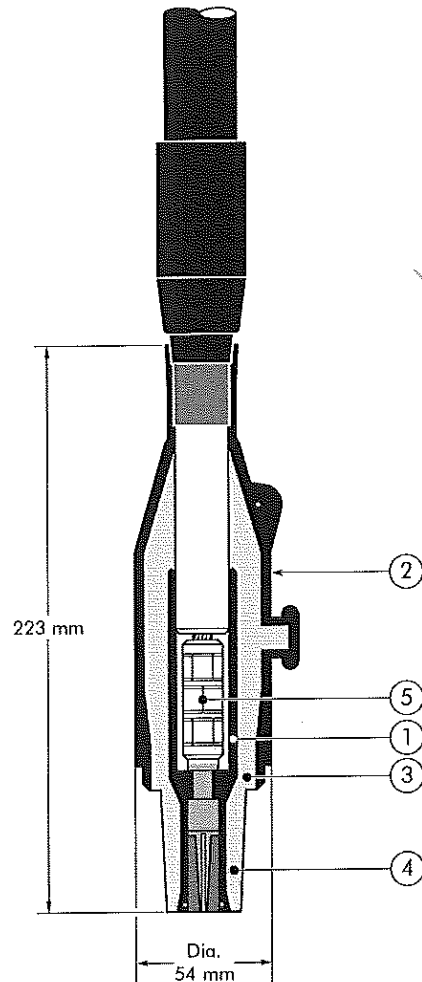
- The thick conductive EPDM jacket provides a total safe to touch screen which ensures safety for personnel.
- Each straight plug is tested for AC withstand and partial discharge prior to leaving the factory.

6/10 (12) kV  
6.35/11 (12) kV  
8.7/15 (17.5) kV  
12/20 (24) kV  
12.7/22 (24) kV

### Design

Separable connector comprising:

1. Conductive EPDM insert.
2. Conductive EPDM jacket.
3. Insulating EPDM layer moulded between the insert and the jacket.
4. Type A interface as described by CENELEC EN 50180 and 50181.
5. Conductor connector.



Separable plug type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Conductor sizes (mm <sup>2</sup> )	
			min	max
151SP	12	200	16	95
K151SP	24	200	16	95

ВЪРНО С  
КОПИТИНАА

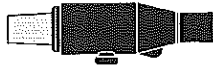
БЪЛГАРИЯ  
ELECTRA  
BULGARIA

01/02/17

## Kit contents

The complete (K)151SP straight plug kit comprises the following components:

The kit also comprises lubricant, wipers, installation instructions and crimp chart.



Straight plug housing  
(K)151SPH-W

+



Conductor  
contact  
151SPC-X

+



Cable  
adaptor  
11TL

=

(K)151SP-W-X+11TL  
straight plug kit

## Ordering instructions

Select the part number which gives the best centring to the cable core insulation diameter and substitute **X** using table X, according to the conductor size and type. Add a 'K' for use up to 24 kV.

Table W

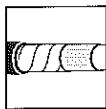
Ordering part number	Dia. over core insulation (mm)	
	min	max
151SP-A-X+11TL-FA/FAB	14.6	18.7
151SP-B-X+11TL-FB/FG	17.2	21.2
151SP-B-X+11TL-GA/GAB	19.7	23.0
151SP-C-X+11TL-GB/GH	22.2	26.4

Table X

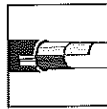
Conductor sizes (mm <sup>2</sup> )	Aluminium		Copper
	DIN hexagonal	Deep indent	DIN hexagonal
16	-	-	16(K)M-11-2
25	25(K)M-12-2	25KM-12-1	25(K)M-11-2
35	35(K)M-12-2	35KM-12-1	35(K)M-11-2
50	50(K)M-12-2	50(K)M-12-1	50(K)M-11-2
70	70(K)M-12-2	70(K)M-12-1	70(K)M-11-2
95	95(K)M-12-2	95(K)M-12-1	95(K)M-11-2

### Example:

The copper wire screened cable is 12 kV, 50 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 16.9 mm. Order a 151SP-A-50(K)M-12-2+11TL-FA/FAB straight plug kit.



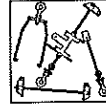
For use with copper tape screened cables.  
Order: Kit MT.



For use with Alupe or C 33-226 cables. Please contact our representative.



For use with other cable types. Please contact our representative.



For adapted bail restraints: see 'Bail restraints and typical applications'.



For outdoor applications.  
Order: +MWS.



Components can be ordered individually.

Euromold  
a Nexans company



## 156SA INTERFACE A SURGE ARRESTER

Up to 24 kV

### Application

Surge arrester designed to protect 12 and 24 kV class components, including transformers, equipment, cable and accessories from high voltage surges resulting from lightning or switching.

### Technical characteristics

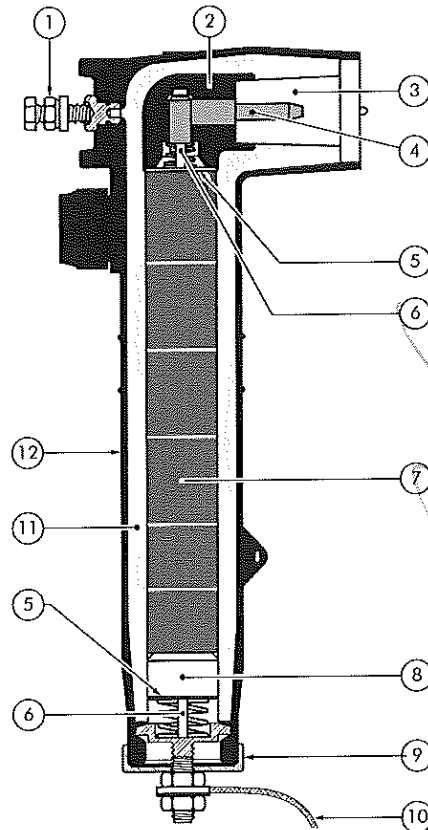
- This surge arrester is a metal oxide varistor surge arrester in an elbow configuration.
- Each arrester is tested for AC withstand and partial discharge prior to leaving the factory.

6/10 (12) kV  
6.35/11 (12) kV  
8.7/15 (17.5) kV  
12/20 (24) kV  
12.7/22 (24) kV

### Design

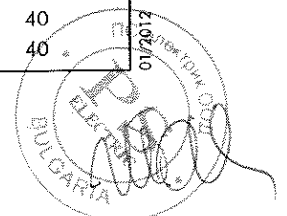
Surge arrester comprising:

1. Bail restraint.
2. Conductive EPDM insert.
3. Type A - 250 A interface as described by CENELEC EN 50180 and 50181.
4. Pin contact.
5. Contact disc.
6. Copper shunt.
7. Metal oxide valve elements.
8. Aluminium spacer.
9. Steel cap.
10. Earth connection.
11. Insulating EPDM layer moulded between the insert and the jacket.
12. Conductive EPDM jacket.

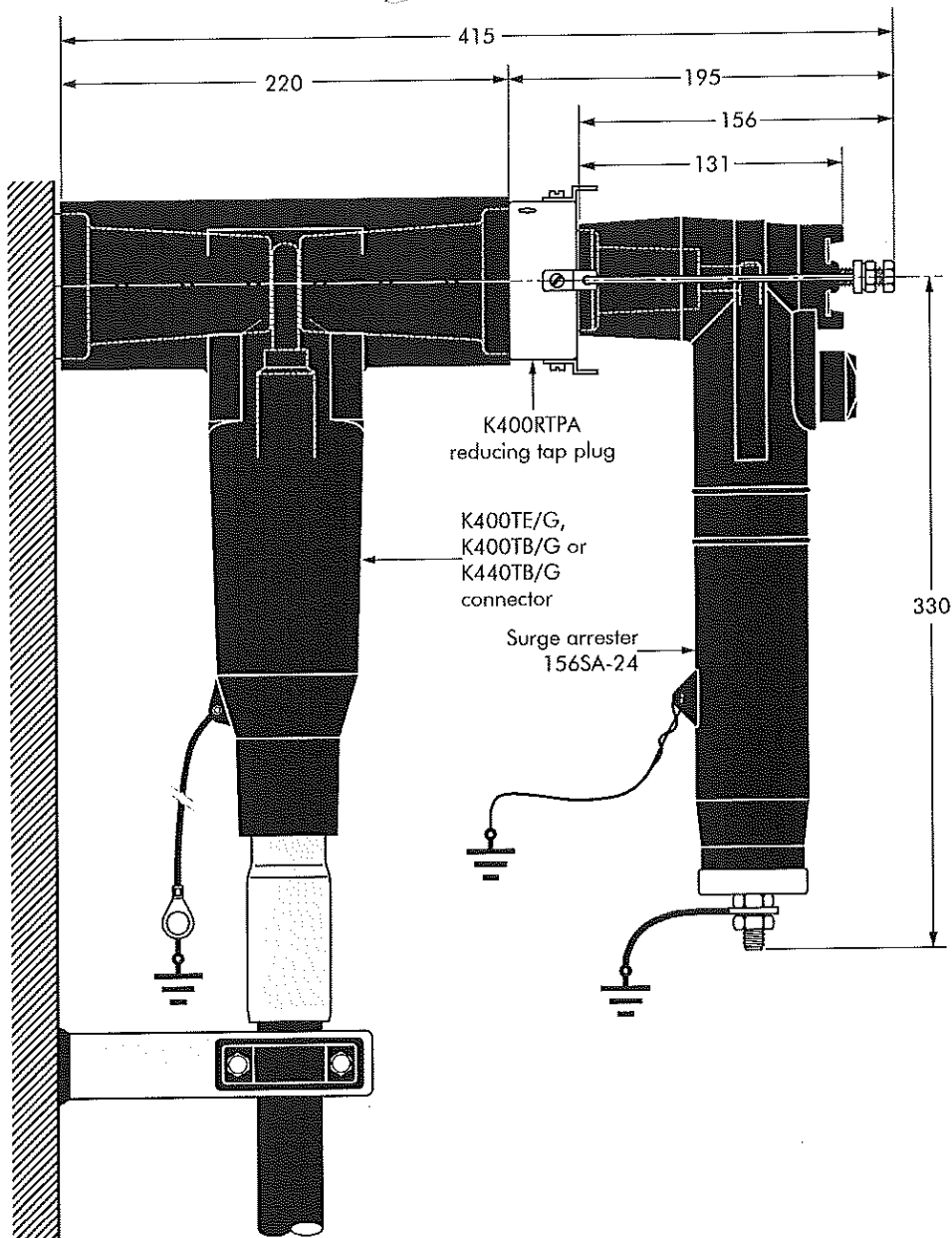


Surge arrester type	Nominal discharge current $I_n$ (kA)	Rated voltage $U_r$ (kV)	Max continuous operating voltage $U_c$ (kV)	Steep current residual voltage @ 5 kA [1/20 $\mu$ s] (kV)	Lightning current residual voltage @ 5 kA [8/20 $\mu$ s] (kV)	High current impulse withstand (kA)
156SA-12	5	15	12.5	62.5	54.5	40
156SA-15	5	19	15.5	77.0	69.0	40
156SA-18	5	22	18.0	87.0	79.0	40
156SA-21	5	26	21.0	101.5	93.5	40
156SA-24	5	30	24.5	116.5	108.5	40

ВЯРНО С  
ОРИГИНАЛА



**Typical application and dimensions**



In mm.

**Ordering instructions**

To order the surge arrester, specify the surge arrester type, as described on previous page.

**Example:**

For a maximum continuous operating voltage (r.m.s.) of 21 kV.

Order a 156SA-21 surge arrester.

**Euromold**  
a Nexans company



## 180AR-1 /180AR-2 /180AR-3 INTERFACE A EQUIPMENT BUSHINGS

Up to 24 kV - 250 A

### Application

For use in equipment insulated with oil fluid, typically for transformers, switchgear, capacitors...

### Specifications and standards

The plug-in type equipment bushings 180AR... meet the requirements of CENELEC EN 50180 and IEC 60137.

### Technical characteristics

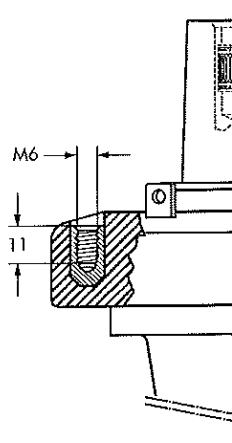
Each bushing is tested for AC withstand and partial discharge prior to leaving the factory.

6/10 (12) kV  
6.35/11 (12) kV  
8.7/15 (17.5) kV  
12/20 (24) kV  
12.7/22 (24) kV

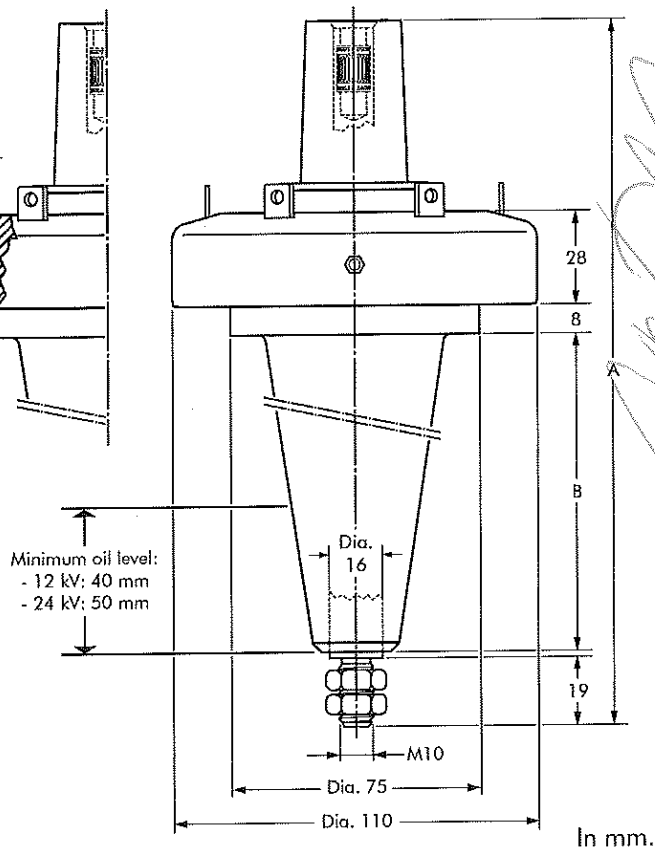
### Design

- The equipment bushings are moulded epoxy insulated parts in accordance with CENELEC EN 50180. The 180AR-2 bushing has a length B outside this standard.
- The standard bushings, (K)180AR-1 /-2 /-3, are equipped with 6 tabs for the bail restraint.
- The (K)180AR-1-G and (K)180AR-3-G are equipped with 4 tabs and 2 threaded inserts M6 (-G version).

Type 180AR-1-G /-3-G



Type 180AR-1 /-2 /-3



### Ordering instructions

To order the equipment bushing, specify the type. The bushings are supplied with an earth jumper (/J) or an earth plate (/GS). This earth connection must be specified when ordering.  
E.g. K180AR-1/J.

Equipment bushing type	Voltage Ur (kV)	Current Ir (A)	Dimensions (mm)	
			A	B
180AR-1	12	250	222	106
K180AR-1	24	250	222	106
180AR-2	12	250	284	168
K180AR-2	24	250	284	168
180AR-3	12	250	171	55
K180AR-3	24	250		55

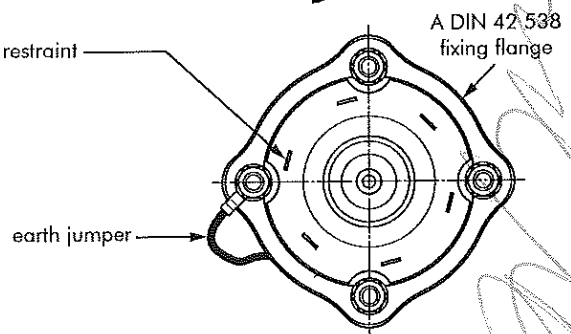
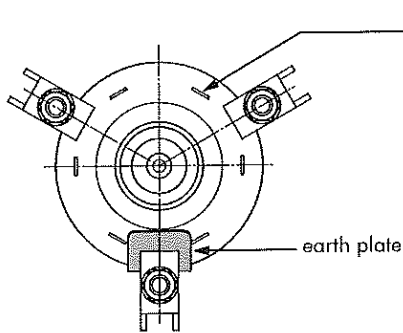
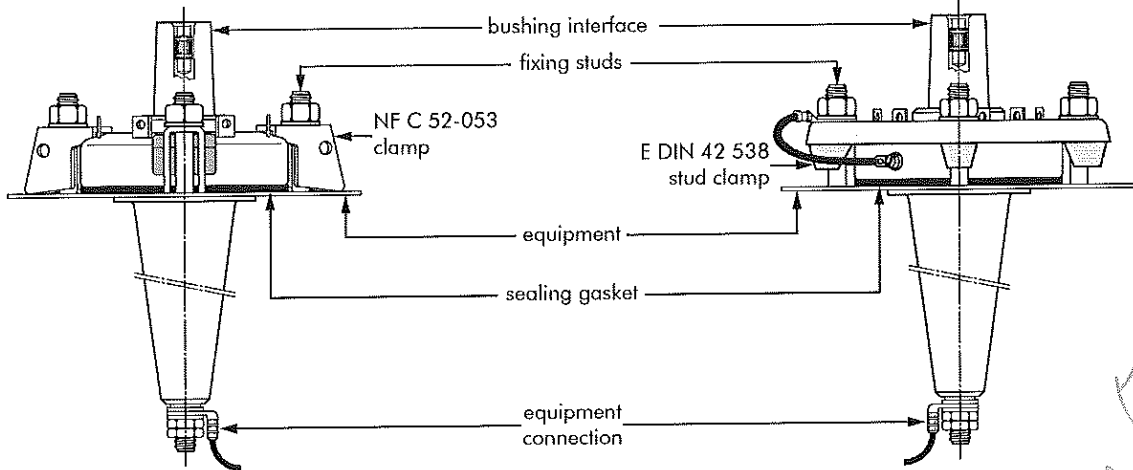
ВЪРНО С  
ОРИГИНАЛ

ПС елорд  
55  
01/2012  
BULGARIA

# FIXINGS FOR EQUIPMENT BUSHINGS

180AR-1/GS  
180AR-1-G/GS  
180AR-2/GS  
180AR-3/GS and  
180AR-3-G/GS Bushings

180AR-1/J  
180AR-1-G/J  
180AR-2/J  
180AR-3/J and  
180AR-3-G/J Bushings



## Bushing clamping kit

To order the bushing clamping kit, according to NFC 52-053 standards, simply specify KBCNF1-200.

Contents: - 3 x claw clamp NF  
- 1 x sealing gasket.

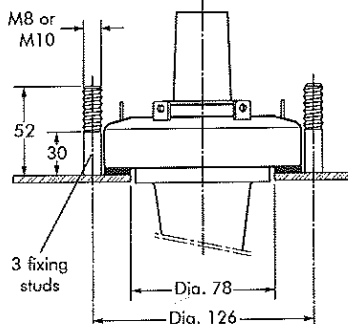
## Bushing clamping kit

To order the bushing clamping kit, according to DIN 42 538 standards, simply specify: KBCD-200.

Contents: - 1 x fixing flange A  
- 4 x stud clamp E  
- 1 x sealing gasket.

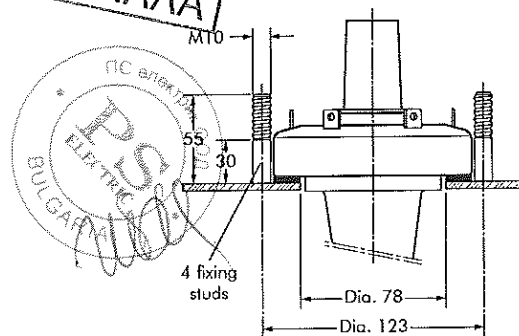
## Fixing dimensions standards NF C 52-053

French standards.



## Fixing dimensions standards DIN 42 538

German standards.



In mm.





**250SFR-P**  
**INTERFACE A**  
**EQUIPMENT BUSHING**

**Up to 24 kV - 250 A**

**Application**

For use in equipment insulated with SF<sub>6</sub> gas.

**Technical characteristics**

Each bushing is tested for AC withstand and partial discharge prior to leaving the factory.

6/10 (12) kV  
6.35/11 (12) kV  
8.7/15 (17.5) kV  
12/20 (24) kV  
12.7/22 (24) kV

**Design**

The equipment bushing is a moulded epoxy insulated part with a connector interface in accordance with CENELEC EN 50180.

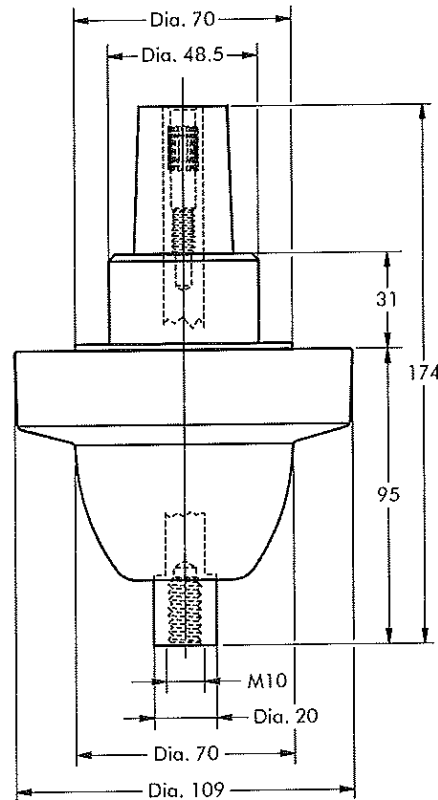
The 250SFR-P bushing has a shank outside this standard, adapted to use in SF<sub>6</sub> gas.

**Specifications and standards**

The plug-in type equipment bushings 250SFR-P meet the requirements of CENELEC EN 50180 and IEC 60137.

**Ordering instructions**

To order the equipment bushing, simply specify the type.

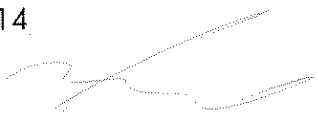


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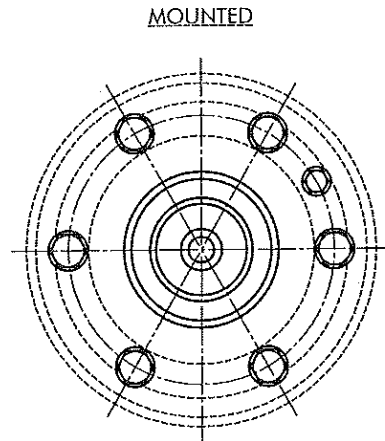
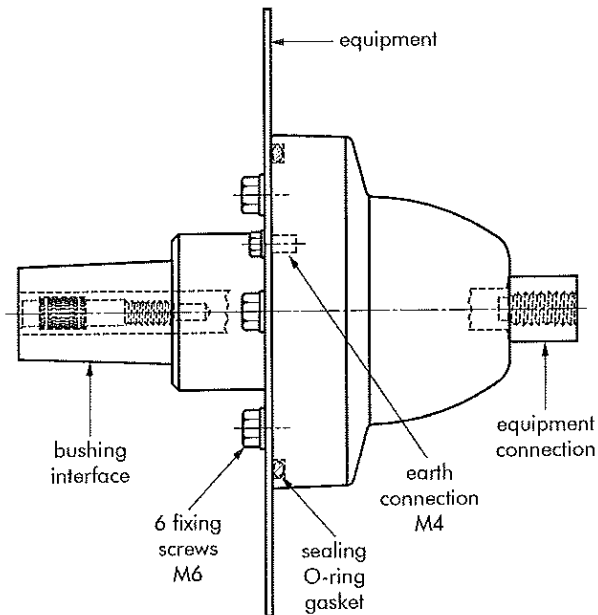
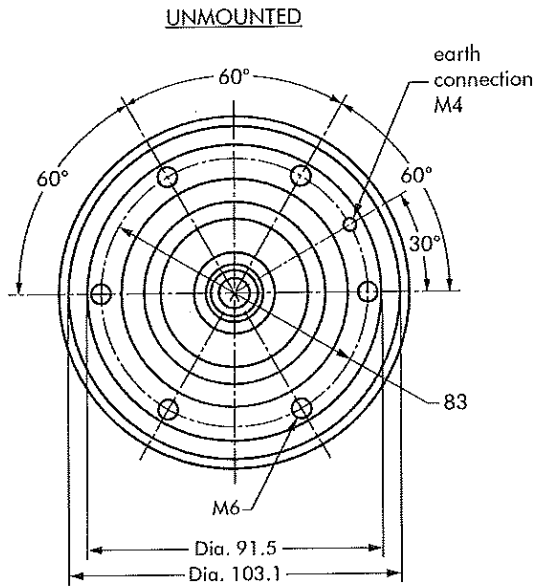
Equipment bushing type	Voltage U <sub>r</sub> (kV)	Current I <sub>r</sub> (A)
250SFR-P	12	250
K250SFR-P	24	250

01/2012



# FIXINGS FOR EQUIPMENT BUSHINGS

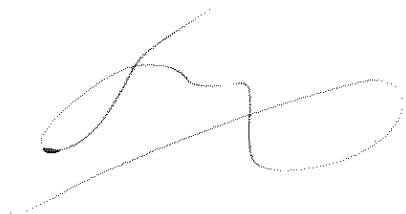
## 250SFR-P Bushing for gas insulated switchgear



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ОРИГИНАЛА

In mm.





## 180A-24P-O INTERFACE A IN-AIR BUSHING

Up to 24 kV - 250 A

### Application

For use in equipment insulated with air, typically for dry type transformers, motors, switchgear, capacitors...

### Technical characteristics

Each bushing is tested for AC withstand and partial discharge prior to leaving the factory.

6/10 (12) kV  
6.35/11 (12) kV  
8.7/15 (17.5) kV  
12/20 (24) kV  
12.7/22 (24) kV

### Specifications and standards

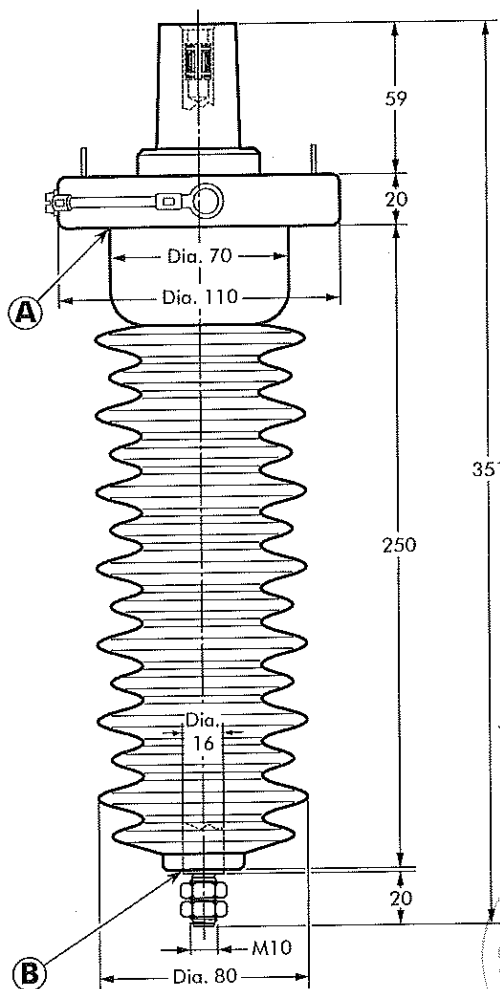
The plug-in type equipment bushings 180A-24P-O are moulded epoxy insulated parts and meet the requirements of CENELEC EN 50181, IEC 60071 and IEC 60137.

### Ordering instructions

To order the equipment bushing, specify the type. The bushings are supplied with an earth jumper. To include the ring clamp, add:

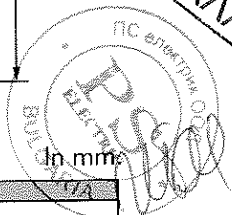
- /B, if per British standards
- /D, if per German standards
- /F, if per French standards.

E.g. 180A-24P-O/F.



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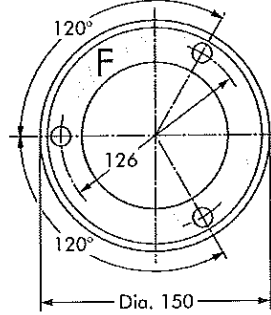
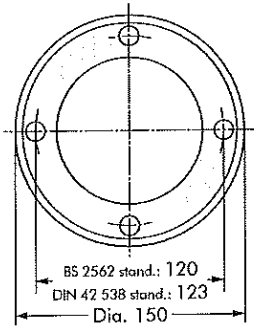
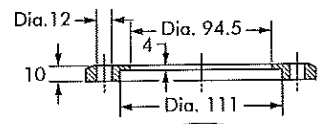
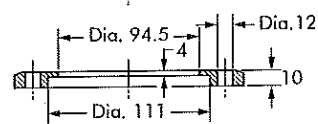
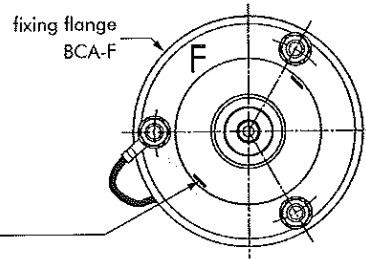
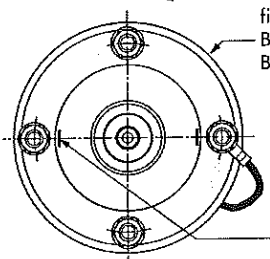
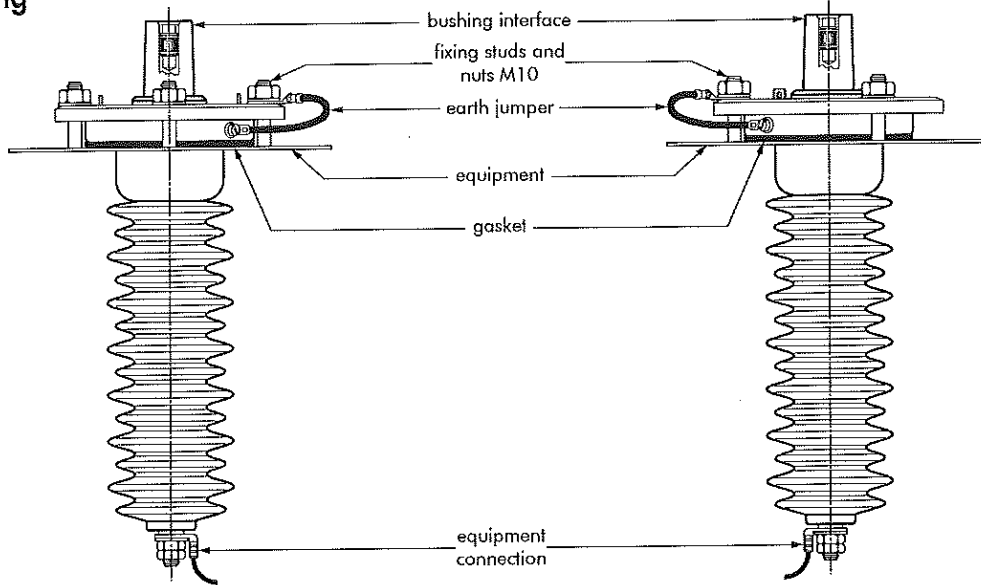
Equipment bushing type	Voltage Ur (kV)	Current Ir (A)	Creepage distance A-B (mm)
180A-24P-O	12	250	630
180A-24P-O	24	250	630

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180A-24P-O In-air bushing

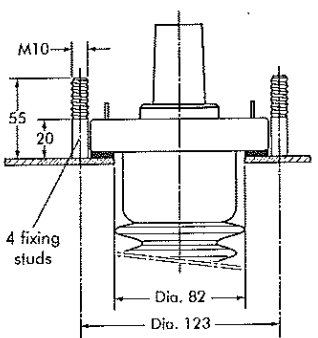
# FIXINGS FOR EQUIPMENT BUSHINGS



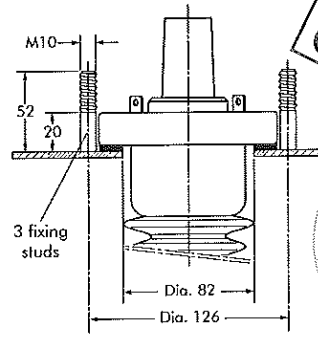
Type BCA-B : BS 2562 British standards  
Type BCA-D : DIN 42 538 German standards

Type BCA-F : NFC 52-053 French standards

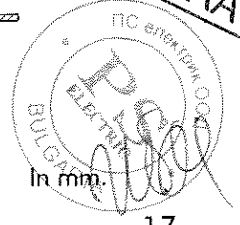
**Fixing dimensions standards DIN 42 538**  
German standards.



**Fixing dimensions standards NF C 52-053**  
French standards.



**ВЯРНО С ОРИГИНАЛА**



**Euromold**  
a Nexans company

**PITO-E  
PLUG-IN  
TERMINATION**

**Up to 24 kV - 250 A**

**Application**

- Separable termination designed to connect overhead lines or bus bars to equipment.
- Is suitable for indoor and outdoor use for medium polluted atmosphere.

**Technical characteristics**

Each plug-in termination is tested for AC withstand prior to leaving the factory.

- 6/10 (12) kV
- 6.35/11 (12) kV
- 8.7/15 (17.5) kV
- 12/20 (24) kV
- 12.7/22 (24) kV

**Design**

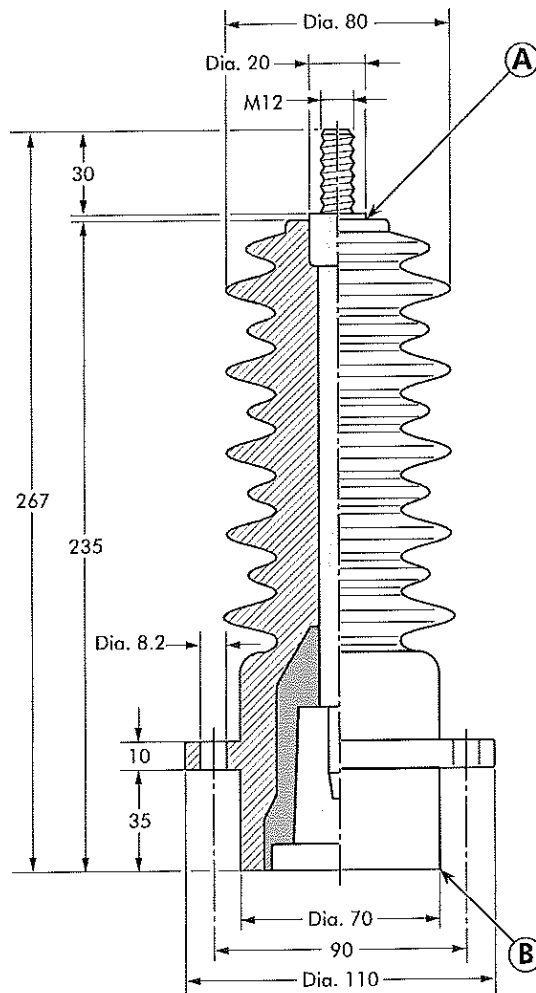
The plug-in termination is a moulded epoxy insulated part. It meets the type A - 250 A interface as described in CENELEC EN 50180 and 50181.

**Specifications and standards**

The separable termination PITO-E meets the requirements of IEC 60137.

**Ordering instructions**

To order the plug-in termination for 12 or 24 kV, specify PITO-E. The kit includes the bail restraint and 2 brass nuts.



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PC ELECTRIC  
BUENOS AIRES

10 mm.

01/2012

Plug-in termination type	Voltage $U_r$ (kV)	Current $I_r$ (A)	Creepage distance A-B (mm)
PITO-E	12	250	510
PITO-E	24	250	510

**ACCESSORIES**  
**INTERFACE A**

**Application**

For use with connectors and bushings with an interface A as described by CENELEC EN 50180 and 50181.

**Technical characteristics**

All these products, except the earthing plug, are tested for AC withstand and partial discharge prior to leaving the factory.

**Up to 24 kV**

6/10 (12) kV  
6.35/11 (12) kV  
8.7/15 (17.5) kV  
12/20 (24) kV  
12.7/22 (24) kV

**150DR**  
**Dead-end receptacle**

Fits over a bushing with a type A interface to provide 'dead-end' facility.  
Renders the assembly watertight.



**Ordering instructions**

Order 150DR for 12 kV or K150DR for 24 kV applications.  
The dead-end receptacle can be supplied with an earth lead.  
Order: -/G. E.g. K150DR/G.

**150DP**  
**Dead-end plug**

Plugs into connectors or receptacles to provide 'dead-end' facility.  
Renders the assembly watertight.

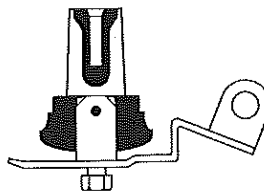


**Ordering instructions**

Order 150DP for 12 kV or K150DP for 24 kV applications.

**151SOP**  
**Stand-off plug**

Is designed to support and 'dead-end' connectors with a type A interface when removed from equipment.

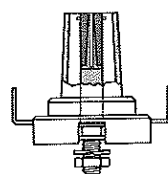


**Ordering instructions**

Order 151SOP for 12 kV or K151SOP for 24 kV applications.

**250GP**  
**Earthing plug**

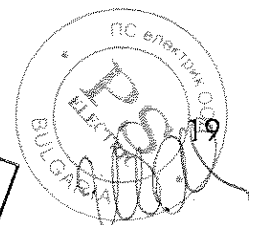
Is designed to support and earth connectors with a type A interface when removed from equipment.



**Ordering instructions**

Order 250GP for 12 kV or 24 kV applications.

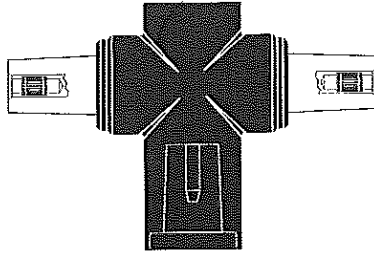
**ВЯРНО С**  
**ОРИГИНАЛ**



**200T**  
**Separable tee connector**

Is designed to connect three cables of the same or varying sizes or two cables to equipment.

For an adapted bail, please refer to the catalogue or contact our representative.



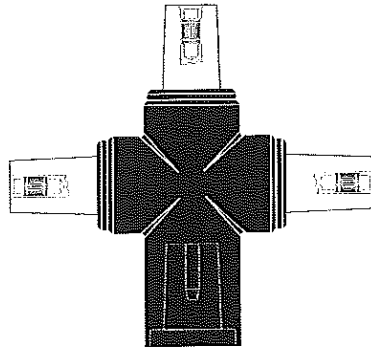
**Ordering instructions**

Order  
200T for 12 kV or  
K200T for 24 kV  
applications.

**200X**  
**Separable cross connector**

Is designed to connect four cables of the same or varying sizes or three cables to equipment.

For an adapted bail, please refer to the catalogue or contact our representative.



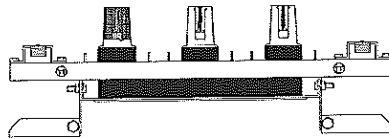
**Ordering instructions**

Order  
200X for 12 kV or  
K200X for 24 kV  
applications.

**1501J3-U-8**  
**Three-way junction**

Provides a flexible means of connecting two or three cables of the same or varying sizes.

For an adapted bail, please refer to the catalogue or contact our representative.

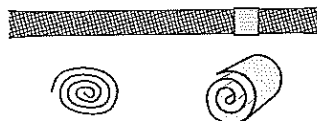


**Ordering instructions**

Order  
1501J3-U-8 for 12 kV or  
K1501J3-U-8 for 24 kV  
applications.

**Kit MT**  
**Earthing kit for copper tape screened cables**

Contains a tinned copper braid (25 mm<sup>2</sup> - L=500 mm), a tinned copper wire for cleaning and water sealing mastic.

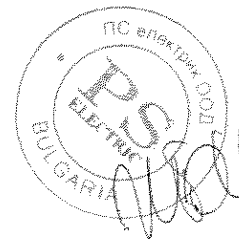


**Ordering instructions**

Order  
Kit MT for 12 kV or 24 kV  
applications.

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**ВЯРНО С  
ОРИГИНАЛА**



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## BAIL RESTRAINTS INTERFACE A

### Application

For use with connectors, receptacles and bushings with an interface A as described by CENELEC EN 50180 and 50181.

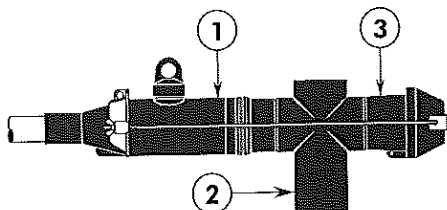
### Ordering instructions

The type of bail restraint is defined by its intended use with different types of connector, receptacle and/or bushing. To order the bail restraint, specify the type needed.

### 147BA

For use with:

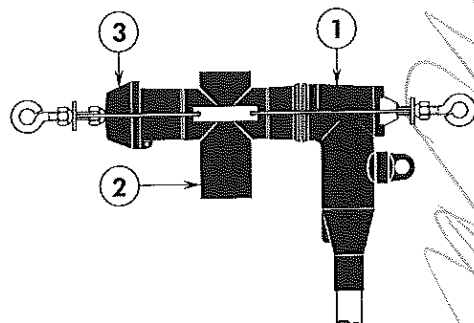
1. (K)152SR straight connector,
2. (K)200T tee connector and
3. (K)150DR dead-end receptacle.



### 149BA

For use with:

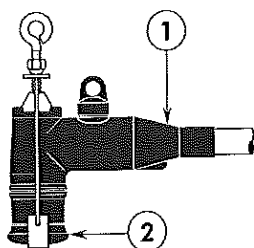
1. (K)158LR elbow connector,
2. (K)200T tee connector and
3. (K)150DR dead-end receptacle.



### 148BA

For use with:

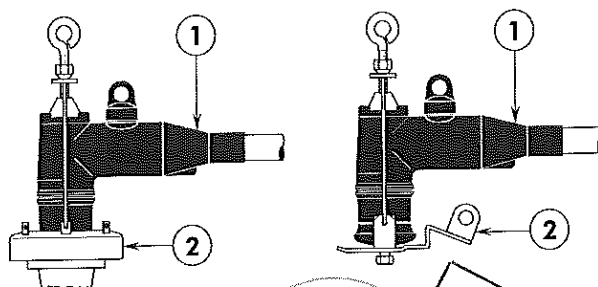
1. (K)158LR elbow connector and
2. (K)150DP dead-end plug.



### 150BA-B1

For use with:

1. (K)158LR elbow connector and
2. an interface A equipment bushing (shown), 250GP earthing plug, (K)151SOP stand-off plug (shown) or (K)1501J3-U-8 three-way junction.

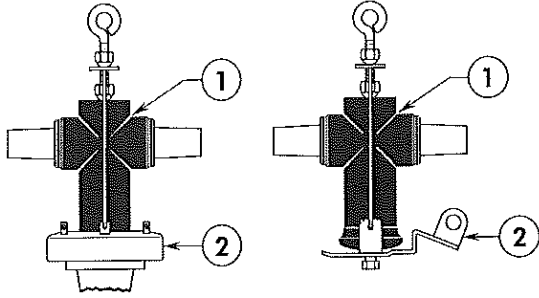




### 150TB-1

For use with:

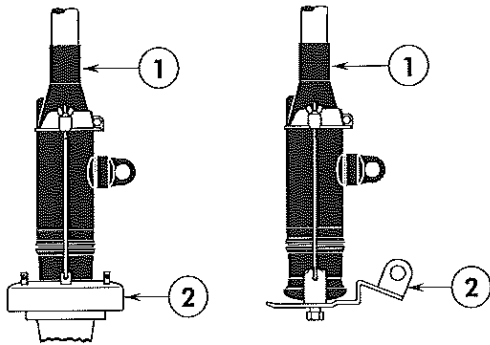
1. (K)200T tee connector and
2. an interface A equipment bushing (shown), 250GP earthing plug, (K)151SOP stand-off plug (shown) or (K)1501J3-U-8 three way junction.



### 151BA

For use with:

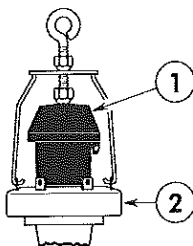
1. (K)152SR straight connector and
2. an interface A equipment bushing (shown), 250GP earthing plug, (K)151SOP stand-off plug (shown) or (K)1501J3-U-8 three-way junction.



### 152BA

For use with:

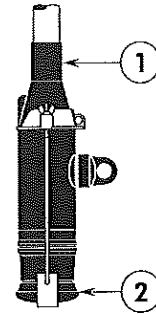
1. (K)150DR dead-end receptacle and
2. an interface A equipment bushing (shown) or (K)1501J3-U-8 three-way junction.



### 153BA

For use with:

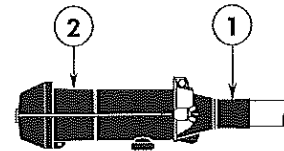
1. (K)152SR straight connector and
2. (K)150DP dead-end plug.



### 154BA-CS180

For use with:

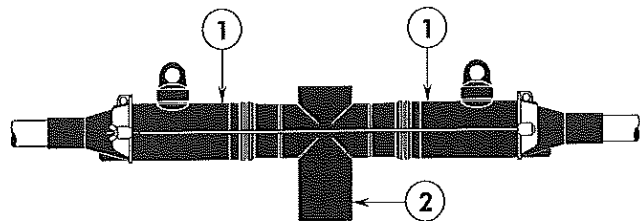
1. (K)151SP straight plug and
2. (K)150DR dead-end receptacle.



### 155BA-1

For use with:

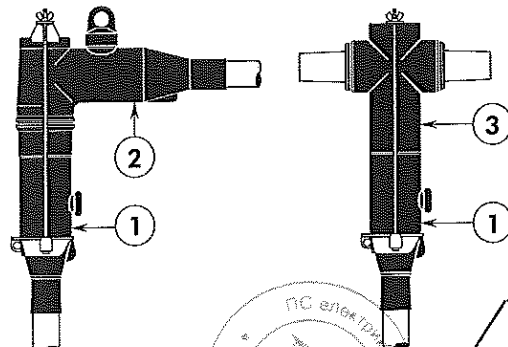
1. 2 x (K)152SR straight connector and
2. (K)200T tee connector.



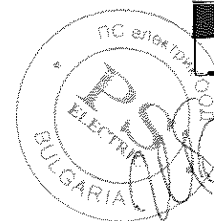
### 155BA-2 - CS180

For use with:

1. (K)151SP straight plug and
2. (K)158LR elbow connector or
3. (K)200T tee connector.



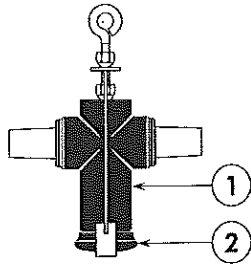
**Euromold**  
a Nexans company



### 156BA-1

For use with:

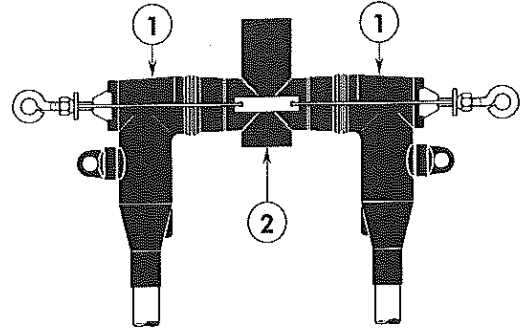
1. (K)200T tee connector and
2. (K)150DP dead-end plug.



### 159BA

For use with:

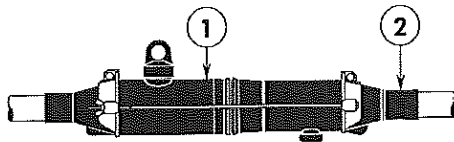
1. 2 x (K)158LR elbow connector and
2. (K)200T tee connector.



### 157BA - CS181

For use with:

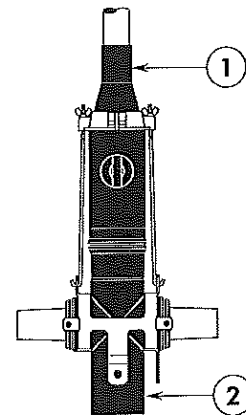
1. (K)152SR straight connector and
2. (K)151SP straight plug.



### 200BA

For use with:

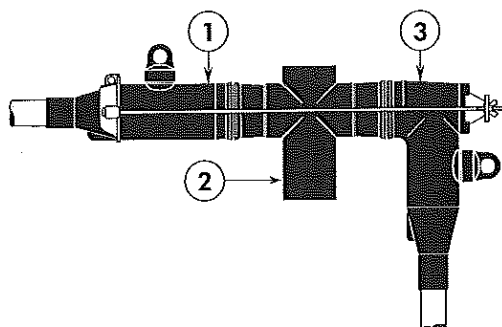
1. (K)152SR straight connector and
2. (K)200X cross connector.



### 158BA

For use with:

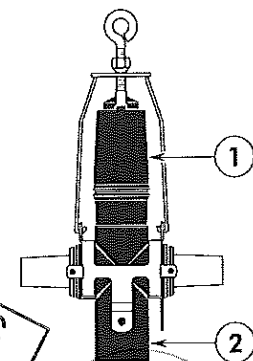
1. (K)152SR straight connector,
2. (K)200T tee connector and
3. (K)158LR elbow connector.



### 201BA

For use with:

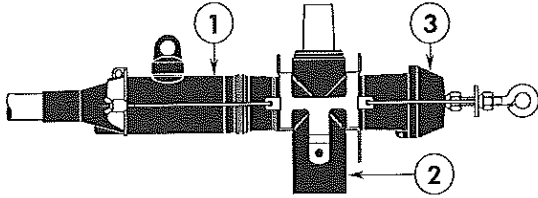
1. (K)158LR elbow connector and
2. (K)200X cross connector.



### 202BA

For use with:

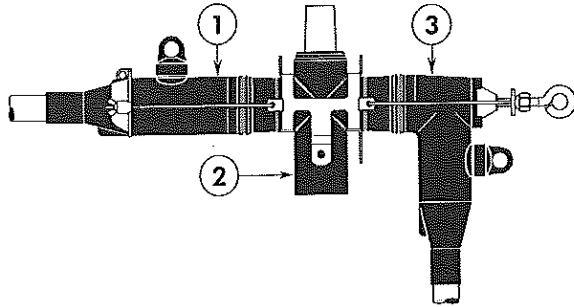
1. (K)152SR straight connector,
2. (K)200X cross connector and
3. (K)150DR dead-end receptacle.



### 206BA

For use with:

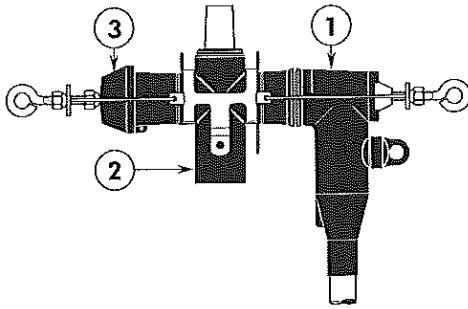
1. (K)152SR straight connector,
2. (K)200X cross connector and
3. (K)158LR elbow connector.



### 203BA

For use with:

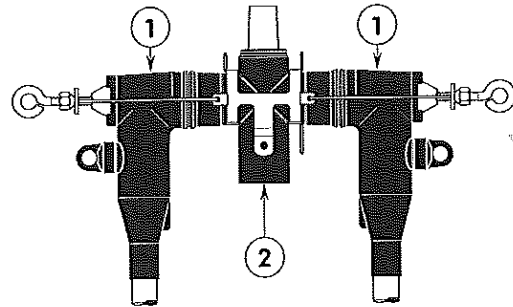
1. (K)158LR elbow connector,
2. (K)200X cross connector and
3. (K)150DR dead-end receptacle.



### 207BA

For use with:

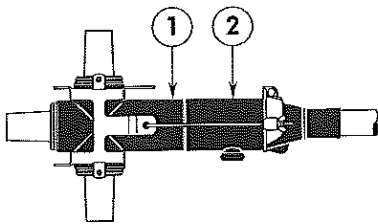
1. 2 x (K)158LR elbow connector and
2. (K)200X cross connector.



### 204BA

For use with:

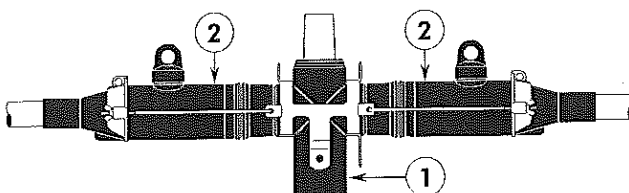
1. (K)200X cross connector and
2. (K)151SP straight plug.



### 205BA

For use with:

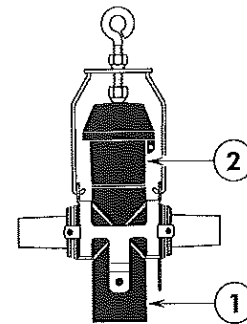
1. (K)200X cross connector and
2. 2 x (K)152SR straight connector.



### 208BA

For use with:

1. (K)200X cross connector and
2. (K)150DR dead-end receptacle.

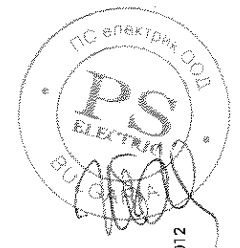


Additional catalogue information on power cable accessories  
is available by contacting us at the address below:

Distributed by:

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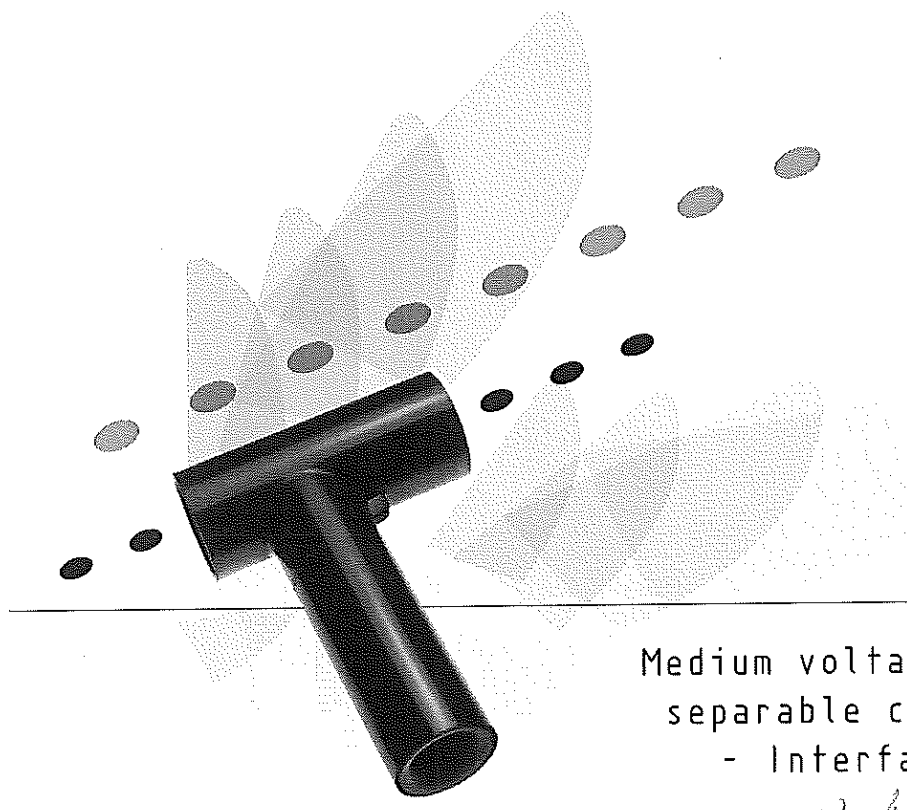
Nexans Network Solutions N.V. - Div. Euromold • Zuid III, Industrielaan 12, B-9320 Erembodegem  
Tel.: +32 (0)53 85 02 11 • Fax: +32 (0)53 83 10 13 • [www.nexans.com](http://www.nexans.com) • [info.euromold@nexans.com](mailto:info.euromold@nexans.com)

Catalogue also available on CD-ROM

01/2012

1,2

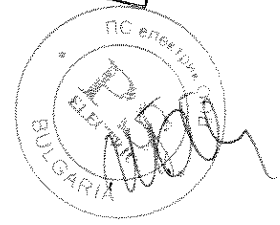
# Nexans



Medium voltage compact  
separable connectors  
- Interface C -  
K430TR

Catalogue 2011

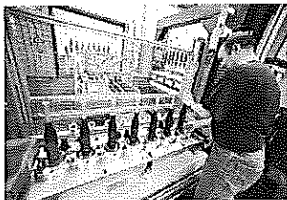
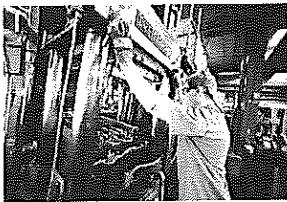
ВЯРНО С  
ОРИГИНАЛА



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## Nexans Network Solutions Div. Euromold COMPANY PRESENTATION



### EUROMOLD

Euromold is the leading European specialised designer, manufacturer and distributor of prefabricated cable accessories for medium voltage energy distribution. Euromold provides a complete range of accessories for underground cables: premoulded EPDM rubber connectors for cables and epoxy bushings for transformers and switchgear, as well as a large range of cold-shrinkable terminations and joints from 12 to 42 kV. Euromold is also the manufacturer of electrical components for the high voltage accessories of the Nexans group.

### ISO 9001 Certificate

Since 1992, Euromold's commitment to quality is demonstrated by its ISO 9001 certification.

### International standards

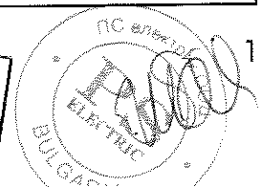
All our products meet the International standards like CENELEC HD 629.1, CENELEC EN 50180, IEC 60137, IEC 60502-4... or country specifications. Official certificates, CESI, KEMA, ATEX... prove the conformity of our products. Long duration tests of existing or new products are continuously performed in our test fields.

### Laboratory accreditation

Since June 2000, Euromold's independent ELAB laboratory obtained the BELAC accreditation no. 144-TEST conform with the European standards for laboratories ISO 17025 for electrical testing of low and medium voltage cable accessories according to the international standards EN 50393, IEC 60502-4, IEC 61442 and HD 629.

While every care is taken to ensure that the information contained in this publication is correct, no legal responsibility can be accepted for any inaccuracy. Nexans Network Solutions N.V. - Div. Euromold reserves the right to alter or modify the characteristics of its products described in this catalogue as standards and technology evolve.

ВЯРНО С  
ОРИГИНАЛА



# SEPARABLE CONNECTORS

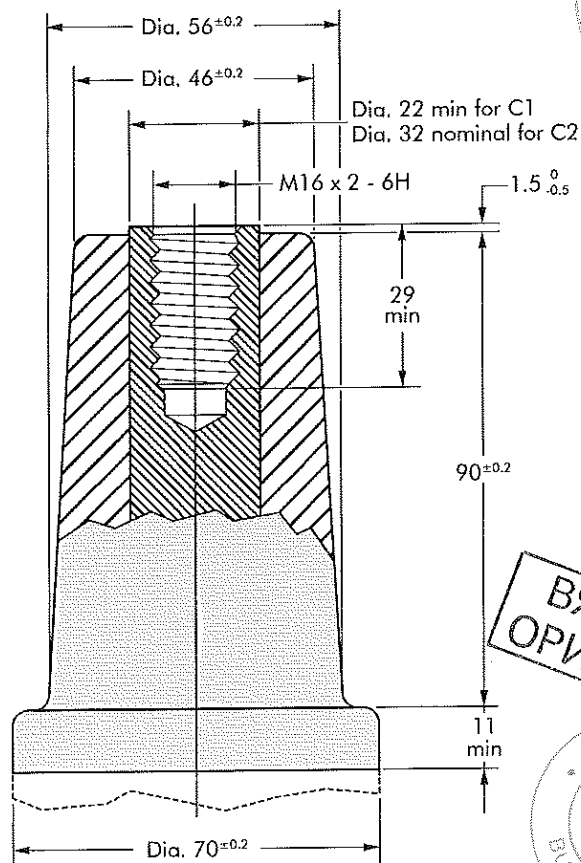
## INTERFACE C

### I Table of contents

- 430TB - tee connector
- 484TB - tee connector
- 300PBM - coupling connector
- 430TBM-P2/P3 - dual/triple cable arrangement
- 804PB - coupling connector
- 300SA - surge arrester
- 800SA - surge arrester
- 400TR and 800TR - test rod
- 400TK and 400SW installation tools
- Accessories
- Possible arrangements

### I Interface C1 & C2

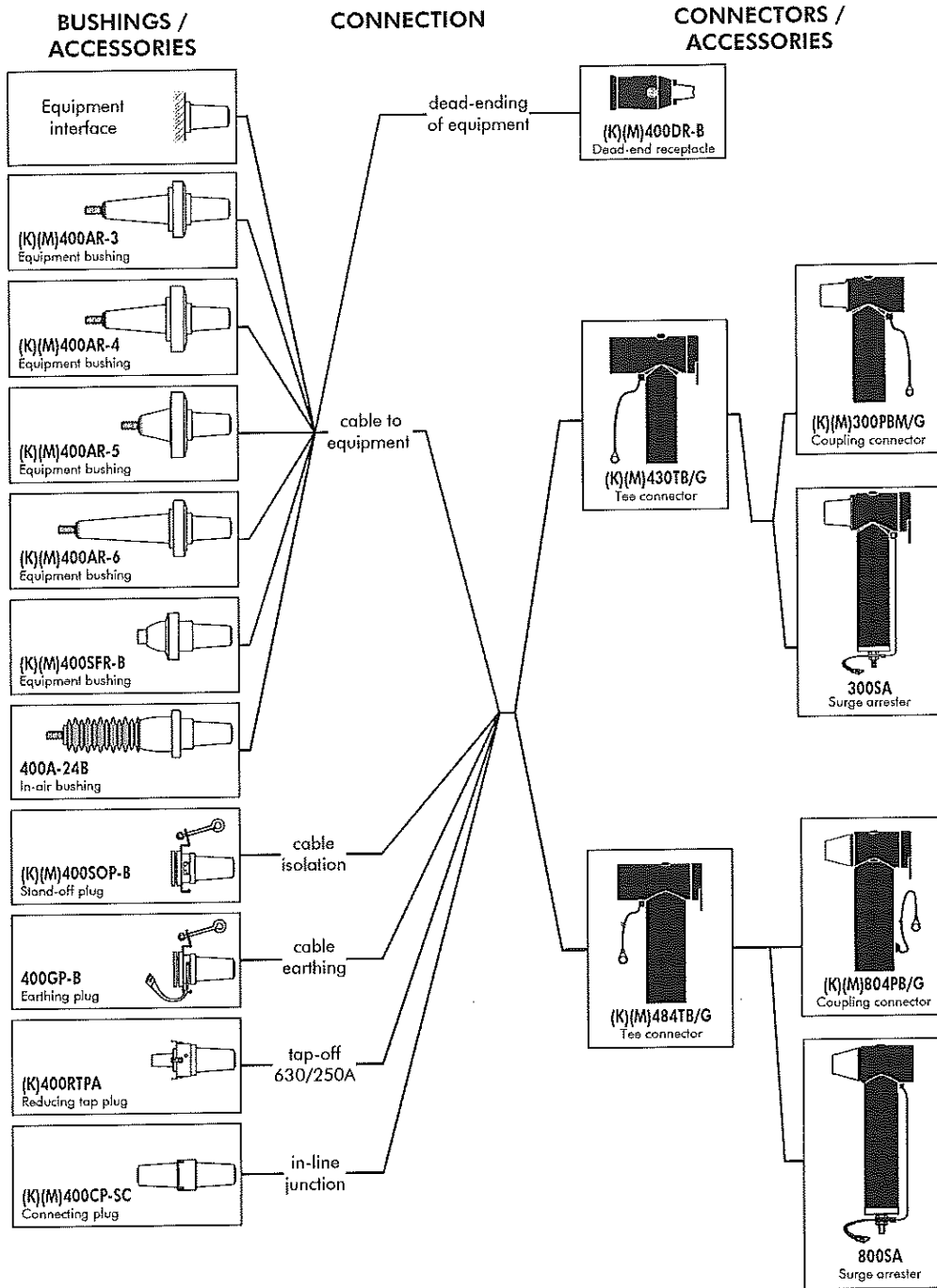
Dimensions according to European CENELEC EN 50180 and 50181 (in mm).



ВЯРНО С  
ОРИГИНАЛА

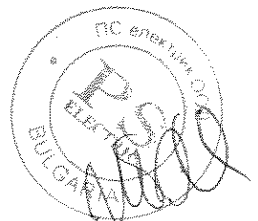


# Connecting possibilities



For information on our bushings please refer to our bushing catalogue.

ВЯРНО С  
ОРИГИНАЛА



Nexans



## 430TB INTERFACE C TEE CONNECTOR

### Application

Separable tee shape connector (bolted type) designed to connect polymeric insulated cable to equipment (transformers, switchgear, motors, ...). Also connects cable to cable when using the appropriate mating parts.

### Technical characteristics

- A thick conductive EPDM jacket provides a total safe to touch screen.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.

Up to 36 kV  
630 A (800 A)

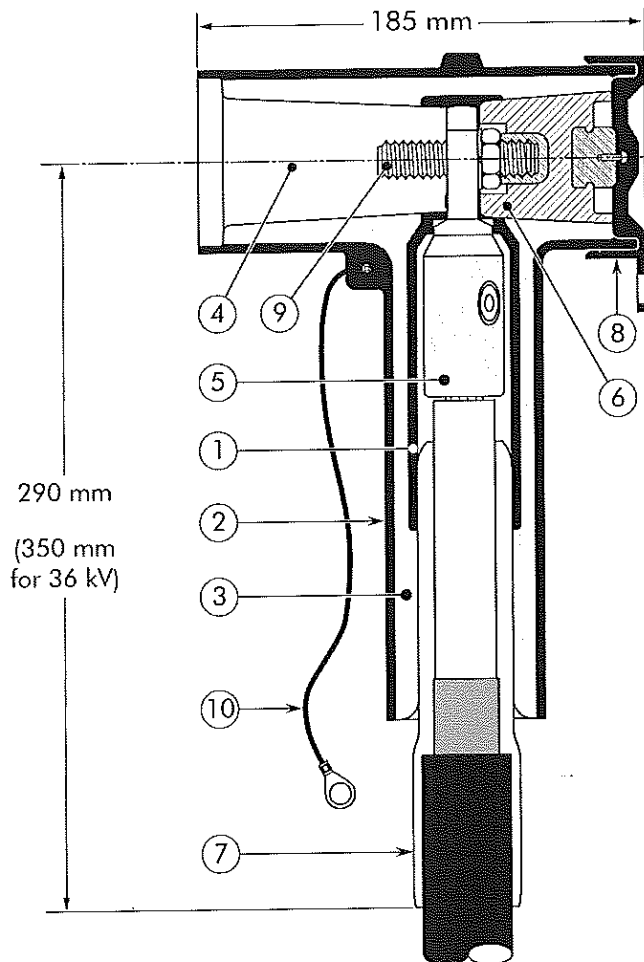
6/10	(12)	kV
6.35/11	(12)	kV
8.7/15	(17.5)	kV
12/20	(24)	kV
12.7/22	(24)	kV
18/30	(36)	kV
19/33	(36)	kV

### Design

Separable connector comprising:

1. Conductive EPDM insert.
2. Conductive EPDM jacket.
3. Insulating EPDM layer moulded between the insert and the jacket.
4. Type C interface as described by CENELEC EN 50180 and 50181.
5. Conductor connector.
6. Basic insulating plug (with VD point).
7. Cable reducer.
8. Conductive rubber cap.
9. Clamping screw.
10. Earthing lead.

The screen break design enables cable outer sheath testing without removing or dismantling the connector.



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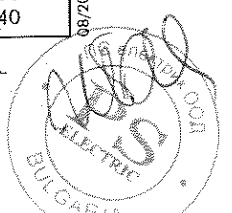
### Specifications and standards

The 430TB separable connector meets the requirements of CENELEC HD 629.1.

Separable connector type	Voltage Um (kV)	Current Ir (A)	Current Ir (A)		Conductor sizes (mm <sup>2</sup> )	
			When installed on an appropriate equipment bushing and when using a copper (-11-2) or a bolted (-12-5 or -14-5) conductor contact		min	max
430TB/G	12	630	800		35	300
K430TB/G	24	630	800		35	300
M430TB/G	36	630	800		50	240

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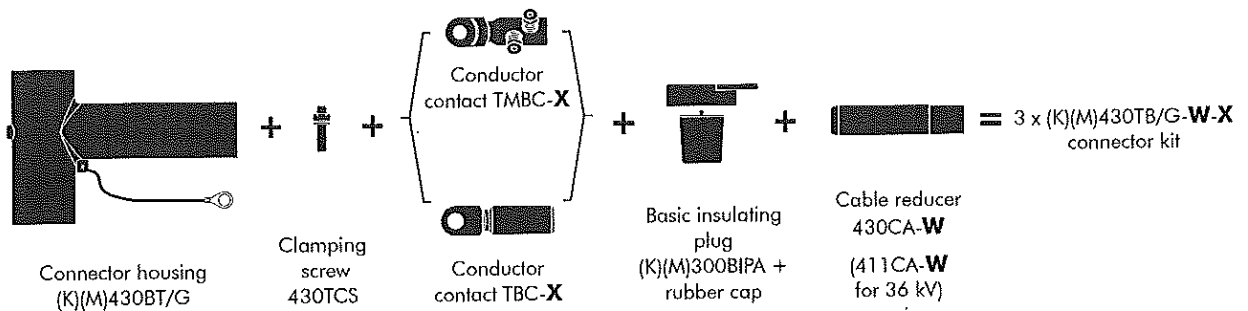
**ВЯРНО С  
ОРИГИНАЛА**



## Kit contents

The complete (K)(M)430TB/G tee connector kit comprises 3 x the following components:

The kit also comprises silicone grease, field control mastic, installation rod, installation instructions and crimp chart.



## Ordering instructions

To order the tee connector, select the ordering part number which gives you the best centring of your core insulation diameter and substitute **X** using table X, according to your conductor size and type.

### Example:

The cable is 24 kV, 150 mm<sup>2</sup> compact stranded copper with a diameter over core insulation of 27.5 mm.  
Order 3 x  
K430TB/G-18-95.240-14-5  
tee connector kit.

Table W

Ordering part number	Voltage (Um) (kV)	Dia. over core insulation (mm)	
		min	max
3 x 430TB/G-11-X	12	12.0	17.5
3 x 430TB/G-16-X	12	17.0	23.5
3 x 430TB/G-18-X	12	19.0	32.6
3 x K430TB/G-11-X	24	12.0	17.5
3 x K430TB/G-16-X	24	17.0	23.5
3 x K430TB/G-18-X	24	19.0	32.6
3 x M430TB/G-11-X	36	12.0	17.5
3 x M430TB/G-15-X	36	16.0	22.0
3 x M430TB/G-19-X	36	20.0	26.5
3 x M430TB/G-22-X	36	23.5	31.0
3 x M430TB/G-25-X	36	26.5	32.5
3 x M430TB/G-27-X	36	28.5	37.5

Table X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor
	DIN hexagonal	Deep indent	Bolted	DIN hexagonal
35	35(K)M-10-2	35KM-10-1	16.95-14-5 50-150-14-5 95-240-14-5 120-300-12-5	35(K)M-11-2
50	50(K)M-10-2	50(K)M-10-1		50(K)M-11-2
70	70(K)M-10-2	70(K)M-10-1		70(K)M-11-2
95	95(K)M-10-2	95(K)M-10-1		95(K)M-11-2
120	120(K)M-10-2	120(K)M-10-1		120(K)M-11-2
150	150(K)M-10-2	150(K)M-10-1		150(K)M-11-2
185	185(K)M-10-2	185(K)M-10-1		185(K)M-11-2
240	240(K)M-10-2	240(K)M-10-1		240(K)M-11-2
300	300(K)M-10-2	-		300(K)M-11-2

For use with copper tape screened cables. Order: Kit MT.	For use with Alupe or C 33-226 cables. Please contact our representative.	For use with easy strip semi-conductive screened cables. Order: Field control mastic (type MFC).	For use with other cable types. Please contact our representative.	For applications outdoors and in humid climate. Order: +MWS.	When installed on an appropriate equipment bushing: 800 A continuously

## 484TB INTERFACE C TEE CONNECTOR

### Application

Separable tee shape connector (bolted type) designed to connect polymeric insulated cable to equipment (transformers, switchgear, motors, ...).  
Also connects cable to cable when using the appropriate mating parts.

### Technical characteristics

- The thick conductive EPDM jacket provides a total safe to touch screen which ensures safety for personnel.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.

Up to 42 kV  
630 A (1250 A)

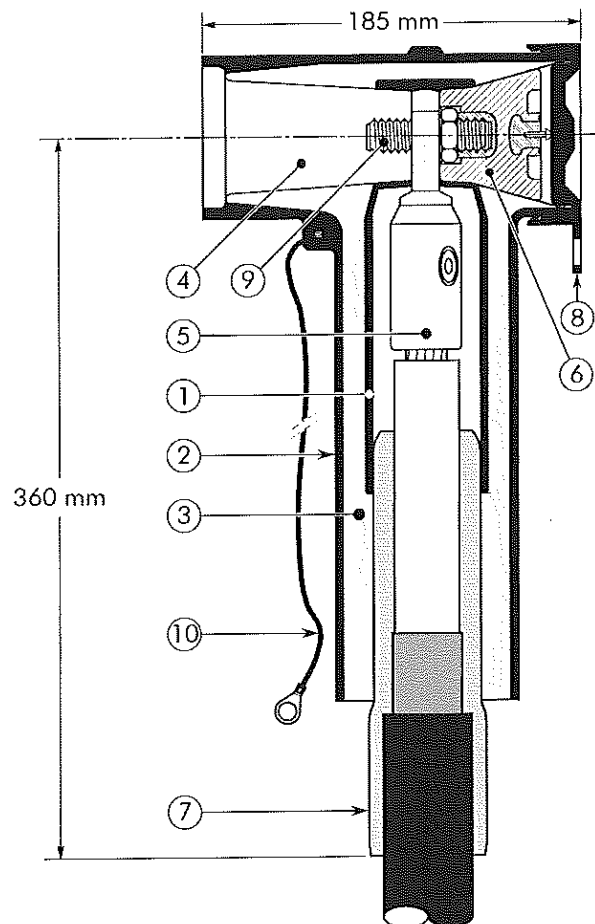
6/10	(12)	kV
6.35/11	(12)	kV
8.7/15	(17.5)	kV
12/20	(24)	kV
12.7/22	(24)	kV
18/30	(36)	kV
19/33	(36)	kV
20.8/36	(42)	kV

### Design

Separable connector comprising:

- Conductive EPDM insert.
- Conductive EPDM jacket.
- Insulating EPDM layer moulded between the insert and the jacket.
- Type C - interface as described by CENELEC EN 50180 and 50181.
- Conductor connector.
- Basic insulating plug (with VD point).
- Cable reducer.
- Conductive rubber cap.
- Clamping screw.
- Earthing lead.

The screen break design enables cable outer sheath testing without removing or dismantling the connector.



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### Specifications and standards

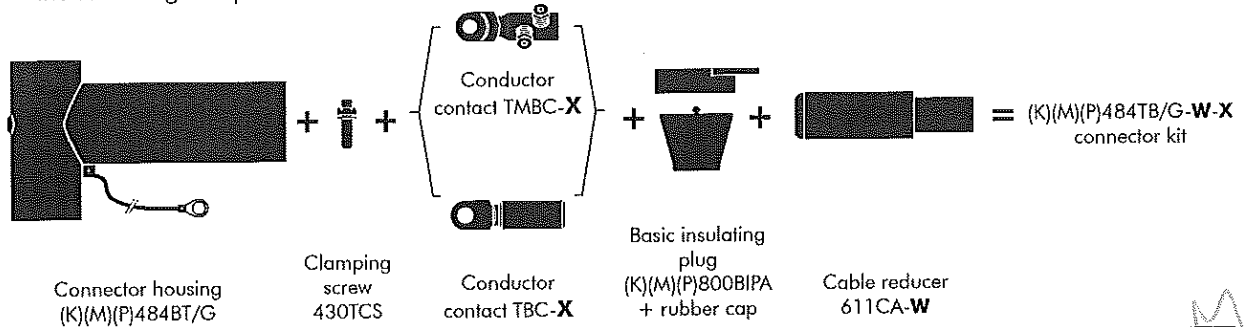
The 484TB separable connector meets the requirements of CENELEC HD 629.1.

Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Current $I_r$ (A) When installed on an appropriate equipment bushing	Conductor sizes (mm <sup>2</sup> )	
				min	max
484TB/G	12	630	1250	50	630
K484TB/G	24	630	1250	35	630
M484TB/G	36	630	1250	35	630
P484TB/G	42	630	1250	35	630

## Kit contents

The complete (K)(M)(P)484TB/G-tee connector kit comprises 3x the following components:

The kit also comprises silicone grease, field control mastic, gloves, roll adhesive tape, installation instructions and crimp chart.



## Ordering instructions

To order the tee connector, select the ordering part number which gives you the best centring of your core insulation diameter and substitute **X** using table X, according to your conductor size and type. Add a 'K' for use up to 24 kV, add an 'M' for use up to 36 kV, add a 'P' for use up to 42 kV.

### Example:

The copper wire screened cable is 36 kV, 240 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 37.0 mm. Order 3 x M484TB/G-32-240(K)M-12-2 tee connector kit.

Table W

Ordering part number	Dia. over core insulation (mm)	
	min	max
3 x 484TB/G-15-X	16.0	22.0
3 x 484TB/G-19-X	20.0	26.5
3 x 484TB/G-22-X	23.5	31.0
3 x 484TB/G-27-X	28.5	37.5
3 x 484TB/G-32-X	34.0	42.5
3 x 484TB/G-37-X	39.0	48.5
3 x 484TB/G-43-X	45.5	56.0

Table X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor
	DIN hexagonal	Deep indent	Bolted	DIN hexagonal
35	35(K)M-12-2	35KM-12-1		35(K)M-11-2
50	50(K)M-12-2	50KM-12-1		50(K)M-11-2
70	70(K)M-12-2	70KM-12-1		70(K)M-11-2
95	95(K)M-12-2	95KM-12-1		95(K)M-11-2
120	120(K)M-12-2	120KM-12-1		120(K)M-11-2
150	150(K)M-12-2	150KM-12-1		150(K)M-11-2
185	185(K)M-12-2	185KM-12-1		185(K)M-11-2
240	240(K)M-12-2	240KM-12-1		240(K)M-11-2
300	300(K)M-12-2	300KM-12-1		300(K)M-11-2
400	400(K)M-12-2	400KM-12-1		400(K)M-11-2
500	500(K)M-12-2	500KM-12-1		500(K)M-11-2
630	-	630KM-12-1		630(K)M-11-2

For use with copper tape screened cables. Order: Kit MT.	For use with copper wire screened cables. No earthing device is necessary.	For use with other cable types. Please contact our representative.	For applications outdoors and in humid climate. Order: +MWS.	Components can be ordered individually.	When installed on an appropriate equipment bushing: 1250 A continuously

Nexans



## 300PBM COUPLING CONNECTOR FOR 430TB/G

Up to 36 kV  
630 A (1250 A)

### Application

Separable coupling connector (bolted type) for dual cable arrangement. It has been designed to be used with 430TB separable Tee connector.

### Technical characteristics

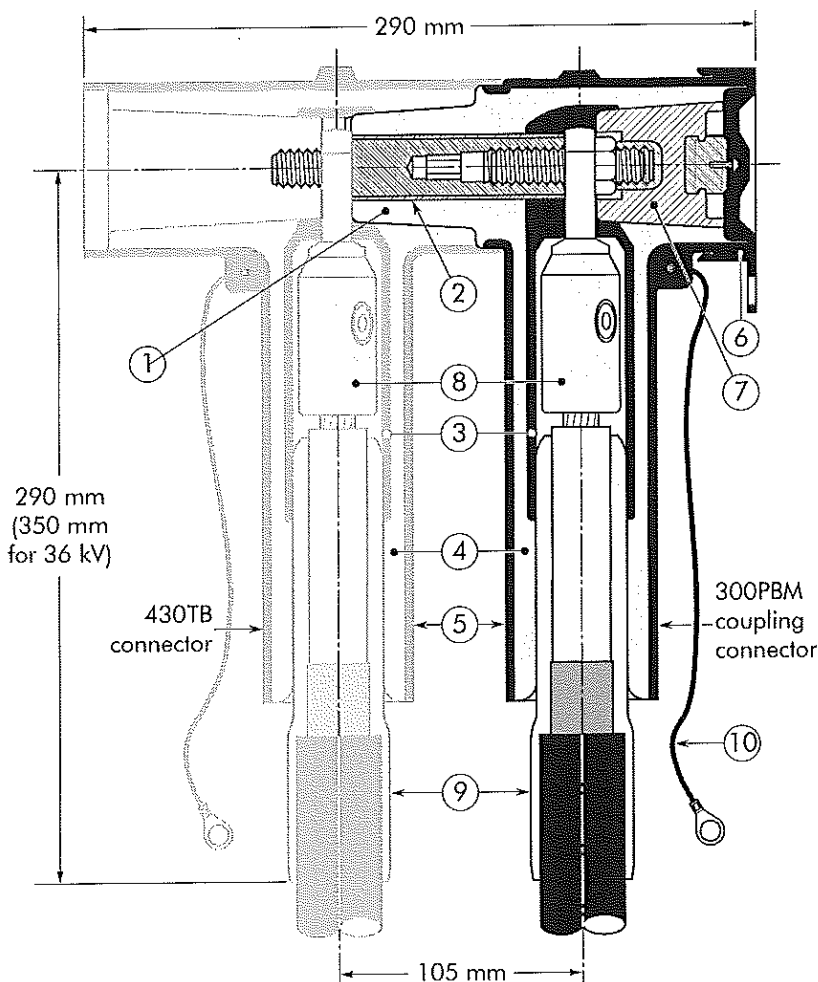
- A thick conductive EPDM jacket provides a total safe to touch screen.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.

6/10	(12)	kV
6.35/11	(12)	kV
8.7/15	(17.5)	kV
12/20	(24)	kV
12.7/22	(24)	kV
18/30	(36)	kV
19/33	(36)	kV

### Design

1. Interface designed to fit 430TB connector.
2. Bus for 300PBM.
3. Conductive EPDM insert.
4. Insulating EPDM layer moulded between the insert and the jacket.
5. Conductive EPDM jacket.
6. Conductive EPDM cap.
7. Basic insulating plug (with VD point).
8. Conductor connector (hexagonal crimping, deep indent crimping or bolted).
9. Cable reducer.
10. Earthing lead.

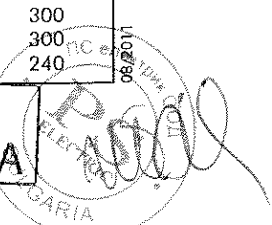
The screen break design enables cable outer sheath testing without removing or dismantling the connector.



### Specifications and standards

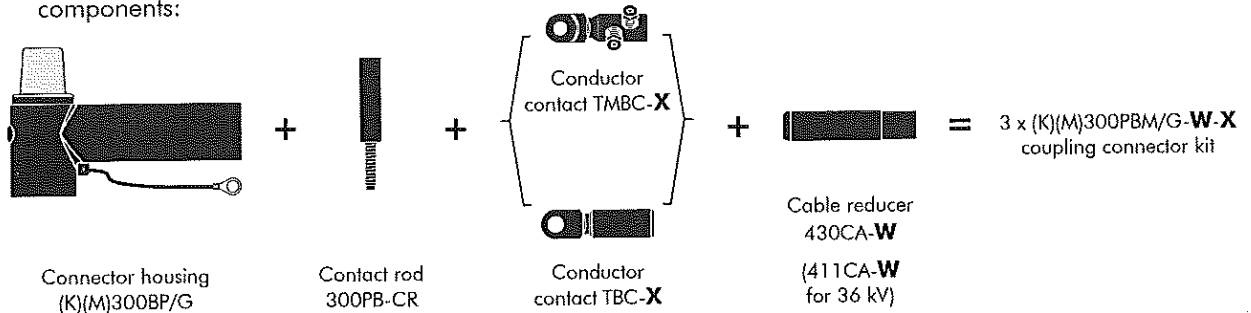
The 300PBM coupling connector meets the requirements of CENELEC HD 629.1.

Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Current $I_r$ (A)		Conductor sizes (mm <sup>2</sup> )	
			When installed on an appropriate equipment bushing and when using a copper (-11-2) or a bolted (-12-5 or -14-5) conductor contact		min	max
300PBM/G	12	630	1250		35	300
K300PBM/G	24	630	1250		35	300
M300PBM/G	36	630	1250		50	240



## Kit contents

The complete (K)(M)300PBM/G coupling connector kit comprises 3 x the following components:



The kit also comprises silicone grease, field control mastic, installation rod, installation instructions and crimp chart.

## Ordering instructions

To order the coupling connector, select the ordering part number which gives you the best centring of your core insulation diameter and substitute **X** using table X, according to your conductor size and type.

### Example:

The cable is 24 kV, 150 mm<sup>2</sup> compact stranded copper with a diameter over core insulation of 27.5 mm.  
Order 3 x K300PBM/G-18-95.240-14-5 coupling connector kit.

Table W

Ordering part number	Voltage (Um) (kV)	Dia. over core insulation (mm)	
		min	max
3 x 300PBM/G-11-X	12	12.0	17.5
3 x 300PBM/G-16-X	12	17.0	23.5
3 x 300PBM/G-18-X	12	19.0	32.6
3 x K300PBM/G-11-X	24	12.0	17.5
3 x K300PBM/G-16-X	24	17.0	23.5
3 x K300PBM/G-18-X	24	19.0	32.6
3 x M300PBM/G-11-X	36	12.0	17.5
3 x M300PBM/G-15-X	36	16.0	22.0
3 x M300PBM/G-19-X	36	20.0	26.5
3 x M300PBM/G-22-X	36	23.5	31.0
3 x M300PBM/G-25-X	36	26.5	32.5
3 x M300PBM/G-27-X	36	28.5	37.5

Table X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor
	DIN hexagonal	Deep indent	Bolted	DIN hexagonal
35	35(K)M-10-2	35KM-10-1	16.95-14-5	35(K)M-11-2
50	50(K)M-10-2	50(K)M-10-1		50.150-14-5
70	70(K)M-10-2	70(K)M-10-1	95.240-14-5	
95	95(K)M-10-2	95(K)M-10-1		120.300-12-5
120	120(K)M-10-2	120(K)M-10-1		
150	150(K)M-10-2	150(K)M-10-1		150(K)M-11-2
185	185(K)M-10-2	185(K)M-10-1		185(K)M-11-2
240	240(K)M-10-2	240(K)M-10-1		240(K)M-11-2
300	300(K)M-10-2	-		300(K)M-11-2

For use with copper tape screened cables. Order: Kit MT.	For use with fabric tape (graphite) screened cables. Order additional semi-conductive tape (type TSC).	For use with easy strip semi-conductive screened cables. Order: Field control mastic (type MFC).	For use with copper wire screened cables. No earthing device is necessary.	For use with other cable types. Please contact our representative.	For outdoor applications. Order: +MWS.

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ВЯРНО С  
ОРИГИНАЛА



## 430TBM-P2/P3 DUAL/TRIPLE CABLE ARRANGEMENT FOR 430TB CONNECTOR

### Application

Separable connectors (bolted type) for dual (P2) and triple (P3) cable arrangements.

### Technical characteristics

- A thick conductive EPDM jacket provides a total safe to touch screen.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.

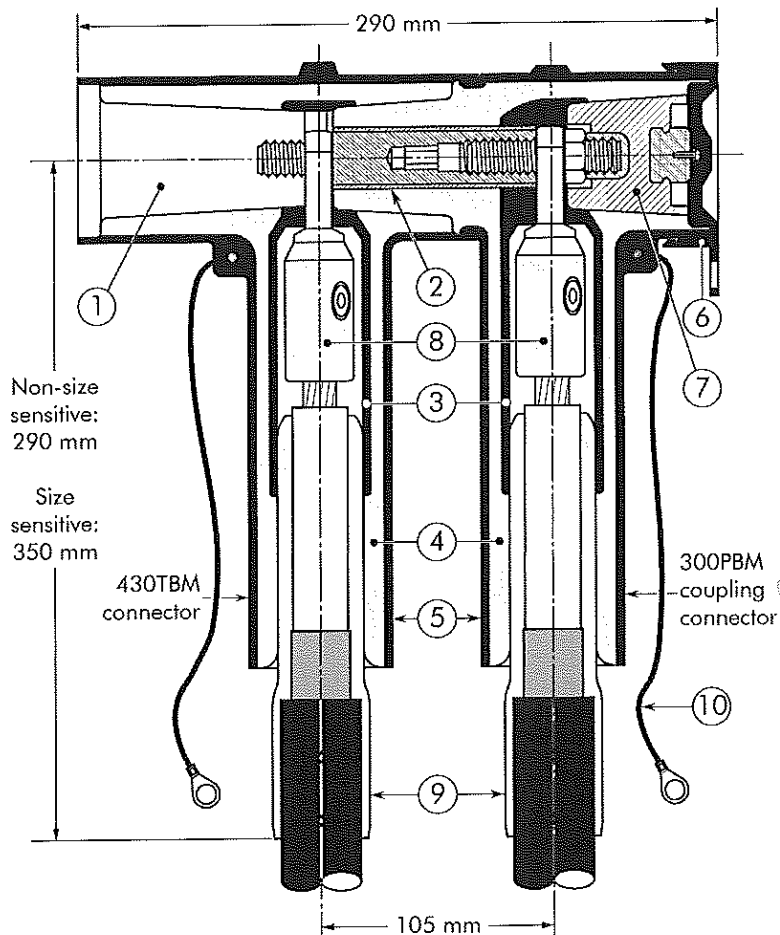
**Up to 36 kV  
630 A (1250 A)**

6/10 (12) kV  
6.35/11 (12) kV  
8.7/15 (17.5) kV  
12/20 (24) kV  
12.7/22 (24) kV  
18/30 (36) kV  
19/33 (36) kV

### Design

1. Type C interface as described by CENELEC EN 50180 and 50181.
2. Bus for 300PBM.
3. Conductive EPDM insert.
4. Insulating EPDM layer moulded between the insert and the jacket.
5. Conductive EPDM jacket.
6. Conductive EPDM cap.
7. Basic insulating plug (with VD point).
8. Conductor connector.
9. Cable reducer.
10. Earthing lead.

The screen break design enables cable outer sheath testing without removing or dismantling the connector.



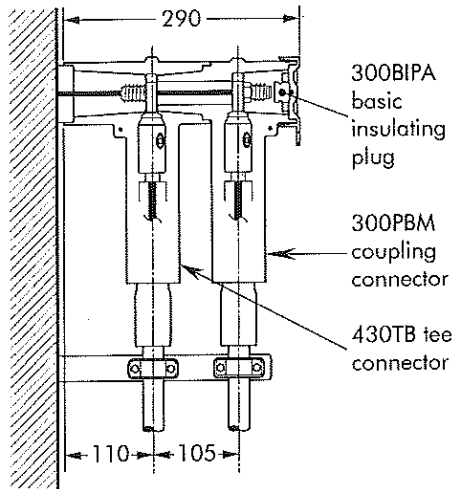
### Specifications and standards

The 430TBM-P2/P3 connectors meet the requirements of CENELEC HD 629.1.

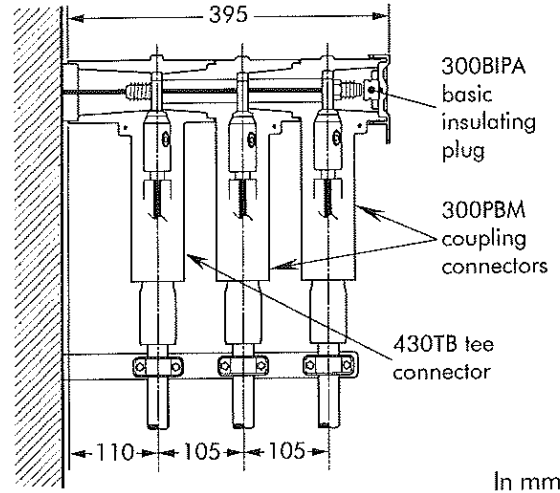
Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Current $I_r$ (A)		Conductor sizes (mm <sup>2</sup> )	
			When installed on an appropriate equipment bushing and when using a copper (-11-2) or a bolted (-12-5 or -14-5) conductor contact		min	max
430TBM-P2/P3	12	630	1250		35	300
K430TBM-P2/P3	24	630	1250		35	300
M430TBM-P2/P3	36	630	1250		50	240

## Kit contents

The complete (K)(M)430TBM-P2 connector kit comprises 3 x the following components:



The complete (K)(M)430TBM-P3 connector kit comprises 3 x the following components:



In mm.

## Ordering instructions

To order the separable connectors for dual cable arrangement, use the tables beside to substitute for **W** and **X** in the formula:  
 3 x 430TBM-P2-**W-X**,  
 for use up to 12 kV.  
 Add a 'K' for use up to 24 kV:  
 3 x K430TBM-P2-**W-X**.  
 Add an 'M' for use up to 36 kV:  
 3 x M430TBM-P2-**W-X**.

For triple cable arrangement:  
 3 x 430TBM-P3-**W-X**,  
 for use up to 12 kV.  
 Add a 'K' for use up to 24 kV:  
 3 x K430TBM-P3-**W-X**.  
 Add an 'M' for use up to 36 kV:  
 3 x M430TBM-P3-**W-X**.

### Example:

The two cables are 24 kV, 150 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 27.5 mm.  
 Order 3 x K430TBM-P2-22-150(K)M-10-2.

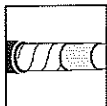
1. From table **W**: select the symbol which gives the best centring of your core insulation diameter.
2. From table **X**: according to your conductor size and type, select the designation which completes the part number.

Table W

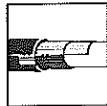
Dia. over core insulation (mm)		W
min	max	
12.0	17.5	11
16.0	22.0	15
20.0	26.5	19
23.5	31.0	22
26.5	32.5	25
28.5	37.5	27

Table X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor
	DIN hexagonal	Deep indent	Bolted	DIN hexagonal
35	35(K)M-10-2	35KM-10-1		35(K)M-11-2
50	50(K)M-10-2	50(K)M-10-1		50(K)M-11-2
70	70(K)M-10-2	70(K)M-10-1		70(K)M-11-2
95	95(K)M-10-2	95(K)M-10-1		95(K)M-11-2
120	120(K)M-10-2	120(K)M-10-1		120(K)M-11-2
150	150(K)M-10-2	150(K)M-10-1		150(K)M-11-2
185	185(K)M-10-2	185(K)M-10-1		185(K)M-11-2
240	240(K)M-10-2	240(K)M-10-1		240(K)M-11-2
300	300(K)M-10-2	-		300(K)M-11-2



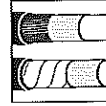
For use with copper tape screened cables.  
 Order: Kit MT.



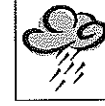
For use with AluPe or C 33-226 cables.  
 Please contact our representative.



For use with other cable types.  
 Please contact our representative.



For use with easy strip semi-conductive screened cables. Order: Field control mastic (type MFC).



For applications outdoors and in humid climate.  
 Order: +MWS.



When installed on an appropriate equipment bushing:  
 1250 A continuously

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## 804PB COUPLING CONNECTOR FOR 484TB/G

### Application

Separable coupling connector (bolted type) for dual cable arrangement. It has been designed to be used with 484TB separable Tee connector.

### Technical characteristics

- A thick conductive EPDM jacket provides a total safe to touch screen.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.

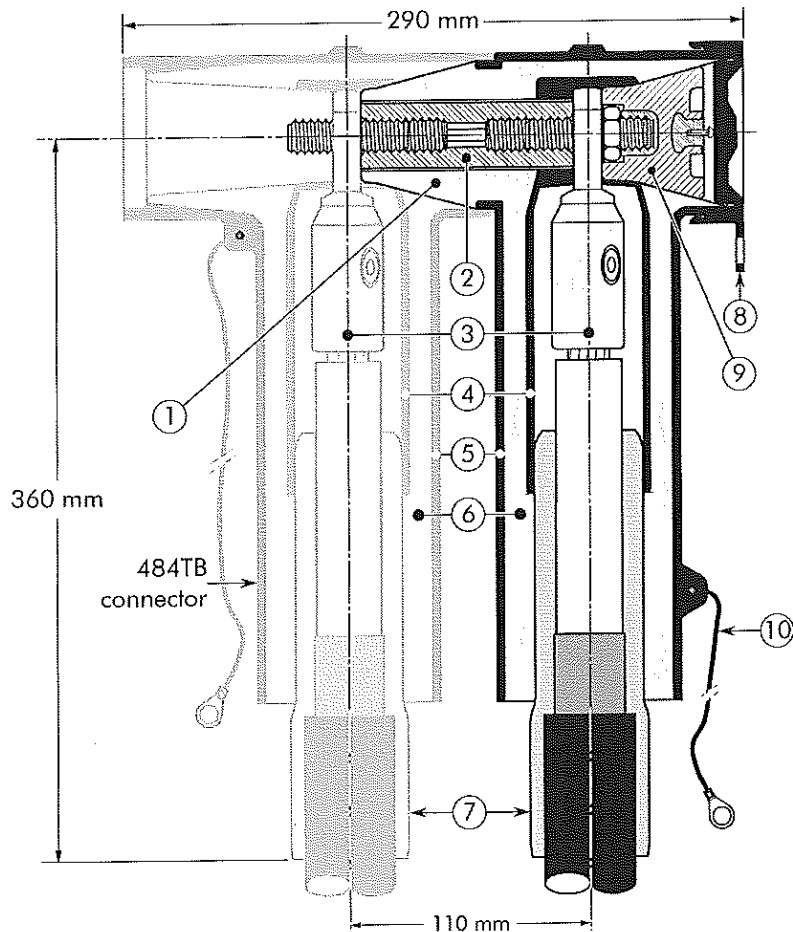
Up to 42 kV  
630 A (1250 A)

6/10	(12)	kV
6.35/11	(12)	kV
8.7/15	(17.5)	kV
12/20	(24)	kV
12.7/22	(24)	kV
18/30	(36)	kV
19/33	(36)	kV
20.8/36	(42)	kV

### Design

1. Interface designed to fit 484TB connector.
2. Bus for 804PB.
3. Conductor connector (hexagonal crimping, deep indent crimping or bolted).
4. Conductive EPDM insert.
5. Conductive EPDM jacket.
6. Insulating EPDM layer moulded between the insert and the jacket.
7. Cable reducer.
8. Conductive EPDM cap.
9. Basic insulating plug (with VD point).
10. Earth lead.

The screen break design enables cable outer sheath testing without removing or dismantling the connector.



### Specifications and standards

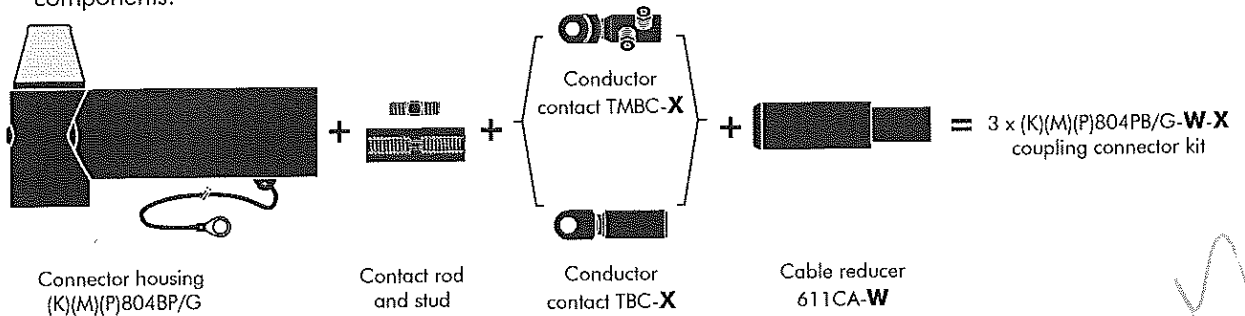
The 804PB coupling connector meets the requirements of CENELEC HD 629.1.

Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Current $I_r$ (A) When installed on an appropriate equipment bushing	Conductor sizes (mm <sup>2</sup> )	
				min	max
804PB/G	12	630	1250	50	630
K804PB/G	24	630	1250	35	630
M804PB/G	36	630	1250	35	630
P804PB/G	42	630	1250	35	630

## Kit contents

The complete (K)(M)(P)804PB/G coupling connector kit comprises 3 x the following components:

The kit also comprises silicone grease, field control mastic, gloves, roll adhesive tape, installation instructions and crimp chart.



## Ordering instructions

To order the coupling connector, select the ordering part number which gives you the best centring of your core insulation diameter and substitute **X** using table X, according to your conductor size and type. Add a 'K' for use up to 24 kV, add an 'M' for use up to 36 kV, add a 'P' for use up to 42 kV.

### Example:

The copper wire screened cable is 36 kV, 240 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 37.0 mm. Order 3 x M804PB/G-32-240(K)M-12-2 coupling connector kit.

Table W

Ordering part number	Dia. over core insulation (mm)	
	min	max
3 x 804PB/G-15-X	16.0	22.0
3 x 804PB/G-19-X	20.0	26.5
3 x 804PB/G-22-X	23.5	31.0
3 x 804PB/G-27-X	28.5	37.5
3 x 804PB/G-32-X	34.0	42.5
3 x 804PB/G-37-X	39.0	48.5
3 x 804PB/G-43-X	45.5	56.0

Table X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor
	DIN hexagonal	Deep indent	Bolted	DIN hexagonal
35	35(K)M-12-2	35KM-12-1		35(K)M-11-2
50	50(K)M-12-2	50KM-12-1		50(K)M-11-2
70	70(K)M-12-2	70KM-12-1		70(K)M-11-2
95	95(K)M-12-2	95KM-12-1		95(K)M-11-2
120	120(K)M-12-2	120KM-12-1		120(K)M-11-2
150	150(K)M-12-2	150KM-12-1		150(K)M-11-2
185	185(K)M-12-2	185KM-12-1		185(K)M-11-2
240	240(K)M-12-2	240KM-12-1		240(K)M-11-2
300	300(K)M-12-2	300KM-12-1		300(K)M-11-2
400	400(K)M-12-2	400KM-12-1		400(K)M-11-2
500	500(K)M-12-2	500KM-12-1		500(K)M-11-2
630	-	630KM-12-1		630(K)M-11-2

For use with copper tape screened cables. Order: Kit MT.	For use with copper wire screened cables. No earthing device is necessary.	For use with other cable types. Please contact our representative.	For applications outdoors and in humid climate. Order: +MWS.	Components can be ordered individually.	When installed on an appropriate equipment bushing: 1250 A continuously

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ВЯРНО С  
ОРИГИНАЛА



## 300SA SURGE ARRESTER FOR 430TB CONNECTOR

Up to 36 kV

### Application

Surge arrester designed to protect 12, 24 and 36 kV class components, including transformers, equipment, cable and accessories from high voltage surges resulting from lightning or switching. It has been designed to be used with the 430TB separable tee connector.

### Technical characteristics

- This surge arrester is a metal oxide varistor surge arrester in an elbow configuration.
- Each arrester is tested for AC withstand, partial discharge and critical voltage prior to leaving the factory.

6/10	(12)	kV
6.35/11	(12)	kV
8.7/15	(17.5)	kV
12/20	(24)	kV
12.7/22	(24)	kV
18/30	(36)	kV
19/33	(36)	kV

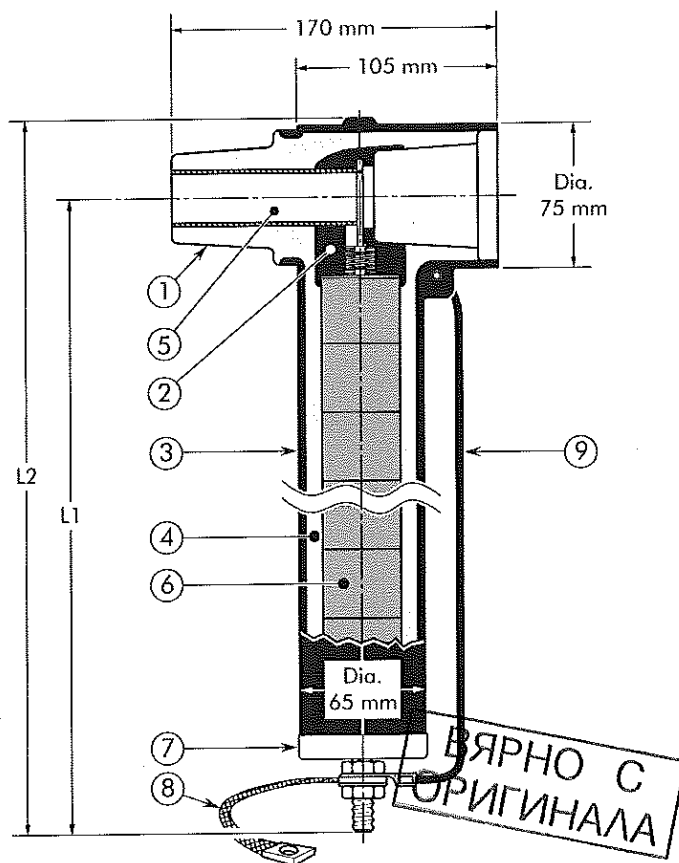
### Design

Surge arrester comprising:

- Interface designed to fit the 430TB/G tee connector.
- Conductive EPDM insert.
- Conductive EPDM jacket.
- Insulating EPDM layer moulded between the insert and the jacket.
- Receptacle for contact rod.
- Metal oxide valve elements.
- Steel cap.
- Earth connection.
- Earth lead.

### Specifications and standards

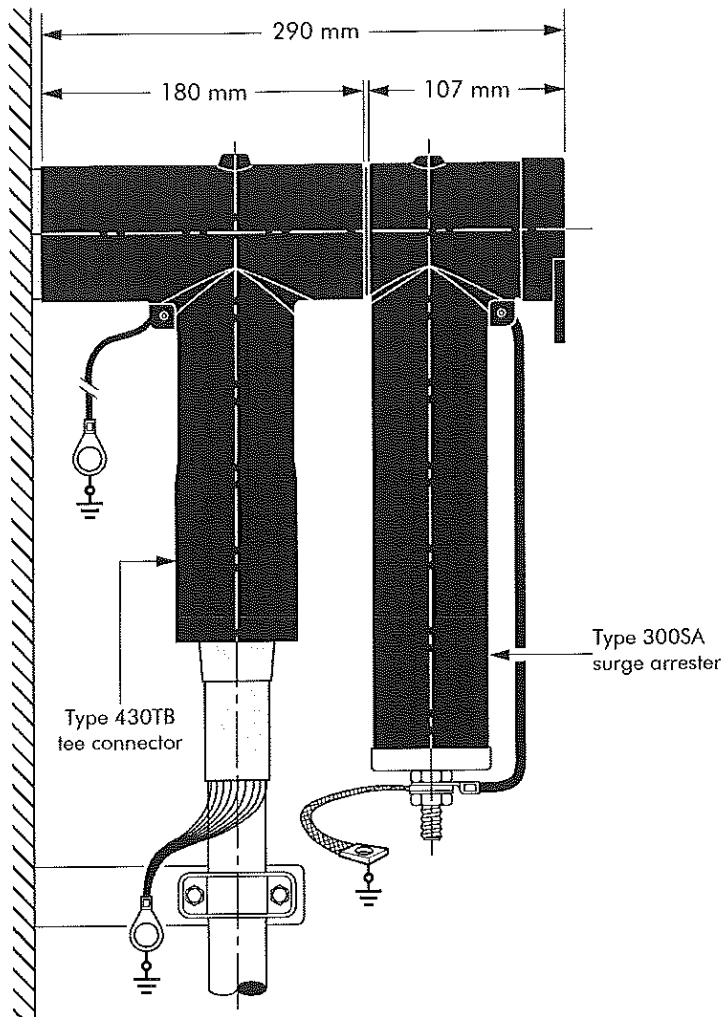
The 300SA surge arresters meet the test requirements of IEC 60099-4.



Surge arrester type	Nominal discharge current $I_n$ (kA)	Rated voltage $U_r$ (kV)	Max. continuous operating voltage $U_c$ (kV)	Dimensions (mm)	
				L1	L2
300SA-10-15N	10	15	12.0	250	290
300SA-10-18N	10	18	14.4	250	290
300SA-10-22N	10	22	17.6	250	290
300SA-10-24N	10	24	19.2	350	390
300SA-10-30N	10	30	24.0	350	390
300SA-10-36N	10	36	28.8	350	390
300SA-10-45N	10	45	36.0	450	490

08/2011

## Typical application and dimensions



## Ordering instructions

To order the surge arrester, specify the surge arrester type, as described on previous page.

### Example:

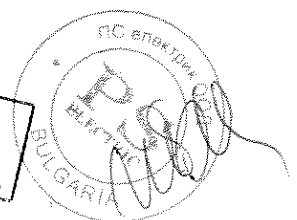
For a maximum continuous operating voltage (r.m.s.) of 24 kV and a nominal discharge current of 10 kA.

Order a 300SA-10-30N surge arrester.

## Technical data

Surge arrester type	Steep current residual voltage @ 10 kA [1/20 μs] (kV)	Lightning current residual voltage [8/20 μs] (kV)			Switching impulse residual voltage [36/90 μs] (kV)		High current impulse withstand (kA)
		@ 5 kA	@ 10 kA	@ 20 kA	@ 125 A	@ 500 A	
300SA-10-15N	48.1	39.7	43.2	48.4	30.5	32.5	100
300SA-10-18N	58.1	48.0	52.2	58.5	36.8	39.2	100
300SA-10-22N	70.1	57.9	63.0	70.6	44.4	47.3	100
300SA-10-24N	77.0	63.6	69.2	77.6	48.8	52.0	100
300SA-10-30N	97.0	80.1	87.2	97.7	61.5	65.5	100
300SA-10-36N	115.9	95.7	104.2	116.8	73.5	78.3	100
300SA-10-45N	144.1	119.0	129.5	145.1	91.3	97.3	100

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## 800SA SURGE ARRESTER FOR 484TB CONNECTOR

Up to 42kV

### Application

Surge arrester designed to protect 12, 24, 36 and 42 kV class components, including transformers, equipment, cable and accessories from high voltage surges resulting from lightning or switching. It has been designed to be used with the 484TB separable tee connector.

### Technical characteristics

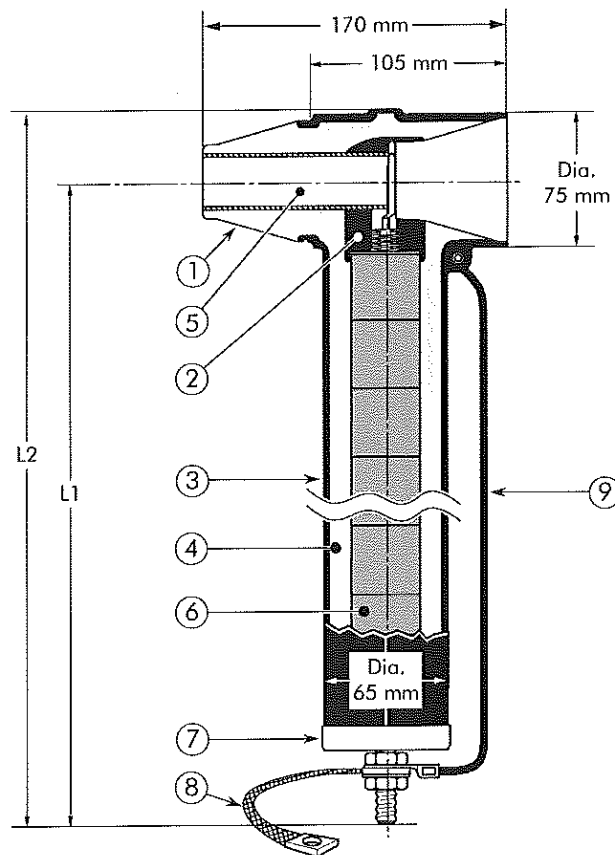
- This surge arrester is a metal oxide varistor surge arrester in an elbow configuration.
- Each arrester is tested for AC withstand, partial discharge and critical voltage prior to leaving the factory.

6/10	(12)	kV
6.35/11	(12)	kV
8.7/15	(17.5)	kV
12/20	(24)	kV
12.7/22	(24)	kV
18/30	(36)	kV
19/33	(36)	kV
20.8/36	(42)	kV

### Design

Surge arrester comprising:

1. Interface designed to fit the 484TB tee connector.
2. Conductive EPDM insert.
3. Conductive EPDM jacket.
4. Insulating EPDM layer moulded between the insert and the jacket.
5. Receptacle for contact rod.
6. Metal oxide valve elements.
7. Steel cap.
8. Earth connection.
9. Earth lead.

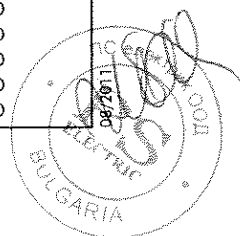


### Specifications and standards

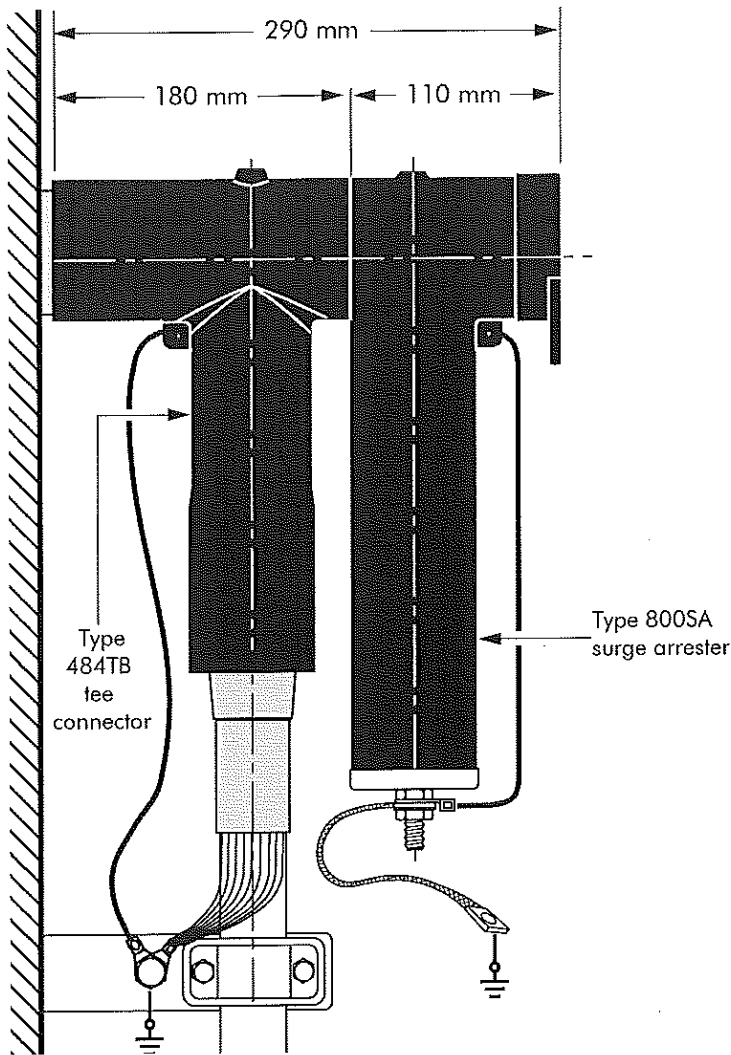
The 800SA surge arresters meet the test requirements of IEC 60099-4.

Surge arrester type	Nominal discharge current $I_n$ (kA)	Rated voltage $U_r$ (kV)	Max. continuous operating voltage $U_c$ (kV)	Dimensions (mm)	
				L1	L2
800SA-10-15N	10	15	12.0	250	290
800SA-10-18N	10	18	14.4	250	290
800SA-10-22N	10	22	17.6	250	290
800SA-10-24N	10	24	19.2	350	390
800SA-10-30N	10	30	24.0	350	390
800SA-10-36N	10	36	28.8	350	390
800SA-10-45N	10	45	36.0	450	490

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## Typical application and dimensions



## Ordering instructions

To order the surge arrester, specify the surge arrester type, as described on previous page.

### Example:

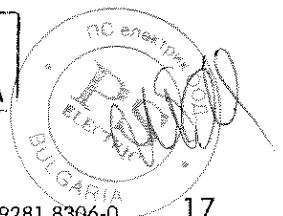
For a maximum continuous operating voltage (r.m.s.) of 24 kV and a nominal discharge current of 10 kA.

Order a 800SA-10-30N surge arrester.

## Technical data

Surge arrester type	Steep current residual voltage @ 10 kA [1/20 μs] (kV)	Lightning current residual voltage [8/20 μs] (kV)			Switching impulse residual voltage [36/90 μs] (kV)		High current impulse withstand (kA)
		@ 5 kA	@ 10 kA	@ 20 kA	@ 125 A	@ 500 A	
800SA-10-15N	48.1	39.7	43.2	48.4	30.5	32.5	100
800SA-10-18N	58.1	48.0	52.2	58.5	36.8	39.2	100
800SA-10-22N	70.1	57.9	63.0	70.6	44.4	47.3	100
800SA-10-24N	77.0	63.6	69.2	77.6	48.8	52.0	100
800SA-10-30N	97.0	80.1	87.2	97.7	61.5	65.5	100
800SA-10-36N	115.9	95.7	104.2	116.8	73.5	78.3	100
800SA-10-45N	144.1	119.0	129.5	145.1	91.3	97.3	100

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## 400TR and 800TR INTERFACE C TEST RODS

### Application

- The test rod can be used for:
  - cable fault location
  - cable testing
  - phasing checks, etc.
- Connections may be made with a cable lug, a 4 mm plug or spring clips.

### Technical characteristics

- The 400TR test rod can be used with 430TB connectors.
- The 800TR is for use with the 484TB.

### Design

- Insulating shroud.
- Threaded rod for test connection.
- Two nuts M12.
- Insulation.
- Copper test rod stem.
- Wing nut.

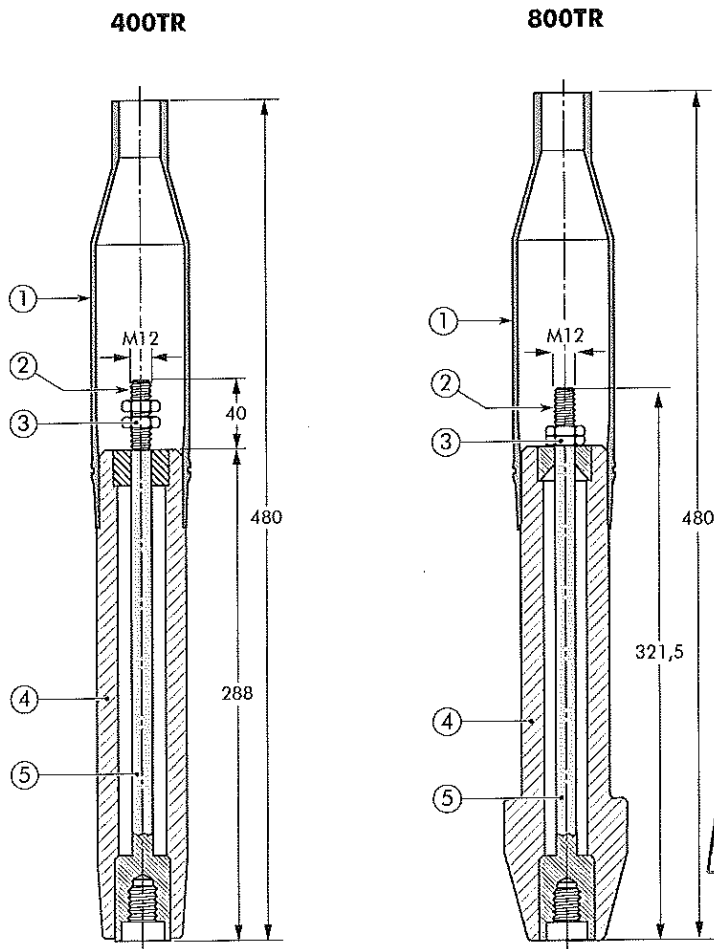
An insulating shroud is provided to allow the application of test voltages when bushings are closely spaced.

### Installation

The test rod is mounted on to the clamping screw in the type C interface tee and coupling connectors. The test cable is connected to the threaded stem and the insulating shroud moved to its final position over the end of the test rod.

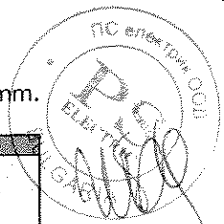
### Ordering instructions

Simply specify:  
400TR or 800TR test rod.



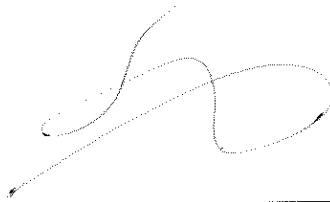
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In mm.



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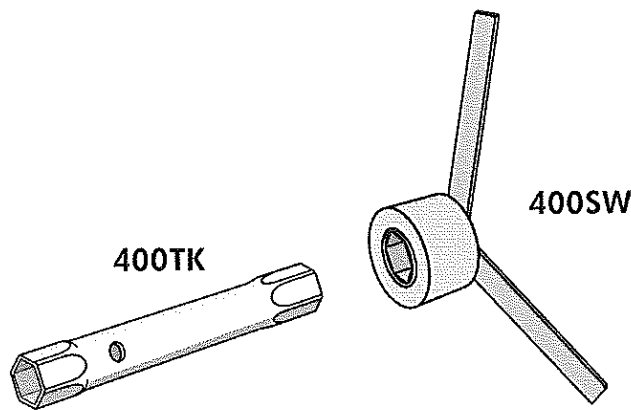
Test rod type	Maximum A.C. test voltage (50 Hz - 1 min)	Maximum D.C. test voltage (8 x U <sub>0</sub> - 30 min)	Impulse voltage (1.2 x 50 μs) min
400TR	36 kV	96 kV	95 kV
800TR	36 kV	96 kV	95 kV



## 400TK and 400SW INSTALLATION TOOL

### I Application

- The box spanner and box spanner key are designed to facilitate assembly of 400TE, 400TB and 440TB connectors.
- The 400TK box spanner is used to install the 400TEF clamping pin contact or 400TCS clamping screw.
- The 400SW box spanner key fits on the hex nut of the 400BIPA basic insulating plug.

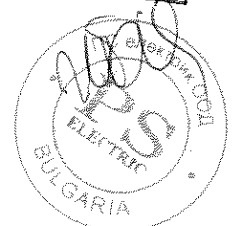


### I Ordering instructions

Simply specify:

- 400TK box spanner
- 400SW box spanner key

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## ACCESSORIES INTERFACE C

### Application

For use with connectors and bushings with an interface C as described by CENELEC EN 50180 and 50181.

### Technical characteristics

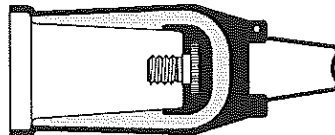
All these products, except the earthing plugs, are tested for AC withstand and partial discharge prior to leaving the factory.

Up to 36 kV

6/10	(12)	kV
6.35/11	(12)	kV
8.7/15	(17.5)	kV
12/20	(24)	kV
12.7/22	(24)	kV
18/30	(36)	kV
19/33	(36)	kV
20,8/36	(42)	kV

### 400DR-B Dead-end receptacle

Fits over a bushing with a type C interface to provide 'dead-end' facility.

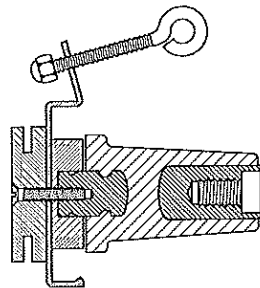


### Ordering instructions

Order 400DR-B for 12 kV, K400DR-B for 24 kV or M400DR-B for 36 kV applications. The dead-end receptacle can be supplied with an earth lead. Order with suffix -/G. E.g. K400DR-B/G.

### 400SOP-B Stand-off plug

Is designed to support and 'dead-end' connectors with a type C interface when removed from equipment.

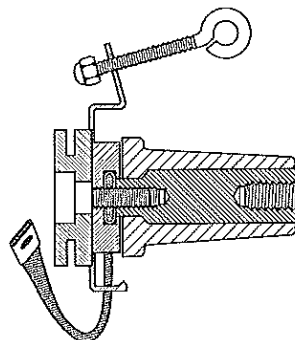


### Ordering instructions

Order 400SOP-B for 12 kV, K400SOP-B for 24 kV, M400SOP-B for 36 kV or P400SOP-B for 42 kV applications.

### 400GP-B Earthing plug

Is designed to support and earth connectors with a type C interface when removed from equipment.



### Ordering instructions

Order 400GP-B for 12, 24, 36 or 42 kV applications.

### 300GP-B Earthing plug

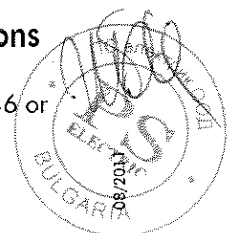
Is designed to earth the 430TB connectors when it is fixed-mounted to the equipment (maintenance earthing).



### Ordering instructions

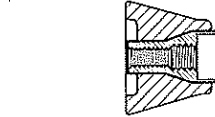
Order 300GP-B for 12, 24, 36 or 42 kV applications.

ВЯРНО С  
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### 800GP-B Earthing plug

Is designed to earth the 484TB connectors when it is fixed-mounted to the equipment (maintenance earthing).

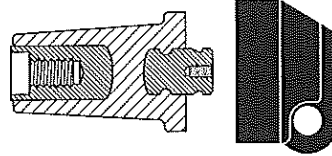


### Ordering instructions

Order  
800GP-B for 12, 24, 36 or  
42 kV applications.

### 400BIPA Basic insulating plug

Acts as a tightening nut for the 400TB and 440TB tee connector kits.  
The plug contains a voltage detection point.  
The conductive rubber protection cap is included.

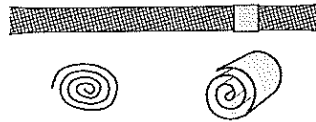


### Ordering instructions

Order  
400BIPA for 12 kV,  
K400BIPA for 24 kV  
M400BIPA for 36 kV or  
P400BIPA for 42 kV  
applications.

### Kit MT Earthing kit for copper tape screened cables

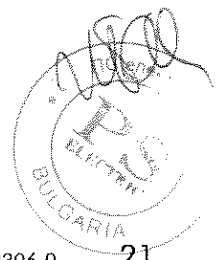
Contains a tinned copper braid (25 mm<sup>2</sup> - L = 500 mm), a tinned copper wire for cleating and some water sealing mastic.



### Ordering instructions

Order  
Kit MT for 12 kV, 24 kV  
36 kV or 42 kV applications.

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ОРИГИНАЛА

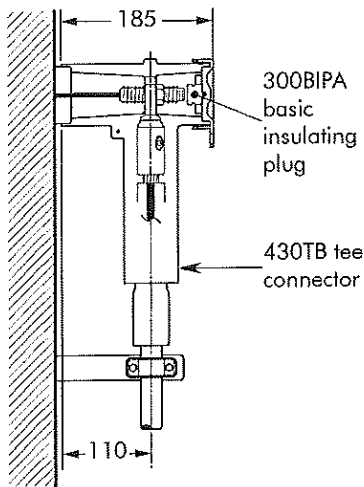


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## POSSIBLE ARRANGEMENTS INTERFACE C

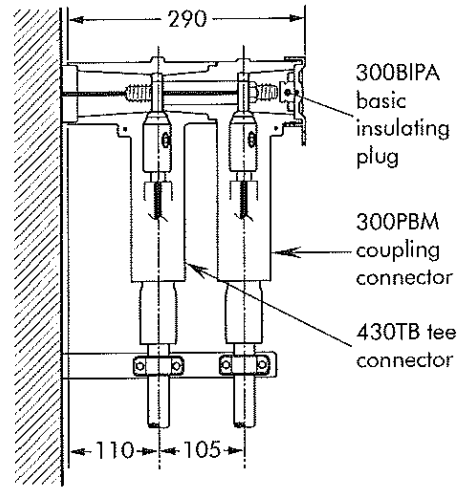
### I 430TB

Single cable arrangement.  
Order 430TB for 12 kV,  
K430TB for 24 kV or M430TB  
for 36 kV applications.



### I 430TBM-P2

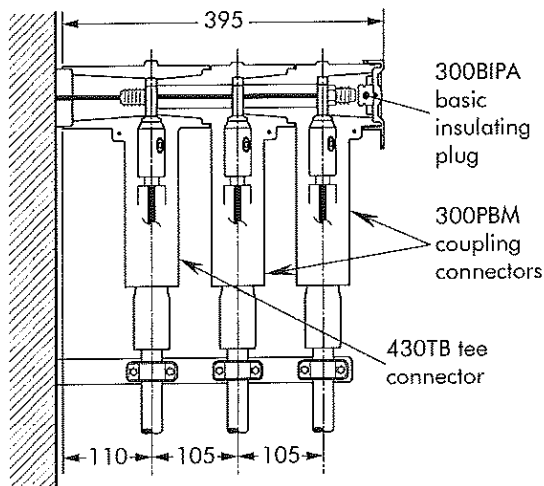
Dual cable arrangement.  
Order 430TBM-P2 for 12 kV,  
K430TBM-P2 for 24 kV or  
M430TBM-P2 for 36 kV  
applications.



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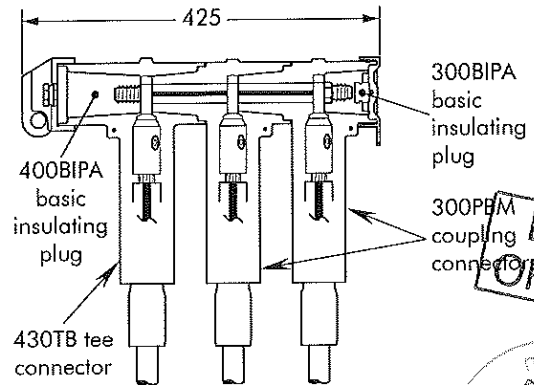
### I 430TBM-P3

Triple cable arrangement.  
Order 430TBM-P3 for 12 kV,  
K430TBM-P3 for 24 kV or  
M430TBM-P3 for 36 kV  
applications.

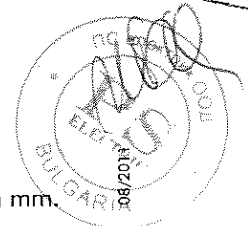


### I 430TBM-L3

3-way connection.  
Order 430TBM-L3 for 12 kV,  
K430TBM-L3 for 24 kV or  
M430TBM-L3 for 36 kV  
applications.



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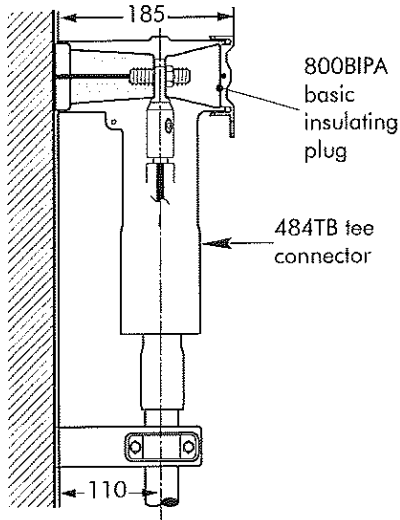


In mm.

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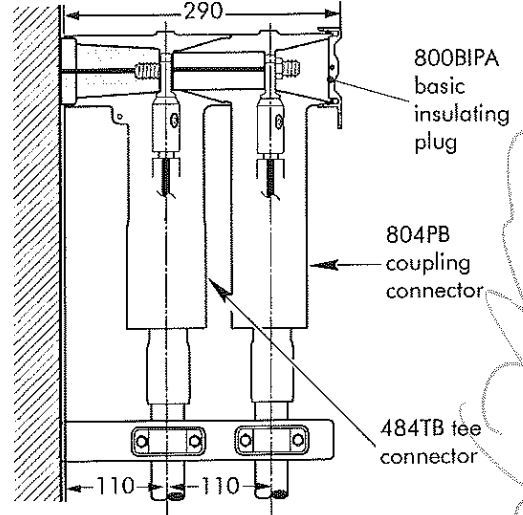
## 484TB

Single cable arrangement.  
Order 484TB for 12 kV,  
K484TB for 24 kV, M484TB  
for 36 kV or P484TB for 42 kV  
applications.



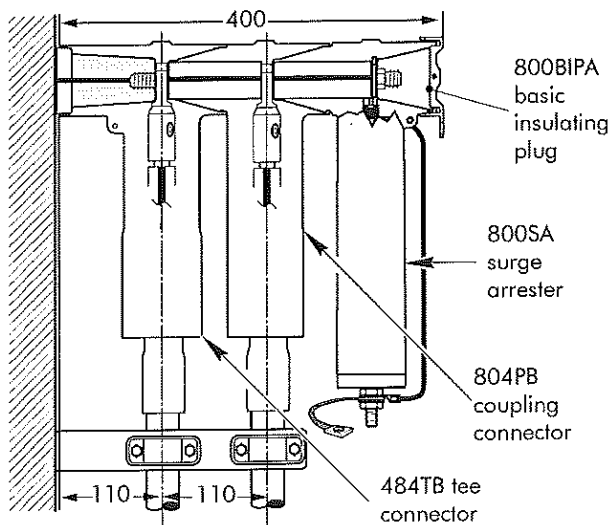
## 484TB-P2

Dual cable arrangement.  
Order 484TB-P2 for 12 kV,  
K484TB-P2 for 24 kV or  
M484TB-P2 for 36 kV  
or P484TB-P2 for 42kV  
applications.

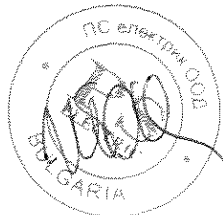


## 484TB-P2 + 800SA

Dual cable arrangement with  
surge arrester.  
Order 484TB-P2+800SA for  
12 kV, K484TB-P2+800SA for  
24 kV, M484TB-P2+800SA for  
36 kV or P484TB-P2+800SA  
for 42 kV applications.



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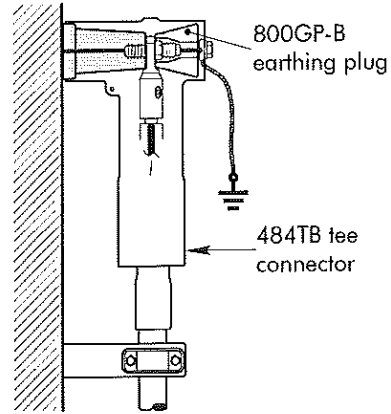
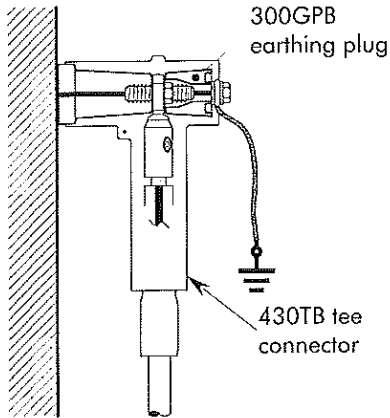


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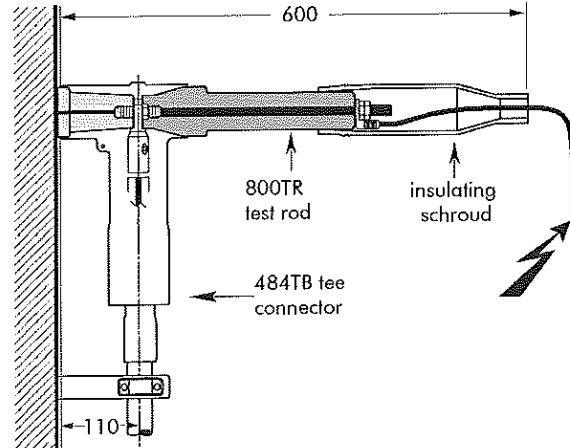
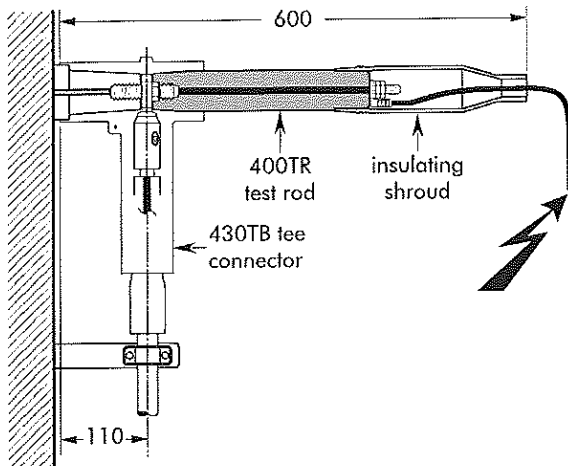
## I Earthing plug on connector

Order 300GP-B for 12 kV, 24 kV and 36 kV applications.

Order 800GP-B for 12 kV, 24 kV, 36 kV or 42 kV applications.

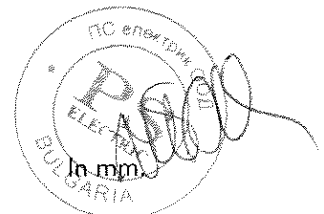


## I Cable and equipment testing



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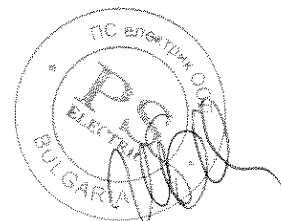
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Additional catalogue information on power cable accessories  
is available by contacting us at the address below:

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08/2011

Catalogue also available on CD-ROM

### Test certificate

No.: 95.05.21.294 A

Version: 3/4

Client : EUROMOLD N.V.  
3<sup>de</sup> Industriezone - Industrielaan 12  
B-9320 Erembodegem-Aalst

Object tested : Screened bolted-type separable connector 12/20 (24) kV

Type : K 158 LR .  
Manufacturer : EUROMOLD N.V.  
Date received : 30-05-1995

Date of test : June - November 1995

Test regulations applied : DIN VDE 0278 Teil 1:1991-02/DIN VDE 0278 Teil 6:1991-02

Test carried out : Type tests according to DIN VDE 0278 Teil 6: 1991-02 table2

Test result : The screened bolted-type separable connector 12/20 (24) kV, type K 158 LR manufactured by EUROMOLD N.V. qualified in the type tests according to DIN VDE 0278 Teil 1/DIN VDE 0278 Teil 6:1991-02.

Specialist testers : Hemeltjen, Schlüter, Lentsch, Hommernick, Leuchtmann,  
Dipl.-Ing. Lange

На основание чл. 2  
от ЗЗЛД

Dortmund, 09-09-1999

Report No. 95.05.21.294 A contains 06 pages and 07 appendices.

VEW EUROtest GmbH, Unterste-Wilms-Str. 52, 44143 Dortmund, Telefon 02 31-4 38 28 61, Telefax 02 31-4 38 26 34



Test-No.: 95.05.21.294 A

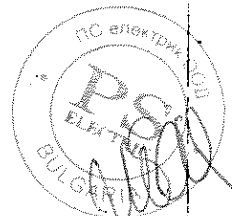
page: 2/6

### Summary

VEW EUROtest GmbH carried out type tests according to DIN VDE 0278 Teil 1:1991-02/  
DIN VDE 0278 Teil 6:1991-02 table 2 on the screened bolted-type separable connector  
12/20 (24) kV, type K 158 LR manufactured by EUROMOLD N.V..

The screened bolted-type separable connector 12/20 (24) kV of the type K 158 LR manu-  
factured by EUROMOLD N.V. qualified in the type tests according to DIN VDE 0278 Teil  
1:1991-02/DIN VDE 0278 Teil 6:1991-02 table 2.

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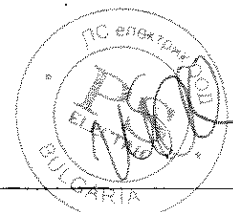
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	<b>Page</b>
1 Test regulations	04
2 Technical data of the test specimens	04
3 Realization and result of the tests	05

**Annex**

1 Data sheet (4 sheets)
2 Installation instructions (8 sheets)
3 Screen fault current initiation test (7 sheets)
4 Impuls voltage test point 3 (12 sheets)
5 Thermal short-circuit test (3 sheets)
6 Impuls voltage test point 14 (6 sheets)
7 Test equipment (1 sheet)

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## 1 Test regulations

DIN VDE 0278 Teil 1: 1991-02

Accessories for power cables with rated voltage  $U$  up to 30 kV ( $U_m$  up to 36 kV)

Requirements und test methods

DIN VDE 0278 Teil 6: 1991-02

Accessories for power cables with rated voltage  $U$  up to 30 kV ( $U_m$  up to 36 kV)

Bolted-type or plug-in type screened separable connectors over 1 kV ( $U_m > 1,1$  kV)

## 2 Technical data of the test specimens

### Connector

Screened bolted-type separable connector 12/20 kV:

Manufacturer:	EUROMOLD N.V.
Type:	K158LR
Nominal voltage $U_0/U$ ( $U_m$ ):	12/20 kV
Nominal frequency:	50 Hz
Number of phases:	1
Cross section of conductor:	16 - 150 mm <sup>2</sup>
Data sheet:	see annex 01
Installation instruction:	see annex 02

### Used cable

Cable marking:	N2XS2Y 1x50 mm <sup>2</sup> , rm
Cable length:	about 2500 mm

The test specimens were assembled by the manufacturer.

**3 Realization and result of the tests**

**Result of the tests**

The tests were carried out according to DIN VDE 0278 Teil 6 table 2 . The results are summarized in table 1.

DIN VDE 0278 Teil 6 table 2 test sequence 1						
	Test	1)	Test requirements	Test result	2)	3)
1	A.C. voltage dry withstand	3.1	1 min at 50 kV	no disruptive breakdown	yes	
2	Partial discharge test	3.6	20 pC at 24 kV	≤ 1 pC at 24 kV	yes	
3	Impuls voltage test	3.3	10 impulses of each polarity	125kV withstended	yes	04
4	Electrical heat cycling in air <sup>4)</sup>	3.5	2 cycles: I = 245 A at 30 kV	no disruptive breakdown	yes	
5	Disconnection operations/ connection operations	3.17	5 complete operations	no visible damage on contact	yes	
6	Electrical heating cycles in air <sup>4)</sup>	3.5	1 cycles: I = 245 A at 30 kV	no disruptive breakdown	yes	
7	Partial discharge test	3.6	20 pC at 24 kV	< 1 pC at 24 kV	yes	
8	Electrical heat cycling in air <sup>4)</sup>	3.5	20 cycles: I = 245 A at 30 kV 40 cycles: I = 333 A at 30 kV	no disruptive breakdown	yes	
9	Thermal short circuit test	3.7	6 short circuits at 9,0 kA	no visible damage	yes	05
10	Disconnection operations/ connection operations	3.17	5 complete operations	no visible damage on contact	yes	
11	Electrical heat cycling in air	3.5	54 cycles: I = 333 A at 30 kV	no disruptive breakdown	yes	
12	Partial discharge test	3.6	20 pC at 24 kV	< 1 pC at 24 kV	yes	
13	Electrical heat cycling in water <sup>4)</sup> ; Partial discharge test	3.11.3	9 cycles: I = 333 A at 30 kV 20 pC at 24 kV	no disruptive breakdown; < 1 pC at 24 kV	yes	

1) Tests acc. to DIN VDE 0278 Teil 1 clause  
 2) Test requirements met  
 3) see annex  
 4) On account of a wrong information the test specimen A031 and A032 were heated with incorrect heating current of 245Aeff during the first 23 load cycles . According to the agreement with the manufacturer the heating current was increased up to the correct value of 333A for the subsequent cycles.

Table 1: test results, test sequence 1 (continued)

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**DIN VDE 0278 Teil 6 table 2 test sequence 1**

	Test	1)	Test requirements	Test result	2)	3)
14	Impuls voltage test	3.3	10 impulses of each polarity	125kV withstended	yes	06
15	D.C. voltage dry withstand	3.2	30 min at 96 kV	no disruptive breakdown	yes	
16	Leakage current measurement	3.14	max. 0,5 mA at 20 kV	12 µA at 20 kV	yes	03
18	Screen fault current initiation test	3.15	fault current to flow continuously	fault current to flow continuously	yes	
19	D.C. voltage dry withstand	3.16	5 min at 5 kV	no disruptive breakdown	yes	

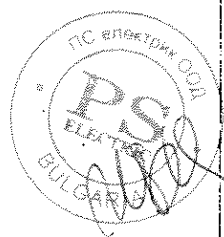
1) Tests acc. to DIN VDE 0278 Teil 1 clause

2) Test requirements met

3) see annex

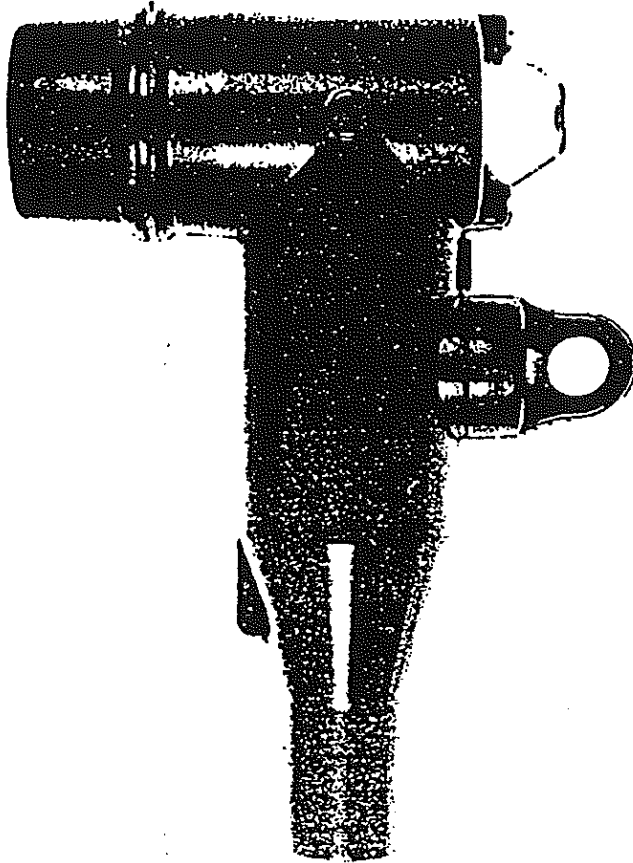
Table 1: test results, test sequence 1

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**Elastimold®**

**EUROMOLD**



**ELBOW  
CONNECTOR**

**200 SERIES**

**12 kV : 158LR**

**24 kV : K158LR**

**APPLICATION**

- separable connector designed to connect cable to equipment (transformers, switchgear, motors). Also connects cable to cable.

**TECHNICAL DETAIL**

This connector

- is a fully screened and fully submersible product
- will accept the following cables :  
6/10 kV : 16-120 mm<sup>2</sup>  
12/20 kV : 16-95 mm<sup>2</sup>
- is designed to terminate extruded screened cables but can be used with other cable types by fitting the appropriate cable adaptor
- mates with the following respective 12 and 24 kV products :  
Bushings : (K)180AR-1, (K)180AR-1-G  
(K)180AR-2  
(K)180AR-3, (K)180AR-3-G  
(K)180S4, (K)180T4  
180A-24P-0

Three-way junction : (K)1501J3-U

In-line junction : (K)150S

Tee connector : (K)150T

Straight plug : (K)151SP

Dead-end plug : (K)150DP

Reducing tap plugs :

- 400 series : (K)400RTPA

- 600 series : (K)606RTPA, (K)676RTPA

(K)600RTP, (K)675RTP

(K)600RTPS, (K)675RTPS

Stand-off plug : (K)151SOP

Earthing plug : 250GP

- meet the requirements of IEC 71, VDE 0278, C53-05A  
NBN C68-207, UNESA 5205 A, ANSI/IEEE 386

- has approx. gross shipping wt. : 1,3 kg

**INSTALLATION**

The comprehensive installation instructions supplied with each kit describe the cable preparation and crimp barrel compression. The elbow is pushed over the core insulation with the aid of the silicone grease provided. No heating, potting or taping is required when installing. The elbow connector can be energised immediately after installation on its mating part.

**ELECTRICAL RATINGS**

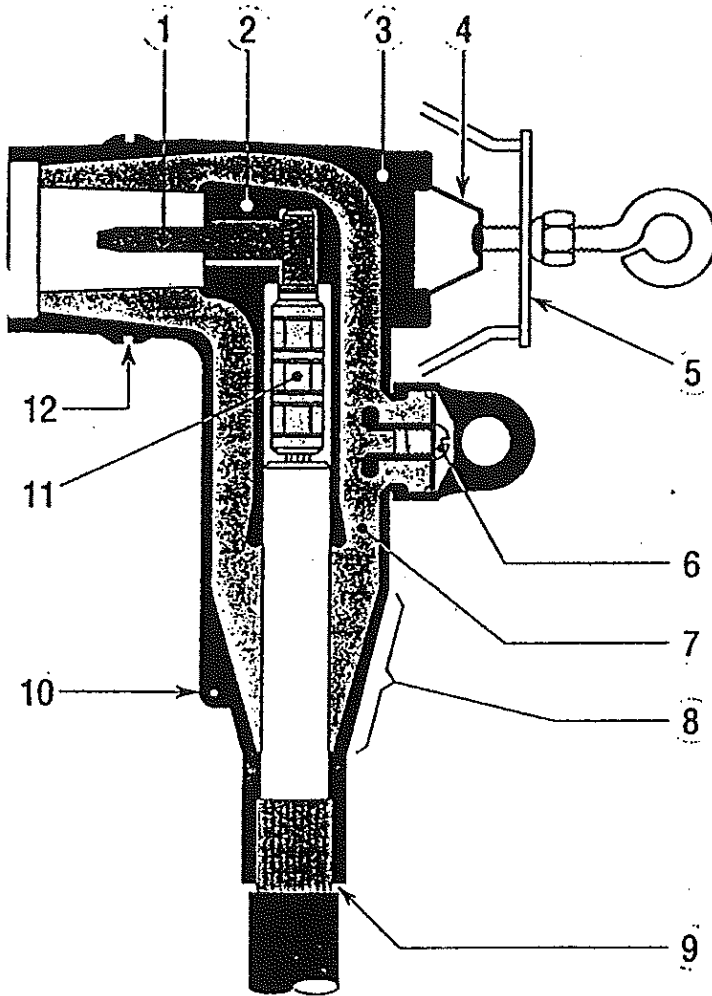
Connector type	158LR	K158LR
<b>VOLTAGE *</b>		
System	6/10 kV (12 kV max)	12/20 kV (24 kV max)
Partial Discharge Extinction** (1 pC sensitivity)	9 kV	18 kV
Impulse (1,2 x 50 μs)	75 kV	125 kV
Industrial Power Frequency** (50 Hz - 1 minute)	35 kV	55 kV
<b>CURRENT</b>		
Continuous (max.)	250 A	250 A
Overload (8 hrs in 24 hr period)	300 A	300 A
Short circuit: RMS symm. 1 sec. Peak asymm.	12,5 kA 22 kA	12,5 kA 22 kA

\* Ratings are based on IEC standards and do not reflect maximum withstand levels. For compliance with other standards, refer to your local representative.

\*\* These tests are applied to 100 % of production.

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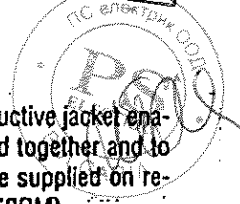




**DESCRIPTION**

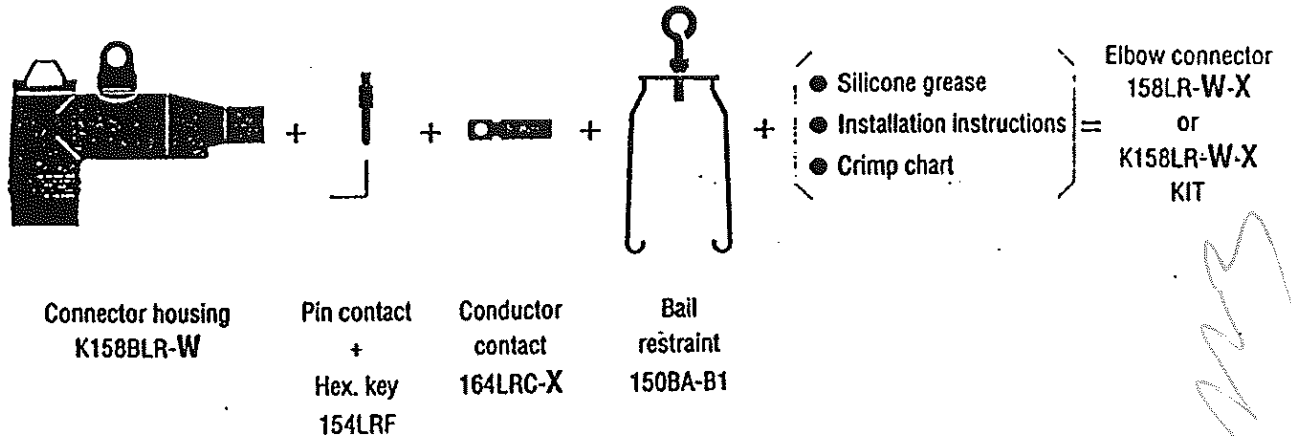
- ① **PIN CONTACT**  
Tinned copper pin screws into the conductor contact by means of an hexagonal key (supplied).
- ② **INTERNAL SCREEN**  
A conductive EPDM rubber insert moulded to the connector insulation screens the line connection.
- ③ **MOULDED CONDUCTIVE SCREEN**  
The 3 mm thick conductive EPDM rubber jacket is moulded to the connector insulation and provides the screening and earth continuity between the cable and the mating part.
- ④ **PULLING RING**  
Stainless steel pulling ring also locates the bail restraint.
- ⑤ **BAIL RESTRAINT**  
Secures the elbow connector to the equipment bushing or mating 200 series part.
- ⑥ **VOLTAGE TEST POINT**  
Removal of the conductive rubber cap reveals a capacitive test point which can be used to check locally whether the circuit is energised.
- ⑦ **INSULATION**  
Insulating EPDM rubber exerts a uniform radial pressure on the cable insulation (interference fit) which reinforces the creep strength.
- ⑧ **STRESS RELIEF**  
The diverging conductive jacket moulded to the primary insulation provides stress relief for the cable.
- ⑨ **CABLE ENTRANCE**  
Sized opening engages the insulation screen of the cable providing earth screen continuity. The interference fit keeps moisture out.
- ⑩ **EARTHING EYE**  
Provides a convenient point for bonding the conductive rubber jacket to earth.
- ⑪ **CONDUCTOR CONTACT**  
Sized to the conductor, this must be crimped with the appropriate tool.
- ⑫ **LOCKING GROOVE**  
A groove moulded into the conductive jacket enables all three phases to be locked together and to equipment. A locking ring can be supplied on request (Ordering part number : 250RM).

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**ORDERING INSTRUCTIONS**

The complete 158LR, K158LR elbow connector kit comprises the following component parts :



**ORDERING FORMULAE \***

Up to 12 kV - 158LR-W-X

Up to 24 kV - K158LR-W-X

To order the elbow connector, use the tables below to substitute for **W** and **X** in the above formulae :

1. From table **W** : Select the symbol which gives the best centring of your core insulation diameter.
2. From table **X** : According to your conductor size and type, select the designation which completes the part number.

**Table W**

Insulation dia. (mm)		Symbol for W
min.	max.	
12,6	14,9	EB
13,3	16,1	EF
14,6	17,4	FA
15,9	18,7	FAB°
17,2	19,9	FB°
18,4	21,2	FG
19,7	22,5	GA
21,0	23,8	GAB
23,6	26,4	GH

° Please contact factory for these sizes.

**Table X**

Section (mm²)	Aluminium		Copper	
	DIN style	EDF style		DIN style
		Compacted & uncompact	Compacted	
16	—	—		16(K)M-11-;
25	25(K)M-12-2	25KM-12-1		25(K)M-11-;
35	35(K)M-12-2	35KM-12-1		35(K)M-11-;
50	50(K)M-12-2	50KM-12-1	50M-12-1	50(K)M-11-;
70	70(K)M-12-2	70KM-12-1	70M-12-1	70(K)M-11-;
95	95(K)M-12-2	95KM-12-1	95M-12-1	95(K)M-11-;
120	—	120KM-12-1	120M-12-1	—

Example : The cable is 20 kV, 50 mm² compact stranded aluminium with a diameter over core insulation of 21,1 mm.

Order a K158LR-GA-50(K)M-12-1 elbow connector.

Component parts can be ordered individually.

Example : An elbow conductor contact is required for a 25 mm² compact copper conductor.

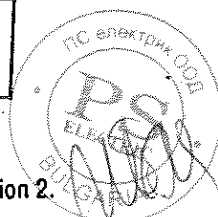
Order a 164LRC-25(K)M-11-2 conductor contact.

\* **IMPORTANT NOTES** : - To select the necessary adaptors or screen devices for the cable used, refer to section 2.

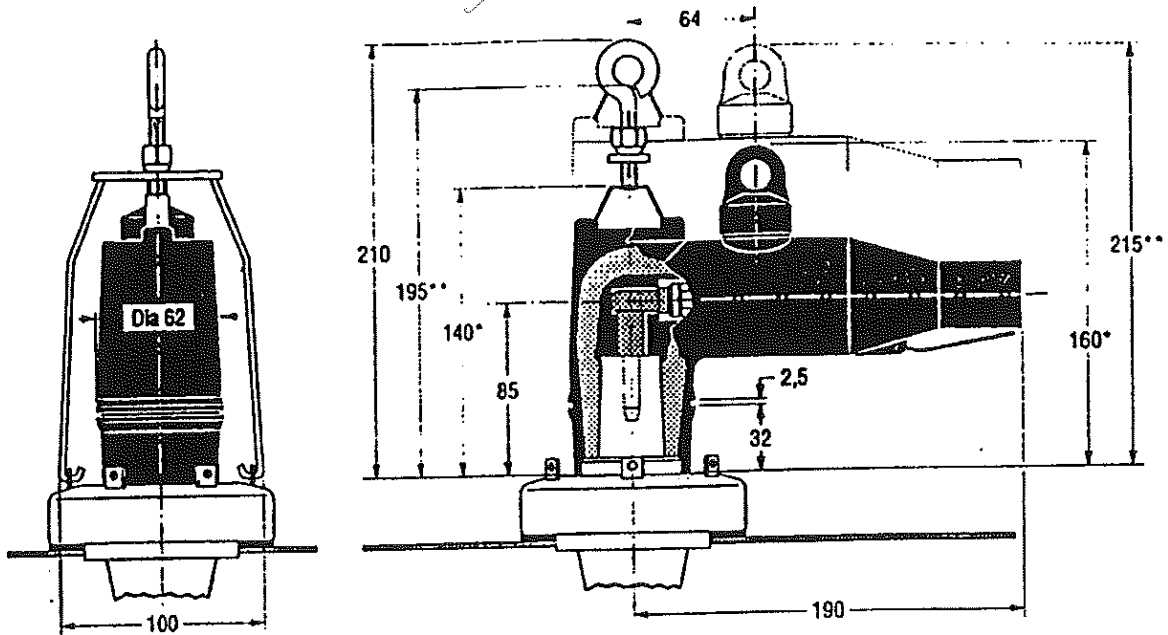
**This kit must be specified when ordering.**

- When ordering, please specify your type of cable, i.e. metallic screen (copper wires or flat metallic tap and semi-conductive screen (fabric tape, extruded easy strin or bonded)

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OVERALL DIMENSIONS



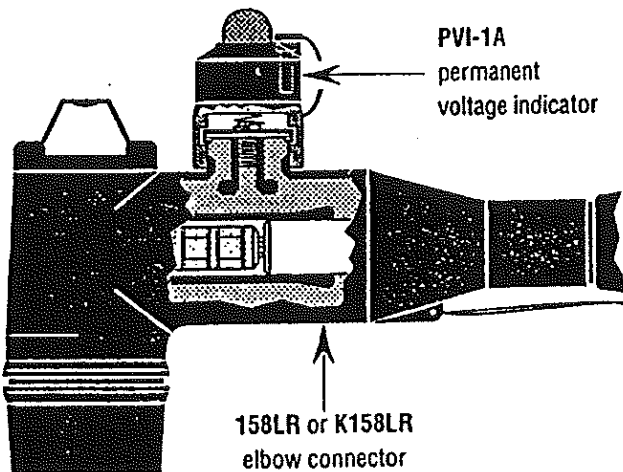
Dimensions in mm.

\* Dimensions of connector in assembled position.

\*\* Minimum dimensions necessary to disconnect.

IMPORTANT NOTES :

- The K158LR (24 kV) elbow connector is dimensionally identical with the standard 158LR (12 kV) elbow connector.
- The phase segregation provided by the earth screening of this product enables three phases to be mounted as close together as desired. The equipment bushing usually dictates phase centres.
- Cable entry can be accommodated from above, below, side or any angle in between.
- A connector/bushing mated combination should not be allowed to carry the full weight of the cable.
- These connectors must never be energised in isolation. Always ensure they are connected to their mating part.



ORDERING INSTRUCTIONS

Simply specify the PVI-1A permanent voltage indicator.

PERMANENT VOLTAGE INDICATOR PVI-1A

APPLICATION

- Indicates whether the cable and connector or accessory are energised. It also provides access through the 4 mm dia. socket to the VD-point for phasing facility.
- Once installed the voltage indicator is completely watertight.

ELECTRICAL RATINGS

System voltage	6/10 kV (12 kV max.)	12/20 kV (24 kV max.)	18/30 kV (36 kV max.)
Partial Discharge Extinction	Connector ratings are not affected by the presence of the PVI-1A permanent voltage indicator		
Impulse			
Industrial Power Frequency			
Blinking Frequencies	0,7 Hz (40 pulses per minute)	1,4 Hz (80 pulses per minute)	2,1 Hz (120 pulses per minute)

Routine test :

Each permanent voltage indicator is tested at low voltage.



MI 21020B



IS 158LF  
Page 1 of 8 - Ju  
Supersedes edition

**CAUTION :**

Read instructions thoroughly and completely prior to beginning installation.

**Installation Instructions**

**(K)158LR**

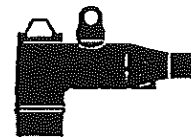
**Elbow Connector - 200 Series**

Up to 24 kV

**For sizes FG - GA - GAB - GH**

Only to be used on copper wire screened cable with extruded easy strip conductive screen (Part A), bonded extruded conductive screen (Part B) or fabric tape screen (Part C).

**Contents :** 1 x Elbow connector housing



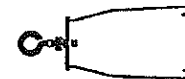
1 x Pin contact + hex. key



1 x Conductor contact



1 x Bail restraint



1 x 11TL adaptor

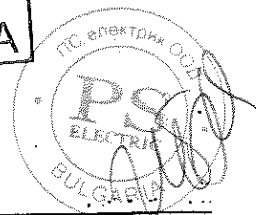


- Self-amalgamating tape (optional, for outdoor use)

- Silicone grease + wipers

- Installation instructions + crimp chart

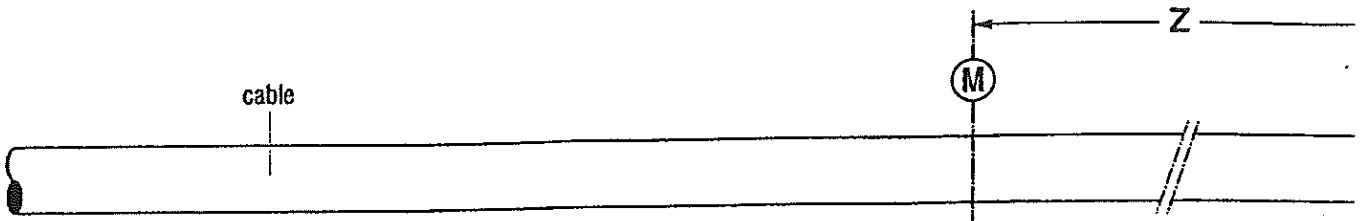
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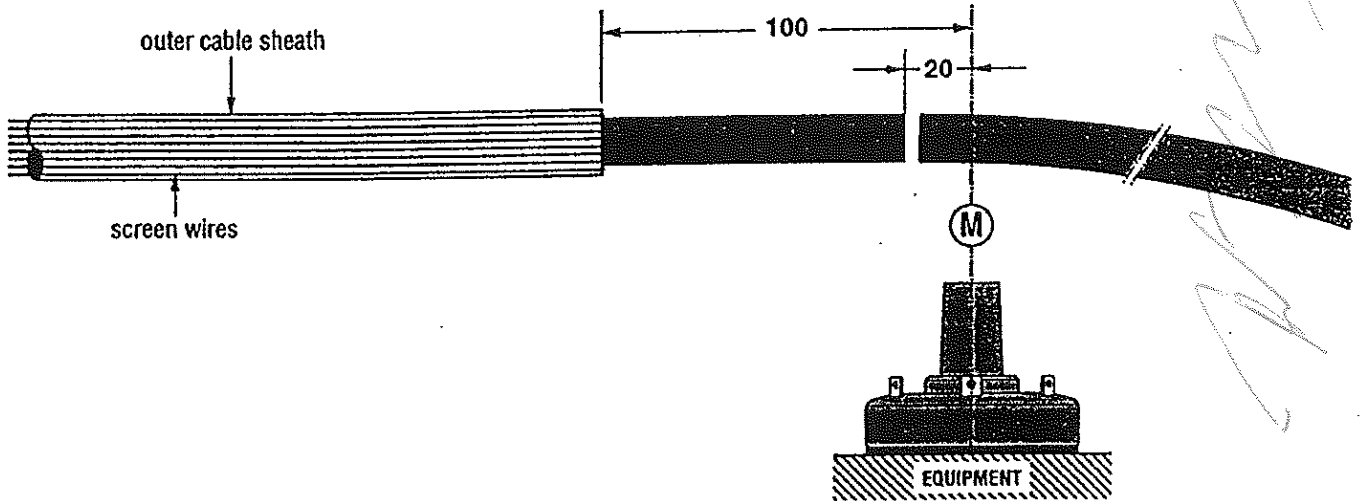
006E-R/3

This product should be installed only by competent personnel trained in good safety practices involving high electrical equipment. These instructions are not intended as a substitute for adequate training or experience in such practices. These instructions do not attempt to provide for every possible contingency.

**CABLE DISPOSAL**

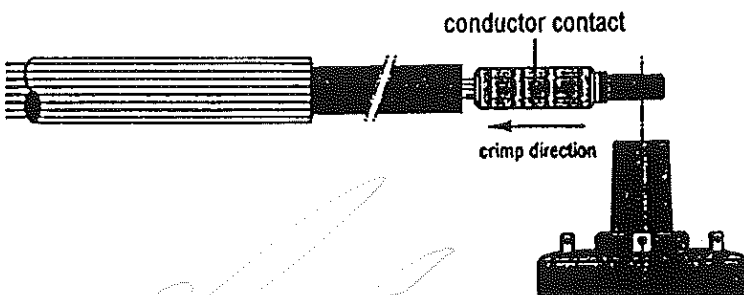
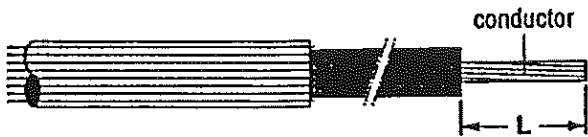


1. Train the cable into the approximate finished position next to the equipment bushing.
2. The distance «Z» mm between cable end and centre line «M» of the bushing must be long enough to connect the copper screen wires to the system earth once the connector is installed on the equipment.



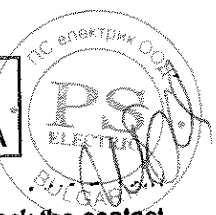
3. Temporarily remove the outer sheath to a point 100 mm from the centre line of the bushing.  
**DO NOT CUT OR NICK THE WIRE SCREEN.**
4. Bend back screen wires along the outer sheath.
5. Cut the cable to a point 20 mm from the centre line «M» of the bushing.

**CRIMPING OF THE CONTACT**



1. Bare the conductor for a distance «L» mm from the cable end.  
Copper conductor : L = 40 mm;  
Aluminium conductor : L = 50 mm.
2. Before installing the crimp contact wire brush the conductor (for aluminium conductors).

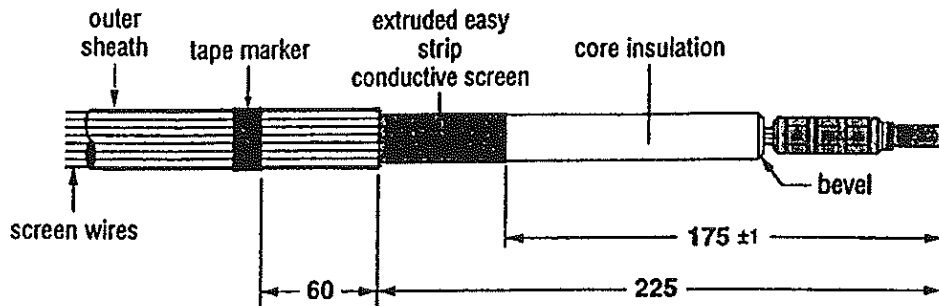
ВЯРНО С  
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3. Install the crimp contact, check the contact palm faces the bushing interface.
4. Crimp the contact on the conductor.

**Part A** Copper wire screened cable with extruded easy strip conductive screen

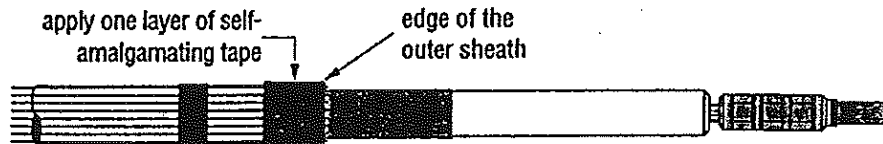
**CABLE PREPARATION**



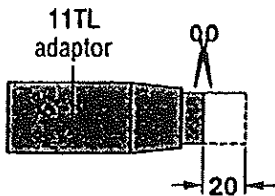
1. Remove the outer sheath to a point 225 mm from the end of the crimped contact.
2. Apply a tape marker on the outer sheath 60 mm from the end.
3. Remove the extruded conductive screen to a point 175 ±1 mm from the end of the crimped contact.
4. Slightly break the edge of the core insulation.

**FOR OUTDOOR APPLICATIONS :**

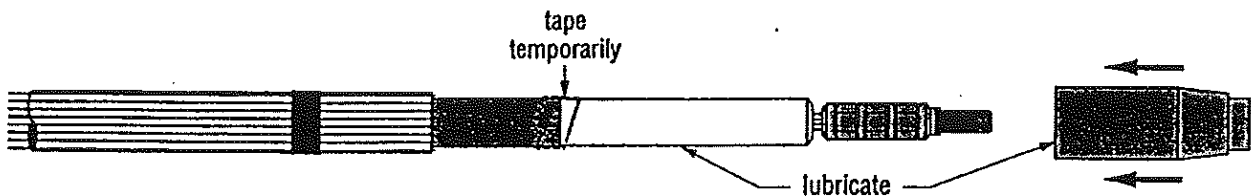
Apply one layer of self-amalgamating tape (type SA) on the outer sheath, flush with the end (25 mm minimum width). Bend back screen wires along the outer sheath. Compress the screen wires into the self-amalgamating tape.



**INSTALLATION OF THE 11TL ADAPTOR**



1. Cut the collar of the 11TL adaptor for a distance of 20 mm.

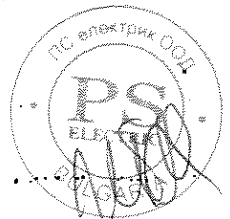


2. As an aid to install the adaptor, it is recommended to wrap one or two layers vinyl tape on the step of the extruded conductive screen.
3. Lubricate core insulation and inside of the adaptor\*.



4. Slide the adaptor over the insulation until flush with the tape marker.
5. Remove the vinyl tape applied in step 2.  
**USING THE WHITE WIPER, THOROUGHLY CLEAN THE CORE INSULATION.**  
Always wipe towards the screen wires.

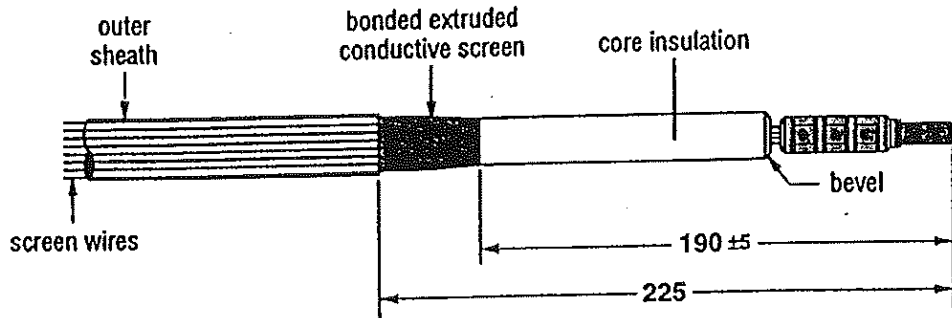
ВЯРНО С  
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**PROCEED ON PAGE 6 FOR THE INSTALLATION OF THE CONNECTOR**

**Part B** Copper wire screened cable with bonded extruded conductive screen

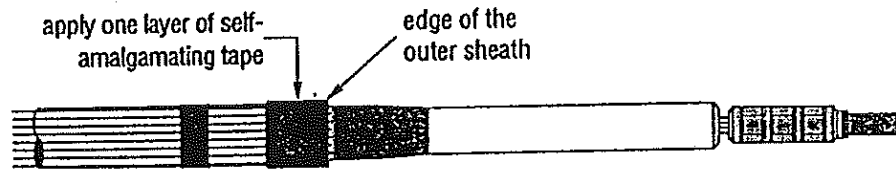
**CABLE PREPARATION**



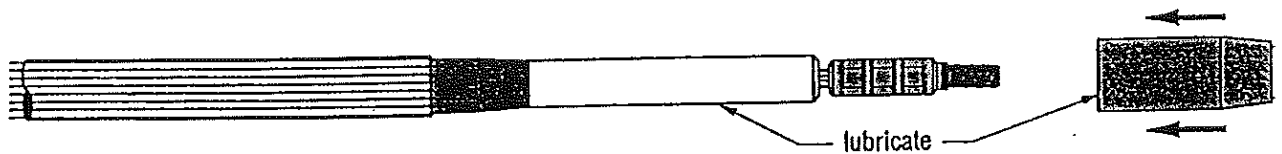
1. Remove the outer sheath to a point 225 mm from the end of the crimped contact.
2. Using a pencilling tool, remove the extruded conductive screen to a point  $190 \pm 5$  mm from the end of the crimped contact.
3. Slightly break the edge of the core insulation.

**FOR OUTDOOR APPLICATIONS :**

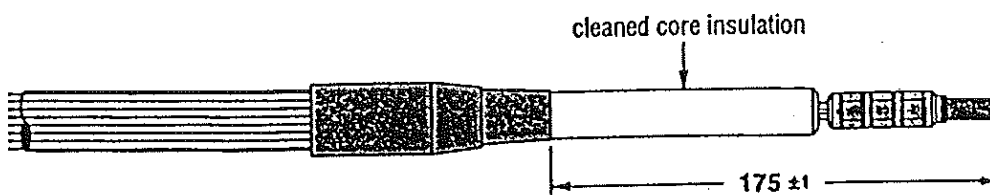
Apply one layer of self-amalgamating tape (type SA) on the outer sheath, flush with the end (25 mm minimum width). Bend back screen wires along the outer sheath. Compress the screen wires into the self-amalgamating tape.



**INSTALLATION OF THE 11TL ADAPTOR**



1. Lubricate core insulation and inside of the adaptor\*.



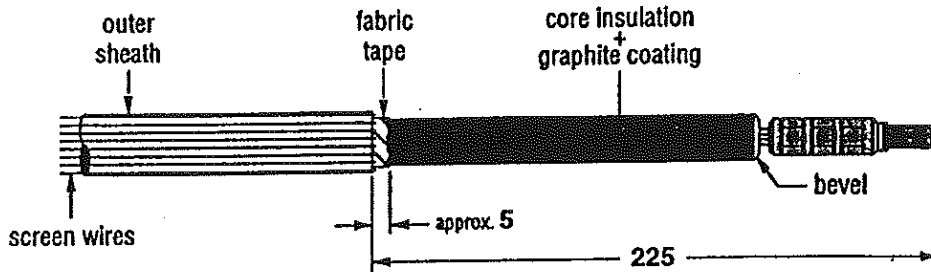
2. Slide the adaptor up to a point  $175 \pm 1$  mm from the end of the crimped contact. **USING THE WHITE WIPER, THOROUGHLY CLEAN THE CORE INSULATION.** Always wipe towards the screen wires.

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**Part C** Copper wire screened cable with fabric tape screen

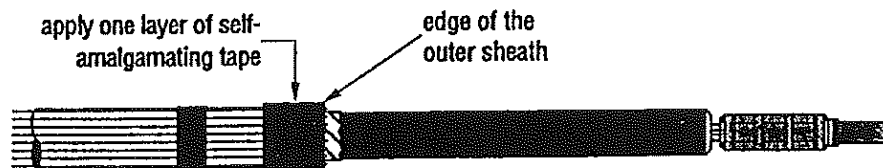
**CABLE PREPARATION**



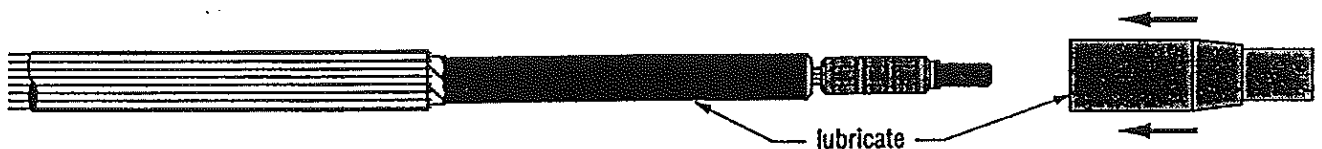
1. Remove the outer sheath to a point 225 mm from the end of the crimped contact.
2. Remove the fabric tape to a point approx. 5 mm from the outer sheath.  
**DO NOT REMOVE THE GRAPHITE VARNISH AT THIS STAGE.**
3. Slightly break the edge of the core insulation.

**FOR OUTDOOR APPLICATIONS :**

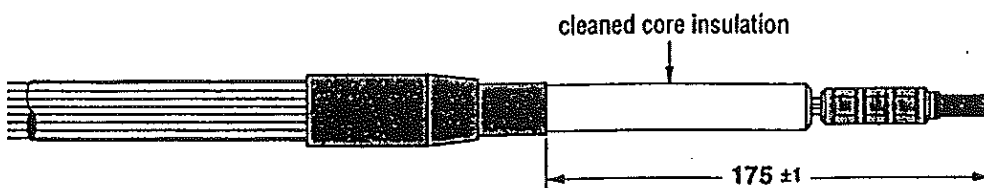
Apply one layer of self-amalgamating tape (type SA) on the outer sheath, flush with the end (25 mm minimum width). Bend back screen wires along the outer sheath. Compress the screen wires into the self-amalgamating tape.



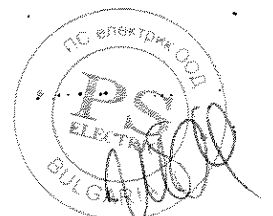
**INSTALLATION OF THE 11TL ADAPTOR**



1. Lubricate core insulation and inside of the adaptor\*.



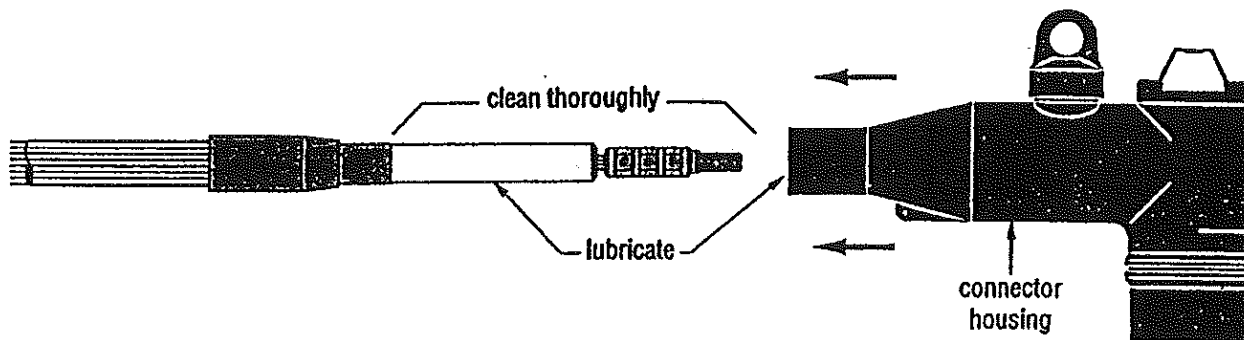
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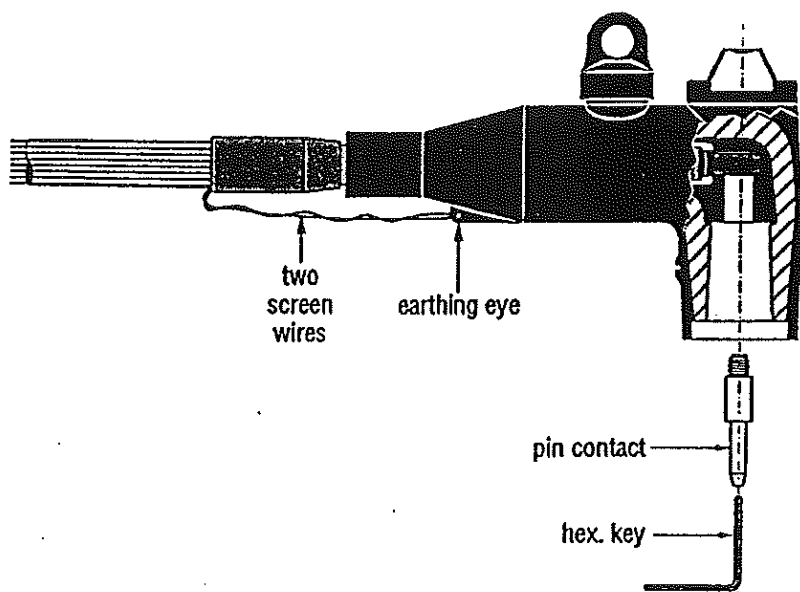
2. Slide the adaptor up to a point 175 ± 1 mm from the end of the crimped contact.  
**THOROUGHLY REMOVE THE GRAPHITE COATING USING AN APPROPRIATE SOLVENT**  
Always wipe towards the screen wires.



**CONNECTOR INSTALLATION AND CABLE SCREEN EARTHING**

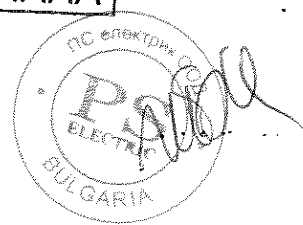


1. REMOVE ANY TRACES OF CONDUCTIVE RESIDUE FROM THE CORE INSULATION ABOVE THE ADAPTOR
2. Lubricate the core insulation and inside surface of the elbow connector \*.
3. Check if the angle of the elbow connector housing is correct relative to the palm of the crimp contact and gently slide the housing on the cable until it cannot advance any further.

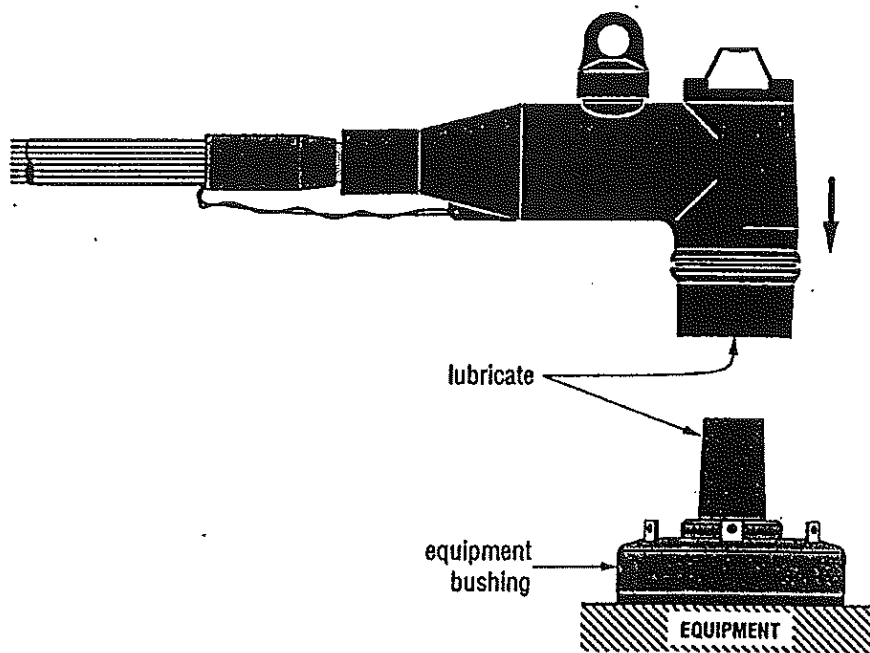



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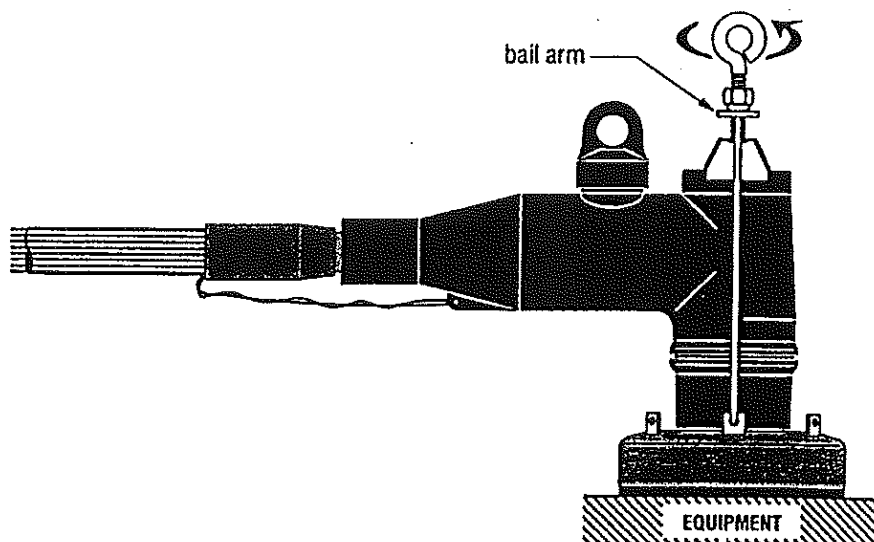
4. Insert the threaded end of the pin contact into the mating part by hand.  
Take care not to cross thread.
5. Tighten with hex. key until the key has taken a set.
6. Connect two copper screen wires to the earthing eye of the elbow connector.




CONNECTOR INSTALLATION ON BUSHING



1. Clean and lubricate lightly both bushing interface and connector interface \*.
2. Push the elbow connector on the bushing.



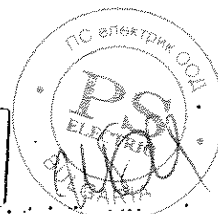
3. Insert bail arm into the bushing tabs.
4. Position bail arm and tighten eye bolt.

**DO NOT APPLY EXCESSIVE FORCE ON THE ELBOW CONNECTOR.**

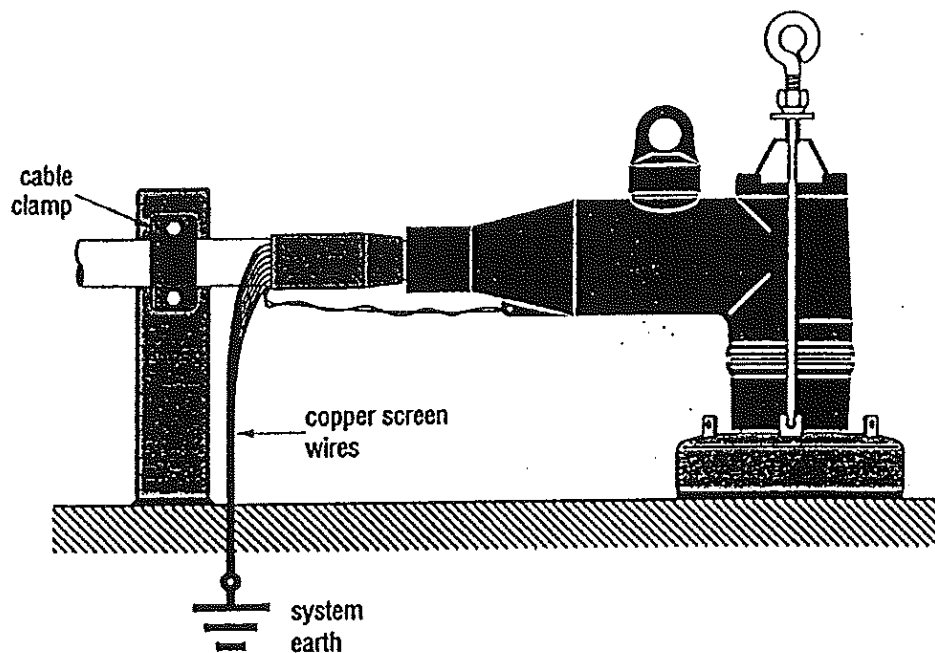
Adjust the nut on the eye bolt until it allows the eye bolt to seat securely on the locator. The nut should act as a stop to prevent the eye bolt from applying excessive force on the elbow connector.

Once the nut is in final position, it will not have to be readjusted when removing and replacing the elbow connector.

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### CABLE SCREEN EARTHING AND CABLE CLAMPING



1. Bend back the screen wires along the outer sheath to form a pig tail.
2. Connect the screen wires to system earth.

**NOTE :**

*A connector/bushing mated combination should not be allowed to carry the full weight of the cable. Therefore it is necessary to clamp the cable immediately beyond the cable screen adaptor.*

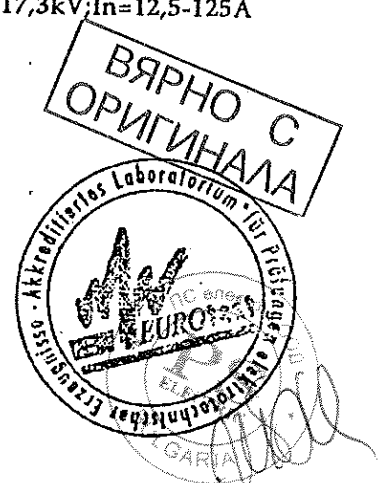
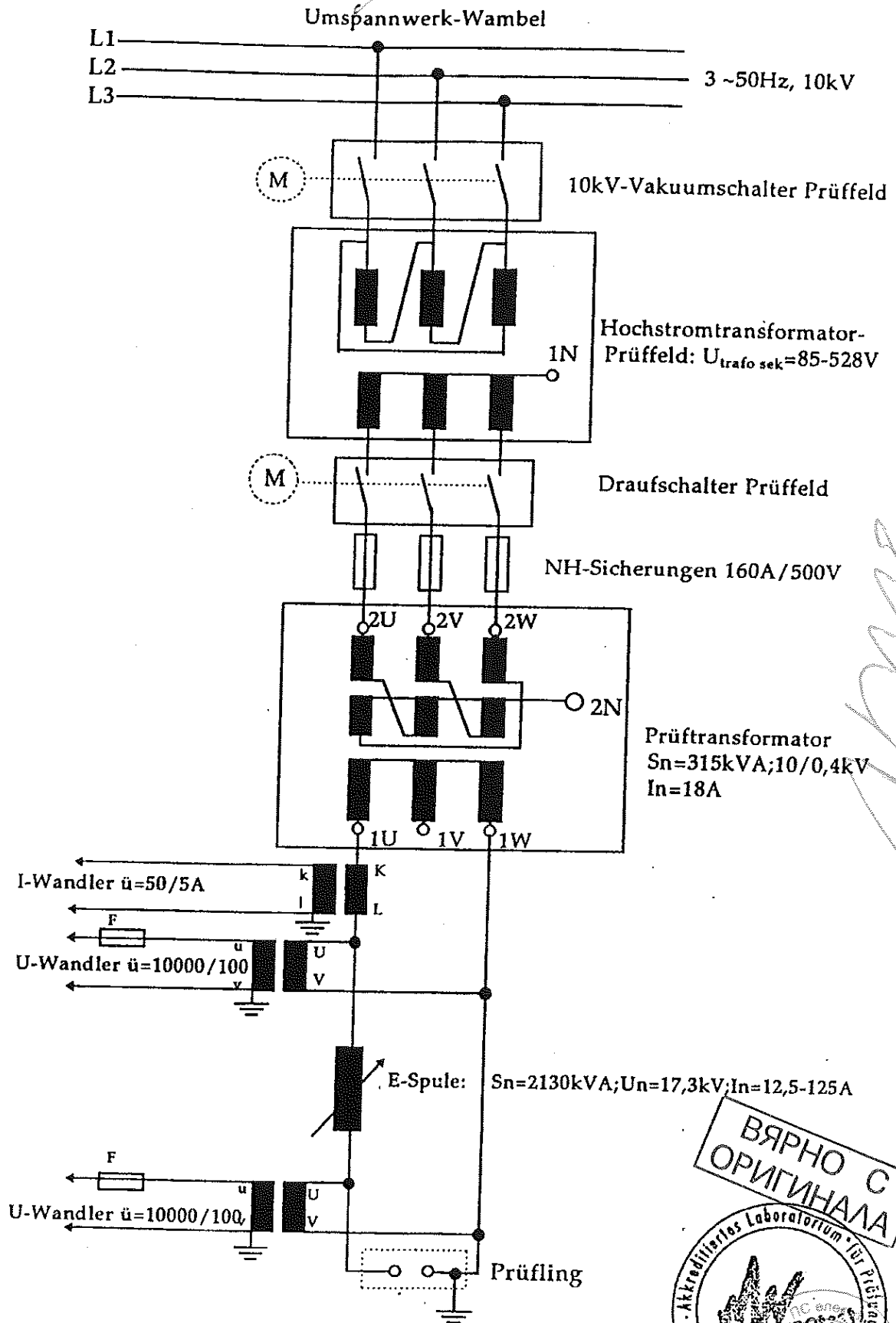
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**IMPORTANT NOTES :**

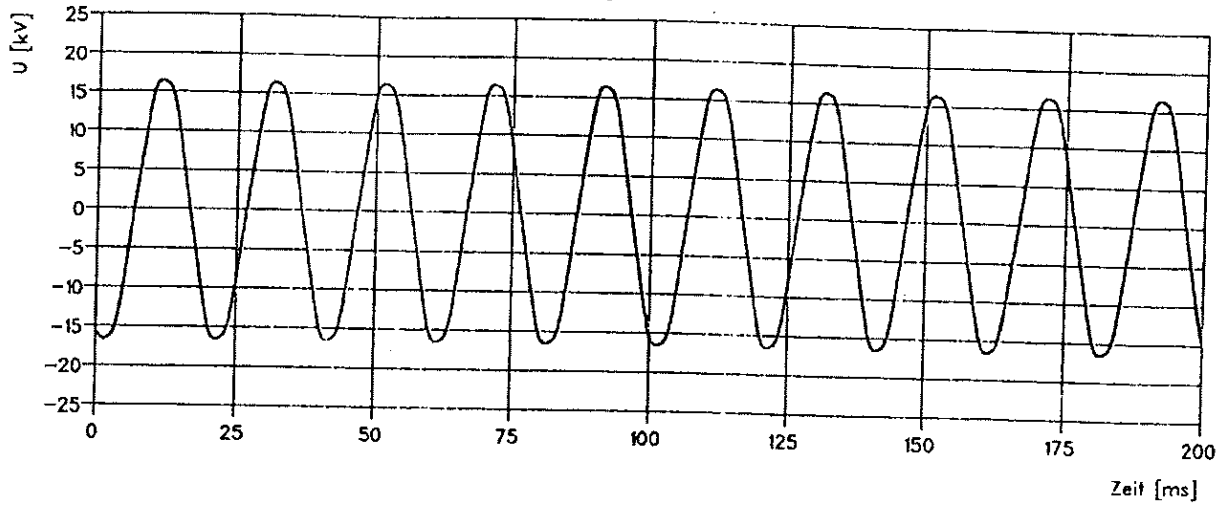
- Never disconnect the elbow connector from energised equipment nor energise a disconnected elbow without previously installing on its corresponding Stand-off plug (K)151SOP or Dead-end plug (K)150DP.
- Do not allow hydrocarbon oils or solvents to contaminate the E.P.D.M. rubber.  
In the event of contamination, wipe the surface clean with a dry cloth.



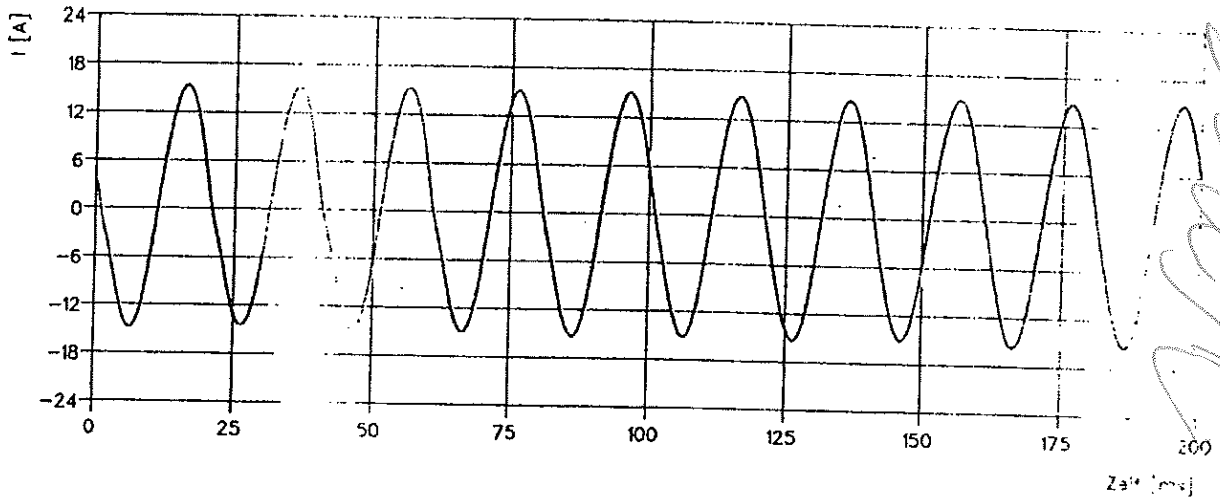
# Übersichtsschaltbild der Prüfeinrichtung



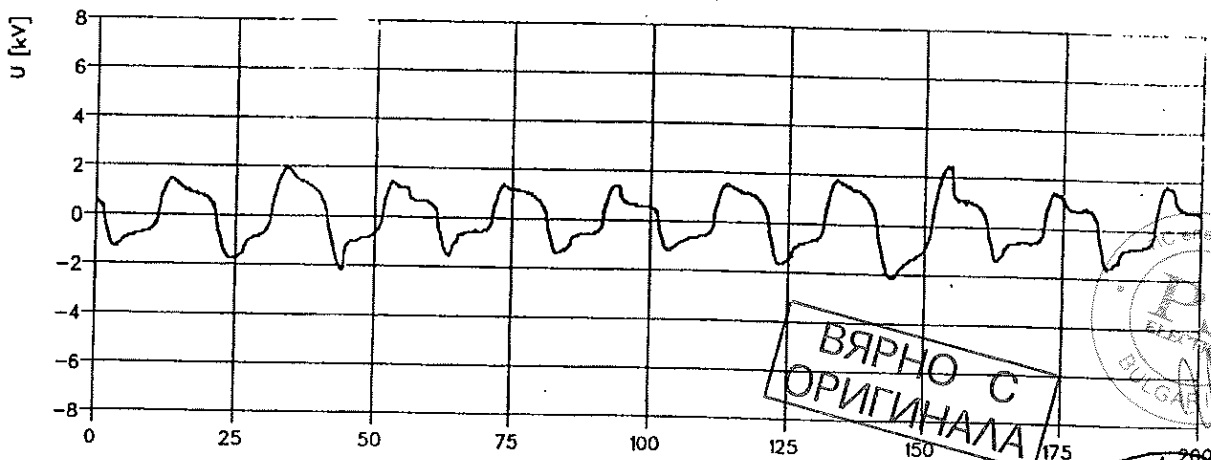
Spannung Prüftrafo



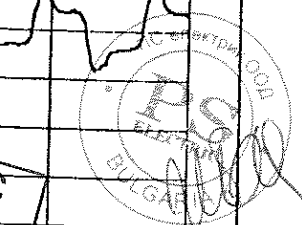
Strom Prüftrafo



Spannung Prüfling

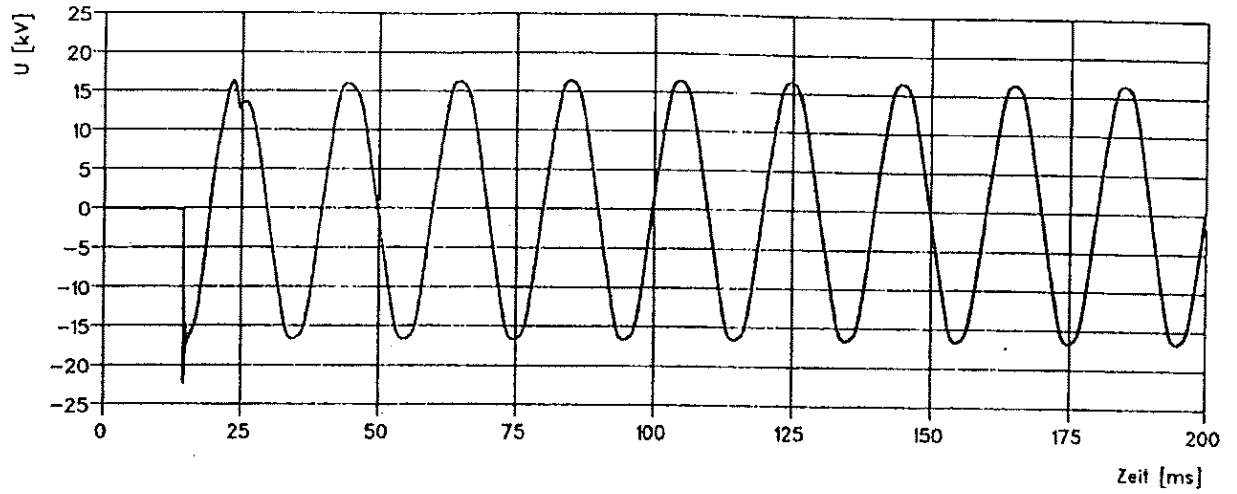


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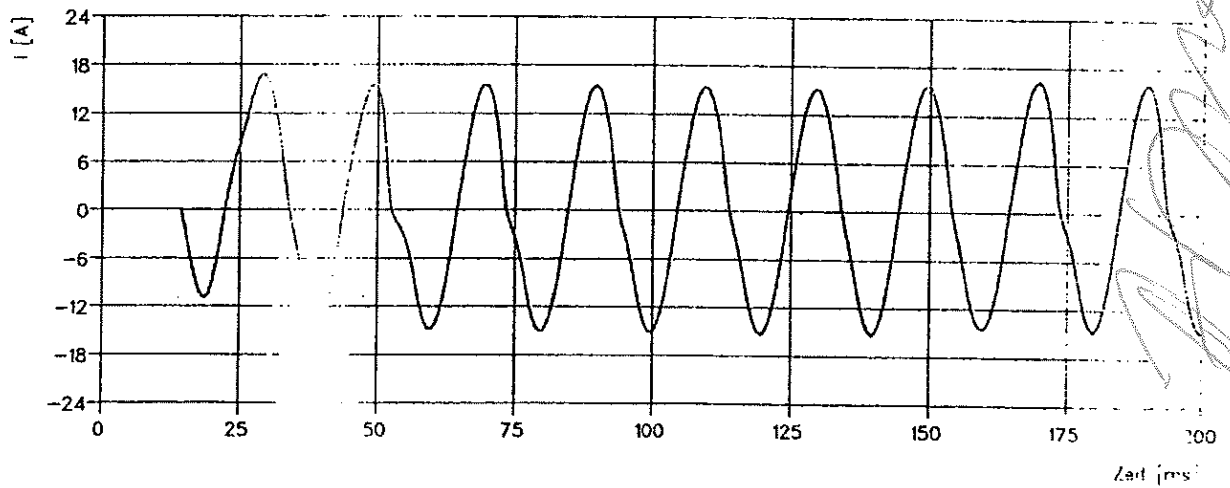


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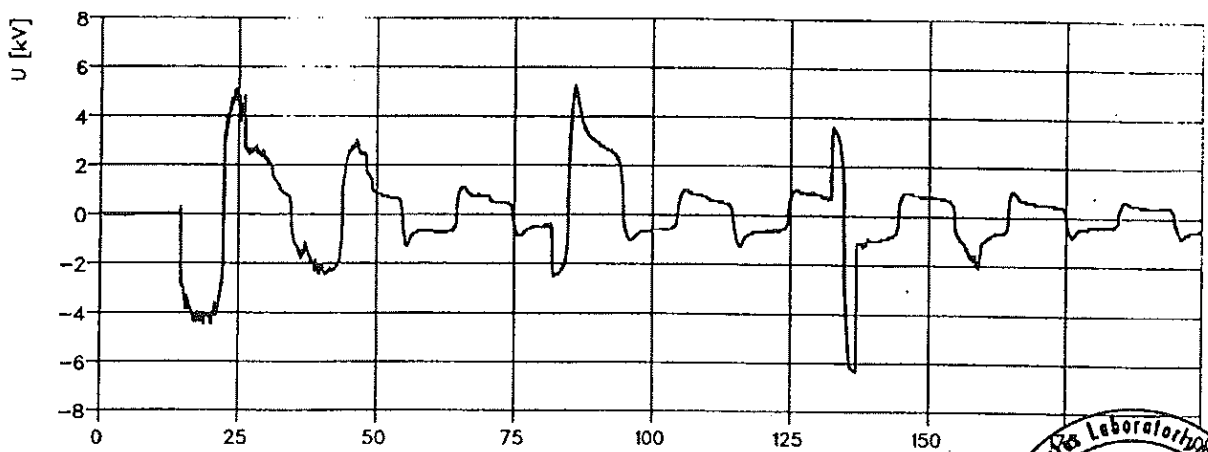
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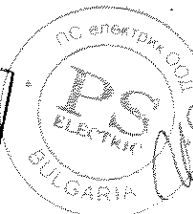
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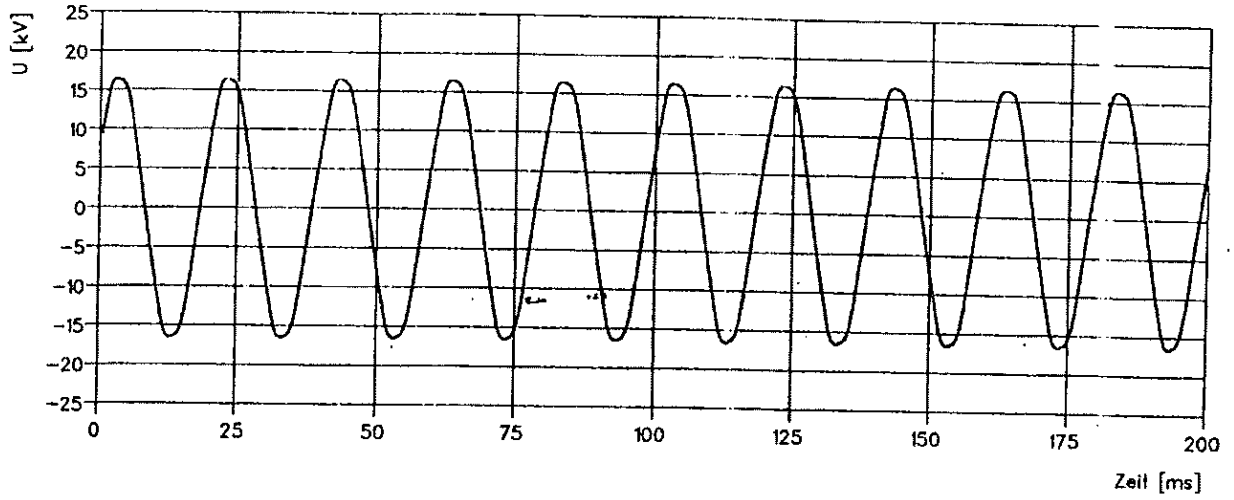
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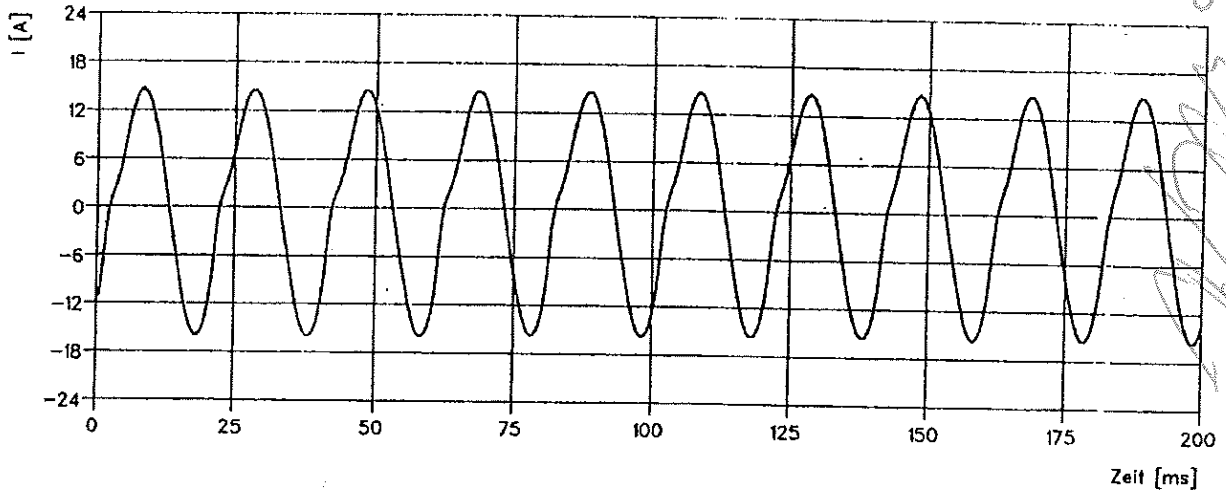
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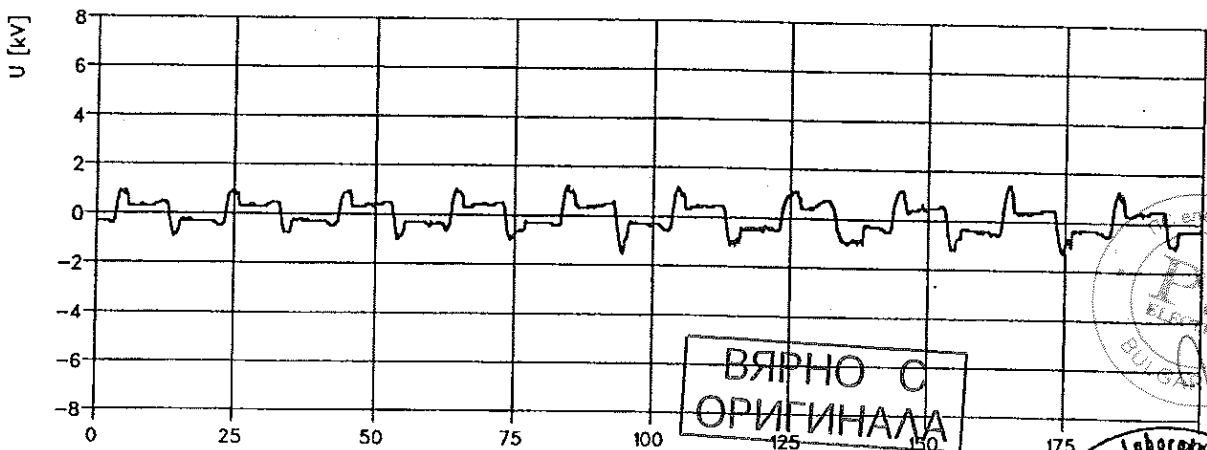
Spannung Prüftrafo



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Spannung Prüfling

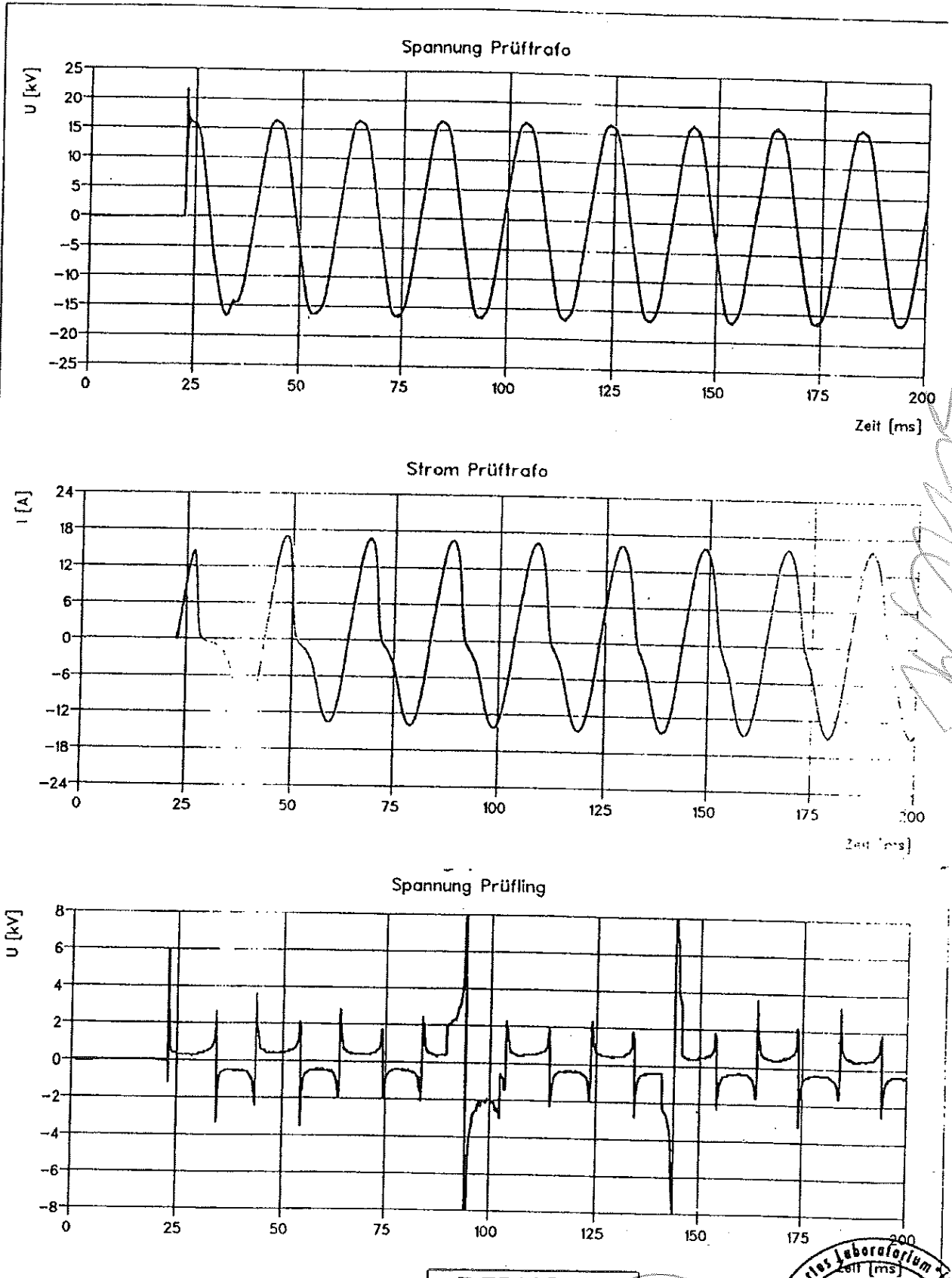


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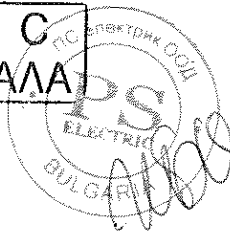
БЮРОТЕСТ  
ELEKTROTECHNISCHES  
LABORATORIUM  
BULGARIEN

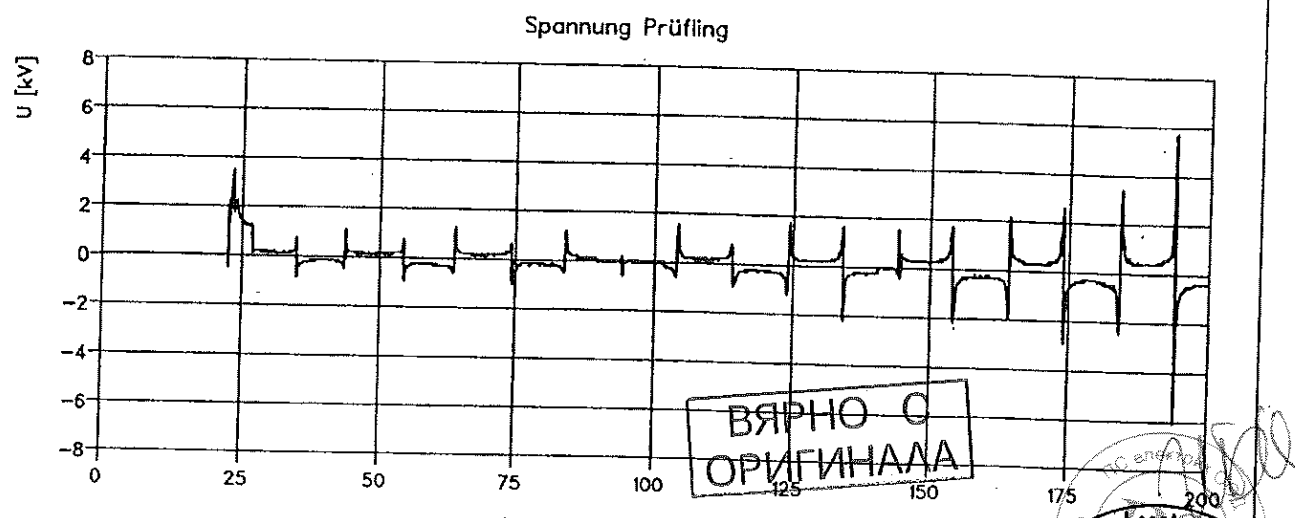
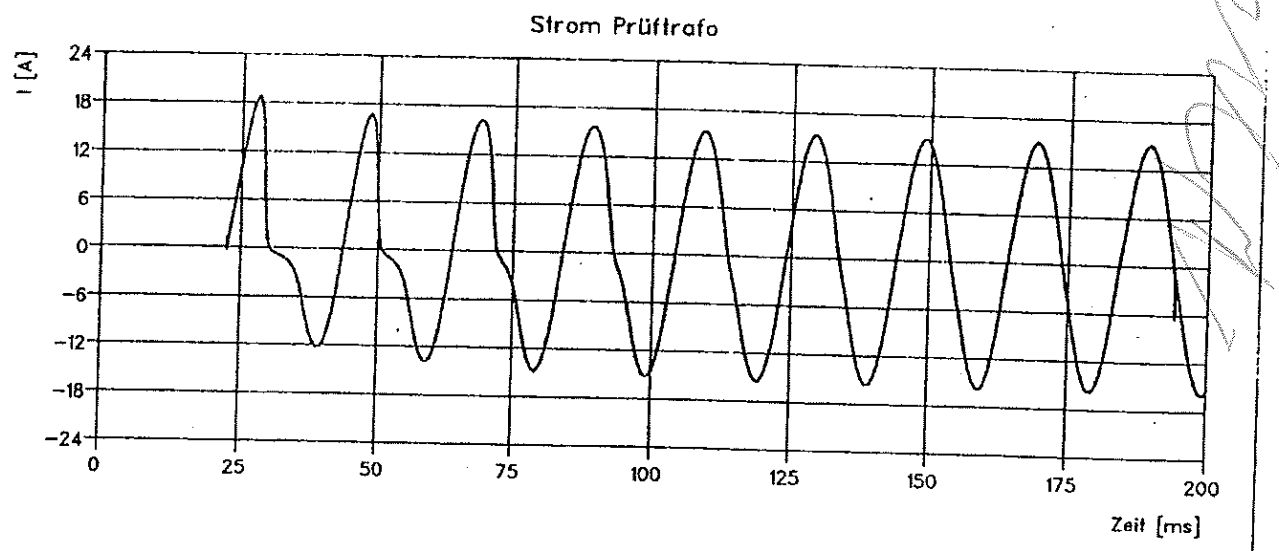
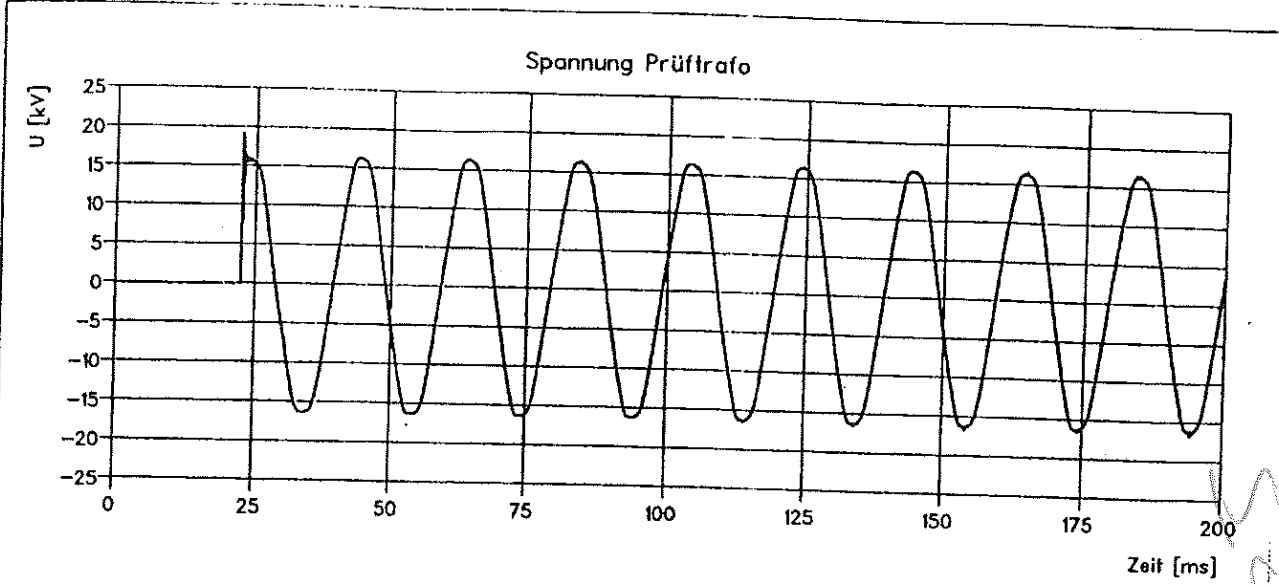
Erprobungs- und akkreditiertes Laboratorium für Technische  
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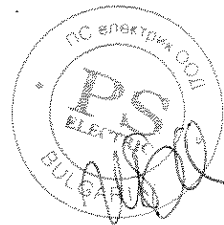
**Bild 1: Lichtbogenausbildung  
beim ersten Prüfzyklus**



**Bild 2: Brandentwicklung bei  
Versuchsende**

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