

POWER CABLE ACCESSORIES  
FOR INSTALLATION ONBOARD ALL  
VESSELS CLASSED BY DNV GL

SHIPS, OFFSHORE UNITS AND HIGH SPEED AND LIGHT CRAFT

CATALOGUE 2019



[DNVGL.COM/AF](http://DNVGL.COM/AF)



 **Nexans**  
BRINGS ENERGY TO LIFE





## POWER CABLE ACCESSORIES

Nexans is the leading European specialised designer, manufacturer and distributor of prefabricated cable accessories for medium voltage energy distribution. Under its trade names Nexans and Euromold, it provides a complete range of accessories for underground cables: pre-moulded EPDM rubber connectors and silicone terminations for cables and epoxy bushings for transformers and switchgear, as well as a large range of cold and heat shrinkable terminations and joints from 12 to 42 kV. Under the name GPH, a wide range of crimping connectors and lugs, mechanical connectors and lugs for aluminium and copper cables is ex-stock available. Thanks to our long experience, we can provide solutions for customer problems by designing and manufacturing special parts even in small quantities.

### Separable connectors

Separable connectors are designed to connect polymeric insulated cable to equipment such as transformers, switchgear, motors... These products are suitable for indoor and outdoor use.

The thick conductive EPDM jacket provides a total safe to touch screen which ensures safety for personnel.

### Cable jumpers

Cable jumpers are prefabricated lengths of cable on which a separable connector or a termination is installed on each end.

### Surge arresters

Surge arresters are designed to protect medium voltage components, including transformers, equipment, cable and accessories from high voltage surges resulting from lightning and switching.

### Terminations

Terminations are used to connect polymeric insulated cable to equipment and for the outdoor terminating onto overhead lines or bus bars. Indoor terminations are designed for use indoors in controlled environmental conditions and subject to light condensation. Outdoor terminations are for outdoor use and exposure to prolonged sunshine and other weather conditions.

### Equipment bushings

Equipment bushings are moulded epoxy insulated parts for use in equipment insulated with oil fluid or gas, typically for transformers, switchgear, capacitors...

### Joints

Straight joints are designed for jointing screened polymeric cable to be laid in air or directly buried. The product is fully screened and fully submersible. Transition joints are used to joint single and three core paper cables to three single core polymeric cables.

### Ferrules and lugs

Nexans is also a manufacturer of ferrules and lugs to connect low and medium voltage power lines and cables. A wide range of crimping connectors and lugs, mechanical connectors and lugs for aluminium and copper cables are available.

### Low voltage

In our product portfolio we also have a whole range of products for low voltage networks: terminations, straight and branch joints, gel or resin filled, heat shrink or cold shrink.

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.

# POWER CABLE ACCESSORIES

FOR INSTALLATION ONBOARD ALL VESSELS CLASSED BY DNV GL  
SHIPS, OFFSHORE UNITS AND HIGH SPEED AND LIGHT CRAFT

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## DNV GL - TYPE APPROVAL CERTIFICATE

# TECHNICAL INFORMATION

## INTRODUCTION

We received a DNV GL certification for some of our products.

These pages aim at providing information on DNV GL certification and on the Nexans-Euromold products qualified according to this directive. Products approved by the DNV GL certificate are accepted for installation on all vessels classed by DNV GL.

DNV GL is an international accredited registrar and classification society headquartered near Oslo, Norway. It was created in 2013 as a result of a merger between two leading organizations in the field – Det Norske Veritas (Norway) and Germanischer Lloyd (Germany).

As a classification society, DNV GL sets standards for ships and offshore structures – known as Class rules. They comprise safety, reliability and environmental requirements that vessels and other offshore mobile structures in international waters must comply with.

To obtain DNV GL approval, DNV GL experts verify the manufacturing processes for compliance with the Classification rules and further relevant standards.

During this verification, the manufacturer has to demonstrate that:

- He has suitable facilities for manufacturing, testing and inspection;
- The manufacturing is carried out by qualified personnel;
- Constant monitoring of product quality has been established.

## PRODUCTS

The products covered by this certificate are:

- 158LR
- 152SR
- 480TB
- 484TB
- 489TB
- 800PB
- 804PB
- 809PB
- 800SA
- 784TB
- 909TB
- 909PB
- 900SA
- AIN
- AFN
- ITK
- OTK
- MONOi
- MONOe
- 1TTE
- 1GLT4
- D-Series
- NX-FIRE

These products cover a whole range of applications. If you have requests for other products, please assure yourself the request cannot be covered with these products as the certification of a new product is a long process.

All kitting of these products must be done in the manufacturing unit.

DNV GL products can never be sold in bulk.

## CABLES

The application of these products covers the whole range of sections as described in the Nexans-Euromold catalogue.

It covers the use with cables with aluminium and copper conductors. It allows the use of all bolted and crimped contacts (hexagonal and deep indent).

The original dossier refers to single core XLPE insulated cables with a copper wire screen. For other cable types, please contact us first.

## MARKING AND APPLICATION

Products that comply with the DNV GL Type Approval shall be marked for traceability to the Type Approval.

The marking shall be performed by the company holding the Type Approval, at the end of the production phase.



## APPLICATION /LIMITATION

Installation has to be done in accordance with the installation instructions.

Use in net voltages above 15 (17,5) kV to be accepted case by case.

## TYPE APPROVAL CERTIFICATE

The difference between a DNV GL Type Approval Certificate and a Product Certificate should be noted.

A DNV GL Type Approval Certificate states that the design of a product type is in conformity with specified requirements.

The certificate is valid for a specified period of time.

The Type Approval Certificate confirms compliance with the DNV GL Rules in force at the time of certificate issuance.

## INFO

All valid TA certificates will be listed on the internet site Approval Finder <http://approvalfinder.dnvgl.com>



# CERTIFICATE

**DNV·GL**

## TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAE00002HX**  
Revision No:  
**1**

### This is to certify:

**That the Termination and Joint for Cable**

with type designation(s)

**480TB, 484TB, 489TB, 800PB, 804PB, 809PB, 784TB, 909TB, 909PB, 152SR and 158LR**

Issued to

**NEXANS network solutions NV**  
**Halle, Belgium**

is found to comply with

**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

### Application :

**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

Issued at **Høvik** on **2019-04-08**

This Certificate is valid until **2022-12-21**.

DNV GL local station: **Antwerp**

Approval Engineer: **Nicolay Horn**



for **DNV GL**

Digitally Signed By: Low, Hanwee

Location: DNV GL Høvik, Norway  
on behalf of

**Trond Sjøvåg**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Form code: TA 251

Revision: 2016-12

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10/2019

Job Id: **262.1-026315-1**  
 Certificate No: **TAE00002HX**  
 Revision No: **1**

### Product description

Medium Voltage Outdoor / Indoor Connectors for 10 (12) kV, 15 (17.5) kV, 20 (24) kV, 30 (36) kV & 36 (42) kV, **60-69 (72.5) kV**. Types: 480TB, 484TB, 489TB, 800PB, 804PB, 809PB, **909TB, 909PB**, 784TB, 152SR and 158LR

#### 480TB Separate tee shape connector

Termination type	Voltage Um (kV)	Current Ir* (A)	Conductor size (mm <sup>2</sup> )	
			min	max
480TB/G	12	630	35	300
K480TB/G	24	630	35	300
M480TB/G	36	630	50	300
P480TB/G	42	630	50	240

\*When using a copper (CU-2) or a bolted (UN-5) connector contact Ir = 1250A

#### 484TB Separate tee shape connector

Termination type	Voltage Um (kV)	Current Ir (A)	Conductor size (mm <sup>2</sup> )	
			min	max
484TB/G	12	1250	50	630
K484TB/G	24	1250	35	630
M484TB/G	36	1250	35	630
P484TB/G	42	1250	35	630

#### 489TB Separate tee shape connector

Termination type	Voltage Um (kV)	Current Ir (A)	Conductor size (mm <sup>2</sup> )	
			min	max
489TB/G	12	1250	630	1250
K489TB/G	24	1250	630	1250
M489TB/G	36	1250	630	1250
P489TB/G	42	1250	630	1250

#### 800PB Separate coupling connector

Termination type	Voltage Um (kV)	Current Ir* (A)	Conductor size (mm <sup>2</sup> )	
			min	max
800PB/G	12	630	35	630
K800PB/G	24	630	35	630
M800PB/G	36	630	50	630
P800PB/G	42	630	50	630

\*When using a copper (CU-2) or a bolted (UN-5) connector contact Ir = 1250A

#### 804PB Separate coupling connector

Termination type	Voltage Um (kV)	Current Ir (A)	Conductor size (mm <sup>2</sup> )	
			min	max
804PB/G	12	1250	50	630
K804PB/G	24	1250	35	630
M804PB/G	36	1250	35	630
P804PB/G	42	1250	35	630

# CERTIFICATE

Job Id: **262.1-026315-1**  
 Certificate No: **TAE00002HX**  
 Revision No: **1**

## 809PB Separate coupling connector

Termination type	Voltage Um (kV)	Current Ir (A)	Conductor size (mm <sup>2</sup> )	
			min	max
809PB/G	12	1250	630	1250
K809PB/G	24	1250	630	1250
M809PB/G	36	1250	630	1250
P809PB/G	42	1250	630	1250

## 784TB Separate tee shape connector

Termination type	Voltage Um (kV)	Current Ir (A)	Conductor size (mm <sup>2</sup> )	
			min	max
784TB/G	12	800	50	630
K784TB/G	24	800	35	630
M784TB/G	36	800	35	630
P784TB/G	42	800	35	630

## 909TB Separate tee shape connector

Termination type	Voltage Um (kV)	Current Ir (A)	Conductor size (mm <sup>2</sup> )	
			min	max
909TB/G	12	2500	500	1200
K909TB/G	24	2500	400	1200
M909TB/G	36	2500	240	1200
P909TB/G	42	1250	240	1200
R909TB/G	72.5	1250*	95	1200

\* When installed on an appropriate equipment bushing

## 909PB Separate coupling connector

Termination type	Voltage Um (kV)	Current Ir (A)	Conductor size (mm <sup>2</sup> )	
			min	max
909PB/G	12	2500	500	1200
K909PB/G	24	2500	400	1200
M909PB/G	36	2500	240	1200
P909PB/G	42	1250	240	1200
R909PB/G	72.5	1250*/1800**	95	1200

\* When installed on an appropriate equipment bushing

\*\* Daisy chain arrangement

## 152SR Separate straight connector

Termination type	Voltage Um (kV)	Current Ir (A)	Conductor size (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	25	95



Job Id: **262.1-026315-1**  
Certificate No: **TAE00002HX**  
Revision No: **1**

**158LR** Separate elbow connector

Termination type	Voltage Um (kV)	Current Ir (A)	Conductor size (mm <sup>2</sup> )	
			min	max
158LR/G	12	250	16	70
158LR	12	250	70	95
K158LR/G	24	250	16	25
K158LR	24	250	25	95

**Application/Limitation**

Installation has to be done in accordance with the installation instructions.  
Use in net with voltages above 15 (17.5) kV to be accepted case by case.

**Type Approval documentation**

**Technical info:**

909TB Interface F Tee Connector, 909PB Coupling connector for 909TB, 480TB, 484TB and 489TB Interface C Tee Connector, 800PB, 804PB, 809PB Coupling connectors for 480TB, 484TB & 489TB, 784TB Interface E-5/8" Tee Connector, 152SR Interface A Straight Connector and 158LR Interface A Elbow Connector, all datasheets from Nexans.

**Test reports:**

Electrical Testing Laboratory Test Reports nos. TE 213 09 14 dated 2010-05-17, TE 213 11 05 dated 2011-05-26, TE 213 14 12 dated 2015-01-27, TE 213 13 16 dated 2014-02-05, TE 213 15 16 dated 2016-04-05, TE 213 16 16 dated 2017-12-04 & TE 213 18 07 dated 2018-06-13. RWE Test Certificate no. 09.10.25.256-1 dated 2009-12-20.

**Tests carried out**

Tested according to CENELEC HD 629 and IEC EN 61442 Ed. 2 (03/2005).

**Marking of product**

Nexans – Factory Identification – Product Description– Voltage class.

**Periodical assessment**

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer’s product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

# CERTIFICATE

**DNV GL**

Certificate No:  
**TAE00003EB**

## TYPE APPROVAL CERTIFICATE

### This is to certify:

**That the Electrical Equipment**

with type designation(s)  
**800SA and 900SA,**

Issued to

**NEXANS network solutions NV**  
**Halle, Belgium**

is found to comply with

**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

### Application :

**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

**Temperature**  
**Humidity**  
**Vibration**

Issued at **Høvik** on **2019-04-08**

This Certificate is valid until **2022-12-21**.

DNV GL local station: **Antwerp**

Approval Engineer: **Nicolay Horn**



for **DNV GL**

Digitally Signed By: Low, Hanwee  
Location: DNV GL Høvik, Norway  
on behalf of

**Trond Sjøvåg**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Form code: TA 251

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10/2019

Job Id: **262.1-026315-1**  
Certificate No: **TAE00003EB**

### Product description

Medium Voltage Outdoor / Indoor surge arrester for 10 (12) kV, 15 (17.5) kV, 20 (24) kV, 30 (36) kV 36 (42) kV, 45 kV & 51kV. Types: 800SA and 900SA.

#### 800SA Interface C Surge Arrester

Surge arrester type	Nominal discharge current In (kA)	Rated voltage Ur(kV)	Max. cont.operating voltage Uc(kV)	Dimensions (mm)	
				min	max
800SA-10-6N	10	6	4.8	270	310
800SA-10-9N	10	9	7.2	270	310
800SA-10-12N	10	12	9.6	270	310
800SA-10-15N	10	15	12.0	270	310
800SA-10-18N	10	18	14.4	270	310
800SA-10-22N	10	22	17.6	270	310
800SA-10-24N	10	24	19.2	370	410
800SA-10-30N	10	30	24.0	370	410
800SA-10-33N	10	33	26.4	370	410
800SA-10-36N	10	36	28.8	370	410
800SA-10-45N	10	45	36.0	470	510
800SA-10-51N	10	51	40.8	470	510

#### 900SA-CD Interface F Surge Arrester

Surge arrester type	Nominal discharge current In (kA)	Rated voltage Ur(kV)	Max. cont. operating voltage Uc(kV)	I <sub>sc</sub> Rated short-circuit current (kA, 0.2s)
900SA-10-74-CD20	10	74	59.2	20
900SA-10-10-74-D31.5	10	74	59.2	31.5

### Application/Limitation

Installation has to be done in accordance with the installation instructions.  
Use in net with voltages above 15 (17.5) kV to be accepted case by case.

### Type Approval documentation

Technical info:

"800SA SURGE ARRESTER FOR 480TB, 484TB, 489TB, 800PB, 804PB and 809PB CONNECTOR" and 900SA-CD Interface F Surge arrester", datasheets from Nexans.

Test reports:

800SA: CESI test reports nos. B8019069 dated 2018-10-29, A8033876 dated 2009-02-12, A9015078 dated 2009-05-22, B8019037 dated 2018-10-05, B5026525 dated 2016-04-04, B8019035 dated 2018-10-05, B8020552 dated 2018-11-05, B0035443 dated 2013-11-12 and B8019036 dated 2009-10-16.  
900SA: CESI test reports nos. B5022909 dated 2016-04-04, B5007594 dated 2015-05-11, B5022910 dated 2016-04-04, B5022725 dated 2016-04-04, B5017853 dated 2015-10-05, B8019468 dated 2018-10-29, B5007609 dated 2015-05-11, B8021835 dated 2018-10-30 and VEIKI-VNL test report no. 8229/vNL dated 2014-11-11.

### Tests carried out

Tested according to IEC 60099-4 Ed. 3 (06/2014).

# CERTIFICATE

Job Id: **262.1-026315-1**  
Certificate No: **TAE00003EB**

## Marking of product

Nexans – Factory Identification – Product Description– Voltage class.

## Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

## TYPE APPROVAL CERTIFICATE

**This is to certify:**

**That the Termination kit for Cable**

with type designation(s)  
**AFN and AIN**

Issued to

**NEXANS network solutions NV**  
**Erembodegem, Belgium**

is found to comply with  
**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

**Application :**

**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

Issued at **Høvik** on **2017-12-22**

This Certificate is valid until **2022-12-21**.

DNV GL local station: **Antwerp**

Approval Engineer: **Nicolay Horn**



for **DNV GL**

Digitally Signed By: **Andreas Kristoffersen**  
Location: **DNV GL Høvik, Norway**

**Andreas Kristoffersen**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-026315-1**  
Certificate No: **TAE00002HW**

## Product description

Medium Voltage Indoor and Outdoor Termination kit FOR 10 (12) kV, 15 (17.5) kV, 20 (24) kV, 30 (36) kV & 36 (36) kV. Type: AFN & AIN

### AFN Outdoor Terminations

Termination type	Voltage Um (kV)	Conductor size (mm)	
		min	max
AFN 10	12	25	1200
AFN 20	24	35	1200
AFN 30	36	50	1000
AFN 36	36	70	1000

### AIN Indoor Terminations

Termination type	Voltage Um (kV)	Conductor size (mm)	
		min	max
AIN 10	12	25	1200
AIN 20	24	35	1200
AIN 30	36	50	1000
AIN 36	36	150	1000

## Application/Limitation

Installation has to be done in accordance with the installation instructions.  
Use in net with voltages above 15 (17.5) kV to be accepted case by case

## Type Approval documentation

### Technical info:

AFN Slip On Outdoor Termination and AIN Slip On Indoor Termination, datasheet from Nexans.

### Test reports:

Elektrotechnisches Prüflaboratorium Test Certificates no. 00.10.24.560 dated 2000-11-02, 00.10.24.563 and 99.02.21.041 dated 199-04-26. IPH Type Test Report nos. 1569.0180.2.109 dated 2002-07-29, 1569.660.9.526 dated 2002-04-23. Euromold - ELAB Test Report no. TE 113 01 08 dated 2002-10-18. Electrical Testing Laboratory Investigation Report no. TE 113 11 02 dated 2011-07-27

## Tests carried out

Tested according to CENELEC HD 629.

## Marking of product

Nexans - Factory Identification - Product Description- Voltage class.

## Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance



Job Id: **262.1-026315-1**  
Certificate No: **TAE00002HW**

- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

# CERTIFICATE

**DNV GL**

Certificate No:  
**TAE000039M**

## TYPE APPROVAL CERTIFICATE

### This is to certify:

**That the Termination and Joint for Cable**

with type designation(s)  
**ITK and OTK**

Issued to

**NEXANS network solutions NV**  
**Erembodegem, Belgium**

is found to comply with  
**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

### Application :

**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

Issued at **Høvik** on **2019-07-09**

This Certificate is valid until **2024-07-08**.

DNV GL local station: **Antwerp**

Approval Engineer: **Nicolay Horn**



for **DNV GL**  
Digitally Signed By: Low, Hanwee  
Location: DNV GL Høvik, Norway  
Signing Date: 09.07.2019 , on behalf of

**Trond Sjøvåg**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



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10/2019

Job Id: **262.1-028514-1**  
Certificate No: **TAE000039M**

### Name and place of manufacturer

Nexans Power Accessories France  
08350 Bonchery  
France

### Product description

ITK: Medium Voltage Cold-Shrinkable Indoor Termination up to 22 (24) kV Type: ITK

Termination type	Voltage Um (kV)	Strike distance L (mm)	Diameter over core insulation (mm <sup>2</sup> )		Conductor sizes (mm)	
			min	max	min	max
ITK 212	12	300	14	33	50	400
ITK 312	12	650	30	50	400	1000
ITK 224	24	400	14	33	25	240
ITK 324	24	650	30	50	300	800

OTK: Medium Voltage Cold-Shrinkable Outdoor Termination up to 22 (24) kV Type: OTK

Termination type	Voltage Um (kV)	Strike distance L (mm)	Diameter over core insulation (mm <sup>2</sup> )		Conductor sizes (mm)	
			min	max	min	max
OTK 212	12	260	14	33	50	400
OTK 312	12	300	30	50	500	1000
OTK 224	12	260	19	33	50	240
OTK 324	12	300	30	50	300	630

### Application/Limitation

Installation has to be done in accordance with the installation instructions.

### Type Approval documentation

#### Technical info:

"Cold Shrinkable Indoor Termination up to 24 kV and "Cold Shrinkable Outdoor Termination up to 24 kV", datasheet from Nexans.

#### Test reports:

EUROMOLD - ELAB test report nos. TE 113 00 18 dated 2001-05-07, TE 113 03 01 & TE 113 03 02 dated 2003-10-09 and TE 213 02 23 dated 2002-10-18.

### Tests carried out

Tested according to cenelec HD 629.1 S1 (1996-11)

### Marking of product

Nexans – Factory Identification – Product Description– Voltage class.

### Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

# CERTIFICATE

Job Id: **262.1-028514-1**  
Certificate No: **TAE000039M**

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

## TYPE APPROVAL CERTIFICATE

**This is to certify:**

**That the Fire Protective Systems for Cables**

with type designation(s)  
**NX-FIRE**

Issued to

**NEXANS network solutions NV**  
**Erembodegem, Belgium**

is found to comply with

**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

**Application :**

**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

Issued at **Høvik** on **2019-09-18**

This Certificate is valid until **2019-09-17**.

DNV GL local station: **Antwerp**

Approval Engineer: **Nicolay Horn**



for **DNV GL**

Digitally Signed By: **Trond Sjøvåg**  
Location: **DNV GL Høvik, Norway**

**Trond Sjøvåg**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-028514-1**  
Certificate No: **TAE00003R0**

## Name and place of manufacturer

Nexans Italy  
Offida  
ITALY

## Product description

Fire protection kit. Type: NX-FIRE

Sizes	D Min (mm)	D Max (mm)	Length (mm)	Side 1	Side 2
NX-FIRE 1.11	20	85	1100	1 CORE	1 CORE
NX-FIRE 1.11E	20	85	1000	1 CORE	1 CORE

## Application/Limitation

Installation must be done in accordance with installation instructions.

Power cables with joints covered with NX-FIRE shall be de-rated with a factor of 0.81.

Approved for maximum conductor cross section up to 185 mm<sup>2</sup>.

## Type Approval documentation

Technical info:

[FIRE PROTECTION KIT NX-FIRE, datasheet from Nexans.](#)

Test reports:

[Nexans test report no. #LE19158 dated 22.01.2019.](#)

[Nexans test report nosNRC-LEF-16-058-A to F dated 15 to 18.03.2016.](#)

## Tests carried out

Tested according to HD629.1 S2 (02-206), EN61442 (ed. 04-2005), IEC60332-3-22.

## Marking of product

Nexans – Factory Identification – Product Description

## Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE



## TYPE APPROVAL CERTIFICATE

**This is to certify:**

**That the Mechanical Cable Lugs and Termination**

with type designation(s)  
**GPH**

Issued to  
**NEXANS network solutions NV**  
**Erembodegem, Belgium**

is found to comply with  
**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

**Application :**

**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

Issued at **Høvik** on **2019-07-09**

This Certificate is valid until **2024-07-08**.

DNV GL local station: **Antwerp**

Approval Engineer: **Nicolay Horn**



for **DNV GL**

Digitally Signed By: Low, Hanwee  
Location: DNV GL Høvik, Norway  
Signing Date: 09.07.2019 , on behalf of

.....  
**Trond Sjøvåg**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



# CERTIFICATE

Job Id: **262.1-028514-1**

Certificate No: **TAE00003F9**

## Name and place of manufacturer

Nexans Power Accessories Germany GmbH  
95028 Hof,  
GERMANY

## Product description

Low Voltage mechanical connector with sector chanel up to 0.6/1 (1.2) kV Type: GPH®

Connector cat. no.*	Range CU** acc. To IEC 60228 (mm <sup>2</sup> )			Dimintions (mm)		
	round strand	sector strand	round solid	L	D	d
D1.5-16 SV(-T/-S)-V-K	1.5-16		1.5-16	30	12	6.1
D1.5-16 SV(-T/-S)-V	1.5-16		1.5-16	30	12	6.1
D1.5-35 SV(-T/-S)-V-K	1.5-35	35	1.5-35	36	12	9.0
D10-35 SV(-T/-S)-V-K	10-35	35	10-35	36	12	9.0
D25-50 SV(-T/-S)-V-K	25-50	35-50	25-35	36	18	10.0
D4-50 SV(-T/-S)-V-K	4-50	35-50	4-35	36	18	10.0
D16-95 SV(-T/-S)-V-K	16-95	35-95	16-35	55	25	14.0
D25-150 SV(-T/-S)-V-K	25-125	35-150	16-35	70	28	17.0
D35-150 SV(-T/-S)-V-K	35-150	35-150	35	70	28	17.0
D25-185 SV(-T/-S)-V-K	25-185	35-185	25-35	80	32	19.0
D70-185 SV(-T/-S)-V-K	70-185	70-185		80	32	19.0
D50-240 SV(-T/-S)-V-K	50-240	50-240		120	35	22.0
D120-240 SV(-T/-S)-V-K	120-240	120-240		120	35	22.0
D150-300 SV(-T/-S)-V-K	150-240	150-240		128	38	23.0

Low Voltage mechanical connector up to 0.6/1 (1.2) kV Type: GPH®

Connector cat. no.*	Range CU** acc. To IEC 60228 (mm <sup>2</sup> )			Dimintions (mm)		
	round strand	sector strand	round solid	L	D	d
D1.5-35x8 SK-V-K	1.5-35	35	1.5-35	40	16	9.0
D1.5-35x10 SK-V-K	1.5-35	35	1.5-35	40	16	9.0
D10-35x8 SK-V-K	10-35	35	10-35	40	16	9.0
D10-35x10 SK-V-K	10-35	35	10-35	40	16	9.0
D25-50x10 SK-V-K	25-50	35-50	25-35	40	18	10.0
D25-50x12 SK-V-K	4-50	35-50	25-35	40	18	10.0
D4-50x10 SK-V-K	4-50	35-50	4-50	40	18	10.0
D4-50x12 SK-V-K	4-50	35-50	4-50	40	18	10.0
D16-95x10 SK-V-K	16-95	35-95	16x35	52	25	14.0
D16-95x12 SK-V-K	16-95	35-95	16x35	52	25	14.0
D25-150x12 SK-V-K	25-150	35-150	16x35	60	28	17.0
D25-150x16 SK-V-K	25-150	35-150	16x35	60	28	17.0
D35-150x12 SK-V-K	35-150	35-150	35	60	28	17.0
D35-150x16 SK-V-K	35-150	35-150	35	60	28	17.0
D50-240x12 SK-V-K	50-240	50-240		97	35	22.0
D50-240x16 SK-V-K	50-240	50-240		97	35	22.0
D120-240x12 SK-V-K	120-240	120-240		97	35	22.0
D120-240x16 SK-V-K	120-240	120-240		97	35	22.0
D150-300x12 SK-V-K	120-240	120-240		105	38	23.0
D150-300x16 SK-V-K	120-240	120-240		105	38	23.0

\* For details see manufacturer datasheet

\*\* For AL see manufacturer datasheet

Job Id: **262.1-028514-1**  
Certificate No: **TAE00003F9**

### **Application/Limitation**

Installation has to be done in accordance with the installation instructions.

### **Type Approval documentation**

**Technical info:**

"GPH® Mechanical Connector 0.6/1 kV with sector channel", datasheet from Nexans.

**Test reports:**

University Karlsruhe test report no. 2011-11 dated 2011-05-20.

University Karlsruhe confirmation NPAG, dated 2017-06-26.

### **Tests carried out**

Tested according to IEC 61238 Class A (2003-05).

### **Marking of product**

Nexans – Factory Identification – Product Description– Voltage class.

### **Periodical assessment**

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

# CERTIFICATE

DNV GL

Certificate No:  
**TAE000039J**

## TYPE APPROVAL CERTIFICATE

### This is to certify:

**That the Termination and Joint for Cable**

with type designation(s)  
**MONOe and MONOi**

Issued to

**NEXANS network solutions NV**  
**Erembodegem, Belgium**

is found to comply with

**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

### Application :

**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

Issued at **Høvik** on **2019-07-09**

This Certificate is valid until **2024-07-08**.

DNV GL local station: **Antwerp**

Approval Engineer: **Nicolay Horn**



for **DNV GL**  
Digitally Signed By: Low, Hanwee  
Location: DNV GL Høvik, Norway  
Signing Date: 09.07.2019 , on behalf of

**Trond Sjøvåg**  
**Head of Section**

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Revision: 2016-12

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10/2019

Job Id: **262.1-028514-1**  
 Certificate No: **TAE000039J**

### Name and place of manufacturer

Nexans Italy  
 Offida  
 ITALY

### Product description

Medium Voltage Indoor and Outdoor Termination kit FOR 11 (12) kV, 15 (17.5) kV, 22 (24) kV & 33 (36) kV. Type: MONOe & MONOi

#### MONOe Outdoor Terminations for 1C cable

Termination type	Voltage Um (kV)	Application range (mm <sup>2</sup> )	L (mm)
3x12 MONO e1.95	12	25 - 95	400
3x12 MONO e1.240	12	70 - 240	400
3x12 MONO e1.400	12	185 - 400	420
3x12 MONO e1.630	12	400 - 630	460
3x24 MONO e1.95	24	25 - 95	420
3x24 MONO e1.240	24	70 - 240	440
3x24 MONO e1.400	24	185 - 400	510
3x24 MONO e1.630	24	400 - 630	540
3x36 MONO e1.95	36	25 - 95	480
3x36 MONO e1.240	36	70 - 240	480
3x36 MONO e1.400	36	185 - 400	520
3x36 MONO e1.630	36	400 - 630	560

#### MONOe Outdoor Terminations for 3C cable

Termination type	Voltage Um (kV)	Application range (mm <sup>2</sup> )	L (mm)
3x12 MONO e3.95W	12	25 - 95	700
3x12 MONO e3.240W	12	70 - 240	700
3x12 MONO e3.300W	12	120 - 300	700
3x12 MONO e3.500W	12	300 - 500	700
3x24 MONO e3.95W	24	25 - 95	800
3x24 MONO e3.240W	24	70 - 240	800
3x24 MONO e3.400W	24	185 - 400	800
3x24 MONO e3.95W	24	25 - 95	1200
3x36 MONO e3.240W	36	70 - 240	1200
3x36 MONO e3.400W	36	185 - 400	1200

#### MONOi Indoor Terminations

Termination type	Voltage Um (kV)	Application range (mm <sup>2</sup> )	L (mm)
3x12 MONO i1.95	12	25 - 95	270
3x12 MONO i1.240	12	70 - 240	270
3x12 MONO i1.400	12	185 - 400	300
3x12 MONO i1.630	12	400 - 630	320
3x24 MONO i1.95	24	25 - 95	330
3x24 MONO i1.240	24	70 - 240	330
3x24 MONO i1.400	24	185 - 400	360
3x24 MONO i1.630	24	400 - 630	380
3x36 MONO i1.95	36	25 - 95	420

Job Id: **262.1-028514-1**  
 Certificate No: **TAE000039J**

Termination type	Voltage Um (kV)	Application range (mm <sup>2</sup> )	L (mm)
3x36 MONO i1.240	36	70 - 240	420
3x36 MONO i1.400	36	185 -400	450
3x36 MONO i1.630	36	400 -630	407

#### MONOe Indoor Terminations for 3C cable

Termination type	Voltage Um (kV)	Application range (mm <sup>2</sup> )	L (mm)
3x12 MONO i3.95W	12	25 - 95	600
3x12 MONO i3.240W	12	70 - 240	600
3x12 MONO i3.300W	12	120 - 300	600
3x12 MONO i3.500W	12	300 - 500	600
3x24 MONO i3.95W	24	25 - 95	700
3x24 MONO i3.240W	24	70 - 240	700
3x24 MONO i3.400W	24	185 - 400	700
3x24 MONO i3.95W	24	25 - 95	1000
3x36 MONO i3.240W	36	70 - 240	1000
3x36 MONO i3.400W	36	185 - 400	1000

#### Application/Limitation

Installation has to be done in accordance with the installation instructions.  
 Use in net with voltages above 15 (17.5) kV to be accepted case by case.

#### Type Approval documentation

##### Technical info:

Heat Shrinkable Outdoor Termination for Singe Core Polymeric Cables with Cu wire or Tape Screen and Heat Shrinkable indoor Termination for Singe Core Polymeric Cables with Cu wire or Tape Screen, datasheet from Nexans.

##### Test reports:

KEMA Type Test Certificate of Complete Type Test no. 1320 & 1321-15 dated 2015-12-02,. IPH Type Test Report nos. 06448-17-0526 & 06448-17-0631 dated 2017- 12-15. RWE test report no. 14\_379-2 dated 2015-10-22.

#### Tests carried out

Tested according to CENELEC HD 629.1 S2:2006.

#### Marking of product

Nexans – Factory Identification – Product Description– Voltage class.

#### Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance



Job Id: **262.1-028514-1**  
Certificate No: **TAE000039J**

- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

# CERTIFICATE

**DNV GL**

Certificate No:  
**TAE000039N**

## TYPE APPROVAL CERTIFICATE

### This is to certify:

**That the Termination and Joint for Cable**

with type designation(s)  
**1GLT**

Issued to

**NEXANS network solutions NV**  
**Erembodegem, Belgium**

is found to comply with

**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

### Application :

**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

Issued at **Høvik** on **2019-07-09**

This Certificate is valid until **2024-07-08**.

DNV GL local station: **Antwerp**

Approval Engineer: **Nicolay Horn**



for **DNV GL**

Digitally Signed By: Low, Hanwee

Location: DNV GL Høvik, Norway

Signing Date: 09.07.2019 , on behalf of

**Trond Sjøvåg**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



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10/2019

Job Id: **262.1-028514-1**  
Certificate No: **TAE000039N**

### Name and place of manufacturer

Nexans Italy  
Offida  
ITALY

### Product description

Low Voltage Straight Through Joints up to 0.6/1 (1.2) kV Type: 1GLT

Termination type	Application range (mm <sup>2</sup> )	L (mm)
1GLT4-GR1	4 - 16	420
1GLT4-GR2	16 - 35	430
1GLT4-GR3	25 - 50	500
1GLT4-GR4	35 - 95	710
1GLT4-GR5	35 - 150	890
1GLT4-GR6	95 - 150	890
1GLT4-GR7	95 - 150	1100

### Application/Limitation

Installation has to be done in accordance with the installation instructions.

### Type Approval documentation

Technical info:

Heat Shrinkable Low Voltage Straight Through Joints up to 0.6/1 (1.2) kV, datasheet from Nexans.

Test reports:

RWE test report nos. 11\_275-1 to 11\_275-5 dated 2012-01-25.

### Tests carried out

Tested according to EN50393 (2006-4)

### Marking of product

Nexans – Factory Identification – Product Description– Voltage class.

### Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

# CERTIFICATE

**DNV GL**

Certificate No:  
**TAE000039K**

## TYPE APPROVAL CERTIFICATE

**This is to certify:**

**That the Termination and Joint for Cable**

with type designation(s)  
**1TTE**

Issued to

**NEXANS network solutions NV**  
**Erembodegem, Belgium**

is found to comply with

**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

**Application :**

**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

Issued at **Høvik** on **2019-07-09**

This Certificate is valid until **2024-07-08**.

DNV GL local station: **Antwerp**

Approval Engineer: **Nicolay Horn**



for **DNV GL**  
Digitally Signed By: Low, Hanwee  
Location: DNV GL Høvik, Norway  
Signing Date: 09.07.2019 , on behalf of

**Trond Sjøvåg**  
**Head of Section**

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Job Id: **262.1-028514-1**  
Certificate No: **TAE000039K**

### Name and place of manufacturer

Nexans Italy  
Offida  
ITALY

### Product description

Low Voltage Outdoor Termination kit Type: 1TTE3 & 1TTE4

Kits for unarmoured cables

Termination type	Application range (mm <sup>2</sup> )
1TTE3 & 1TTE 4.16 W	4 - 16
1TTE3 & 1TTE 4.50 W	16 - 50
1TTE3 & 1TTE 4.150 W	70 -150
1TTE3 & 1TTE 4.300 W	185 -300

Kits for armoured cables

Termination type	Application range (mm <sup>2</sup> )
1TTE3 & 1TTE 4.16 Z	4 - 16
1TTE3 & 1TTE 4.50 Z	16 - 50
1TTE3 & 1TTE 4.150 Z	70 -150
1TTE3 & 1TTE 4.300 Z	185 -300

### Application/Limitation

Installation has to be done in accordance with the installation instructions.

### Type Approval documentation

Technical info:

Heat Shrinkable Low Voltage Outdoor Termination for Armoured or Unarmoured Cables up to 0.6/1 (1.2) kV, datasheet from Nexans.

Test reports:

IMQ Test Report no. CN14S0232557-01 dated 2014-05-14.

### Tests carried out

Tested according to EN50393 (2006-4)

### Marking of product

Nexans – Factory Identification – Product Description– Voltage class.

### Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance

# CERTIFICATE

Job Id: **262.1-028514-1**  
Certificate No: **TAE000039K**

- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE



# 158LR-DNV GL

## INTERFACE A ELBOW CONNECTOR

### 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.

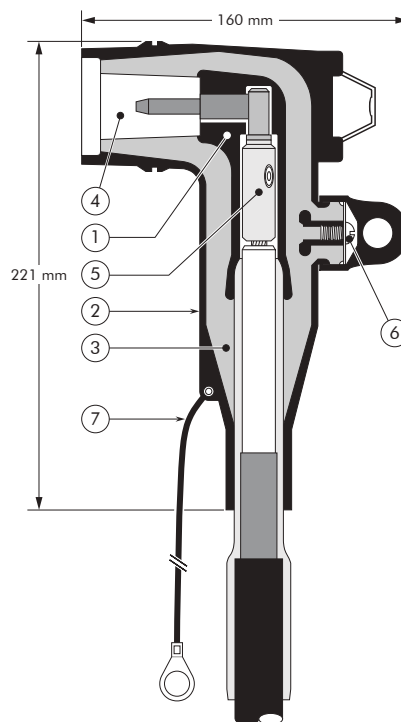
### DESIGN

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).

### 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.
- DNV GL - certification.



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

Up to 24 kV - 250 A

**EUROMOLD®**



### SPECIFICATIONS AND STANDARDS

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

Certified for installation on all vessels classed by DNV GL.

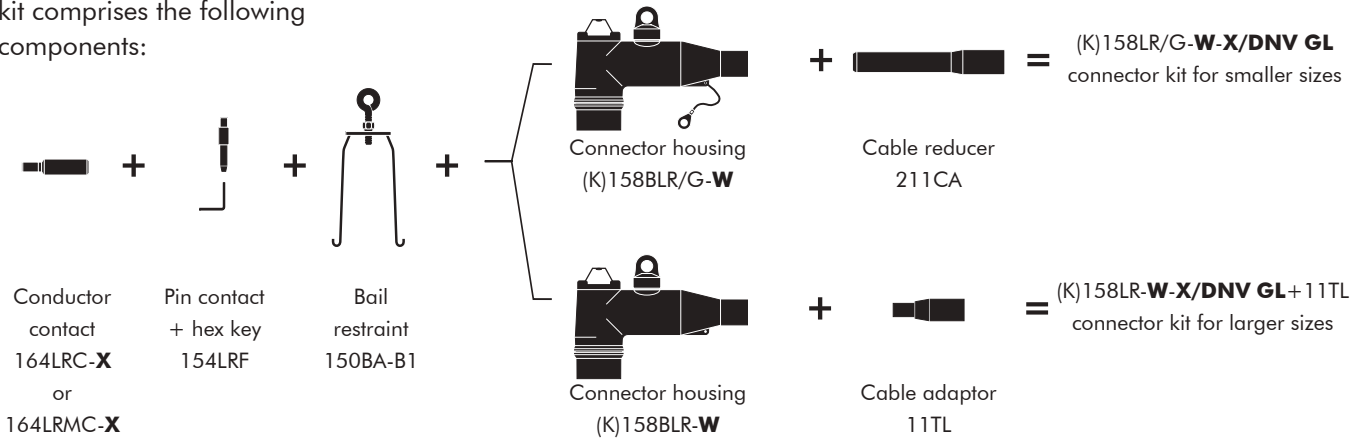
Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Conductor sizes (mm <sup>2</sup> )	
			min	max
158LR/G-DNV GL	12	250	16	95
158LR-DNV GL	12	250	70	95
K158LR/G-DNV GL	24	250	16	70
K158LR-DNV GL	24	250	25	95

10/2019



## KIT CONTENTS

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



## 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/DNV GL elbow connector kit.

### For an option with a bolted conductor contact,

specify the ordering part number below.

TABLE W

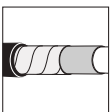
Ordering part number	Dia. over core insulation (mm)	
	min	max
158LR/G-11- <b>X</b> /DNV GL	12.6	16.1
158LR/G-13- <b>X</b> /DNV GL	14.6	18.7
158LR-FB- <b>X</b> +11TL/DNV GL	17.5	20.2
158LR-FG- <b>X</b> +11TL/DNV GL	18.4	21.2
158LR-GA- <b>X</b> +11TL/DNV GL	19.7	22.5
158LR-GAB- <b>X</b> +11TL/DNV GL	21.0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

TABLE X

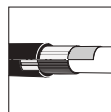
Conductor sizes (mm <sup>2</sup> )	Aluminium		Copper
	DIN hexagonal	Deep indent	DIN hexagonal
16	-	-	16(K)M-11-2
25	25(K)M-12-2	25KM-12-1	25(K)M-11-2
35	35(K)M-12-2	35KM-12-1	35(K)M-11-2
50	50(K)M-12-2	50(K)M-12-1*	50(K)M-11-2
70	70(K)M-12-2	70(K)M-12-1*	70(K)M-11-2
95	95(K)M-12-2*	95(K)M-12-1*	95(K)M-11-2*

\* 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/DNV GL	14.6 - 22.7	35 - 70
158LR-GAS-50.95-14-5+11TL/DNV GL	19.7 - 25.4	25 - 95



For use with copper tape 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 outdoor applications.  
Order: +MWS.



For use on vessels classed by DNV GL.  
Add -/DNV GL to part number

### 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

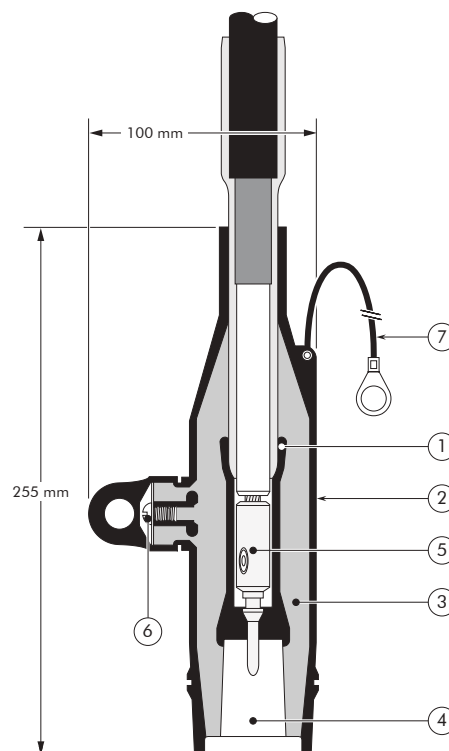
- The thick conductive EPDM jacket provides a total safe to touch screen which ensures safety for personnel.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.
- DNV GL - certification.



### 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).



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

Up to 24 kV - 250 A

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### SPECIFICATIONS AND STANDARDS

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

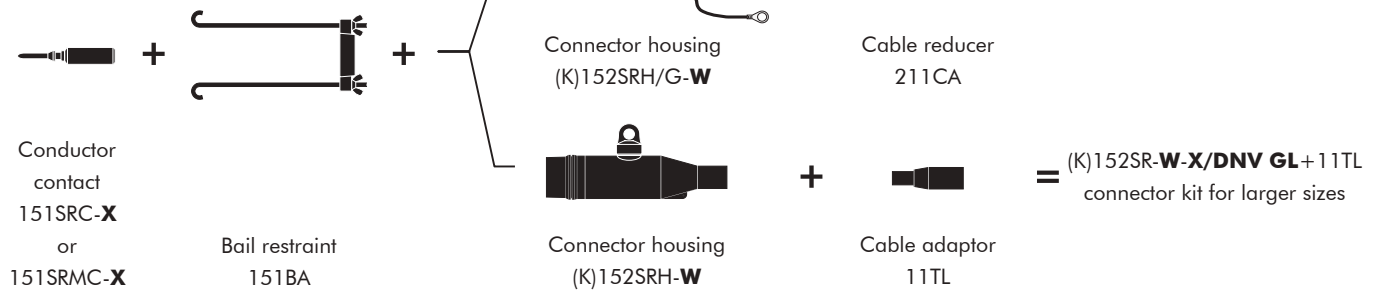
Certified for installation on all vessels classed by DNV GL.

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

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## KIT CONTENTS

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



## 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/DNV GL straight connector kit.

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

TABLE W

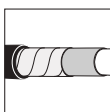
Ordering part number	Dia. over core insulation (mm)	
	min	max
152SR/G-11- <b>X</b> /DNV GL	12.6	16.1
152SR/G-13- <b>X</b> /DNV GL	14.6	18.7
152SR-FB- <b>X</b> +11TL/DNV GL	17.5	20.2
152SR-FG- <b>X</b> +11TL/DNV GL	18.4	21.2
152SR-GA- <b>X</b> +11TL/DNV GL	19.7	22.5
152SR-GAB- <b>X</b> +11TL/DNV GL	21.0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

TABLE X

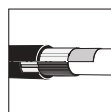
Conductor sizes (mm <sup>2</sup> )	Aluminium		Copper
	DIN hexagonal	Deep indent	DIN hexagonal
16	-	-	16(K)M-11-2
25	25(K)M-12-2	25KM-12-1	25(K)M-11-2
35	35(K)M-12-2	35KM-12-1	35(K)M-11-2
50	50(K)M-12-2	50(K)M-12-1*	50(K)M-11-2
70	70(K)M-12-2	70(K)M-12-1*	70(K)M-11-2
95	95(K)M-12-2*	95(K)M-12-1*	95(K)M-11-2*

\* 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/DNV GL	14.6 - 22.7	35 - 70
152SR-GAS-50.95-14-5+11TL/DNV GL	19.7 - 25.4	25 - 95



For use with copper tape 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 outdoor applications. Order: +MWS.



For use on vessels classed by DNV GL. Add -/DNV GL to part number

### APPLICATION

Separable tee shape connector 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.
- DNV GL - certification.

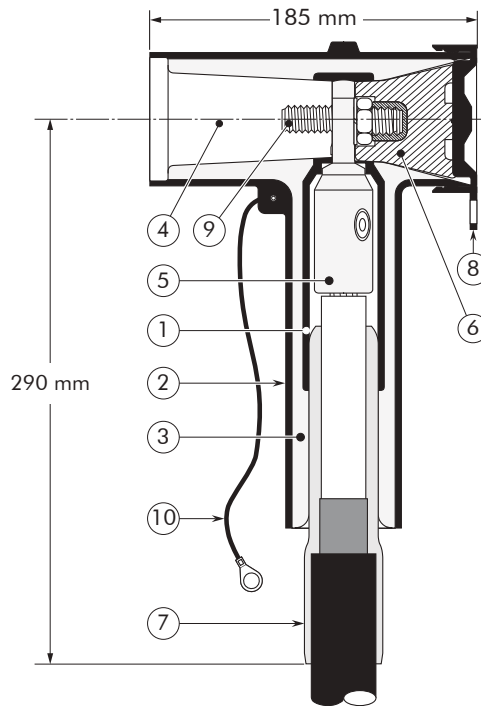


### DESIGN

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 contact.
6. Basic insulating plug.
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.



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

**Up to 42 kV**  
**630 A -1250 A**

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### SPECIFICATIONS AND STANDARDS

The 480TB separable connector meets the requirements of CENELEC HD 629.1.

Certified for installation on all vessels classed by DNV GL.

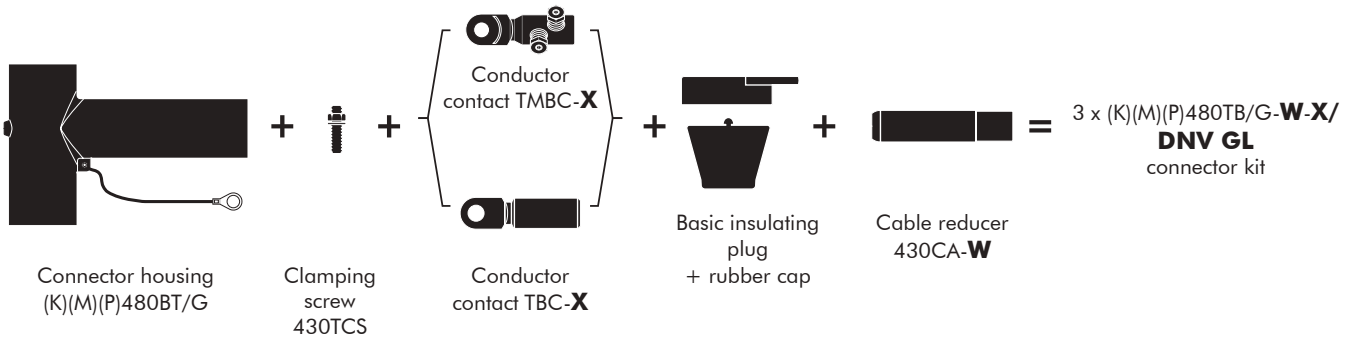
Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Current $I_r$ (A) When using a copper (CU2) or a bolted (UN5) conductor contact	Conductor sizes (mm <sup>2</sup> )	
				min	max
480TB/G-DNV GL	12	630	1250	35	300
K480TB/G-DNV GL	24	630	1250	35	300
M480TB/G-DNV GL	36	630	1250	50	300
P480TB/G-DNV GL	42	630	1250	50	240

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## KIT CONTENTS

The complete (K)(M)(P)480TB/G tee connector kit comprises 3x the following components:

The kit also comprises silicone grease, field control mastic, installation rod, gloves, wipers, 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 cable is 24 kV, 185 mm<sup>2</sup> compact stranded copper with a diameter over core insulation of 27.5 mm. Order 3 x K480TB/G-22-95.240UN5/DNV GL tee connector kit.

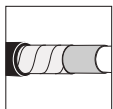
TABLE W

Ordering part number	Dia. over core insulation (mm)	
	min	max
3 x 480TB/G-11-X/DNV GL	12.0	17.5
3 x 480TB/G-16-X/DNV GL	17.0	23.5
3 x 480TB/G-18-X/DNV GL	19.0	28.0
3 x 480TB/G-22-X/DNV GL	23.5	32.0
3 x 480TB/G-27-X/DNV GL	28.5	37.5
3 x 480TB/G-30-X*/DNV GL	34.5	40.5

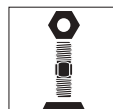
\* will include an adapted installation instruction

TABLE X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor	
	DIN hexagonal	Deep indent	Bolted	DIN hexagonal	
35	35AL2	35AL1	16.95UN5	35CU2	
50	50AL2	50AL1		50.150UN5	50CU2
70	70AL2	70AL1	95.240UN5		70CU2
95	95AL2	95AL1			120.300UN5
120	120AL2	120AL1	120CU2		
150	150AL2	150AL1	150CU2		
185	185AL2	185AL1	185CU2		
240	240AL2	240AL1	240CU2		
300	300AL2	-	300CU2		



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



This product can also be installed using a stud, nut & washer. Please contact our representative.



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



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



For use on vessels classed by DNV GL. Add -/DNV GL to part number

### APPLICATION

Separable tee shape connector 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.
- DNV GL - certification.

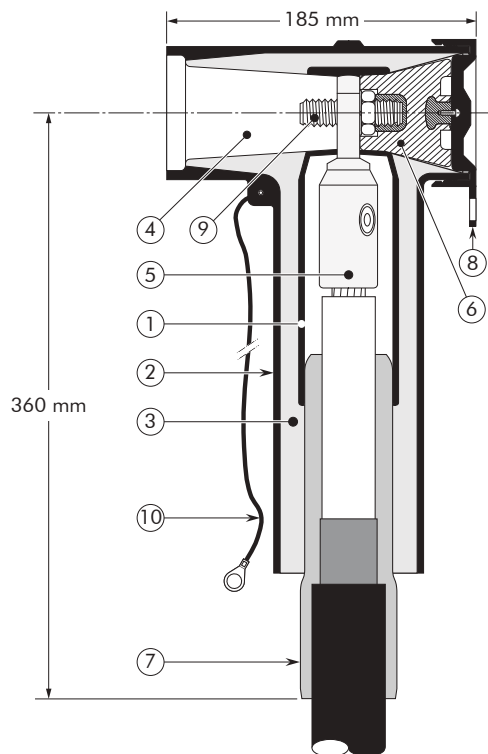


### DESIGN

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 contact.
6. Basic insulating plug (with VD point).
7. Cable reducer.
8. Conductive rubber cap.
9. Stud+nut+washer.
10. Earthing lead.

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



- 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

**Up to 42 kV**  
**630 A -1250 A**

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### SPECIFICATIONS AND STANDARDS

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

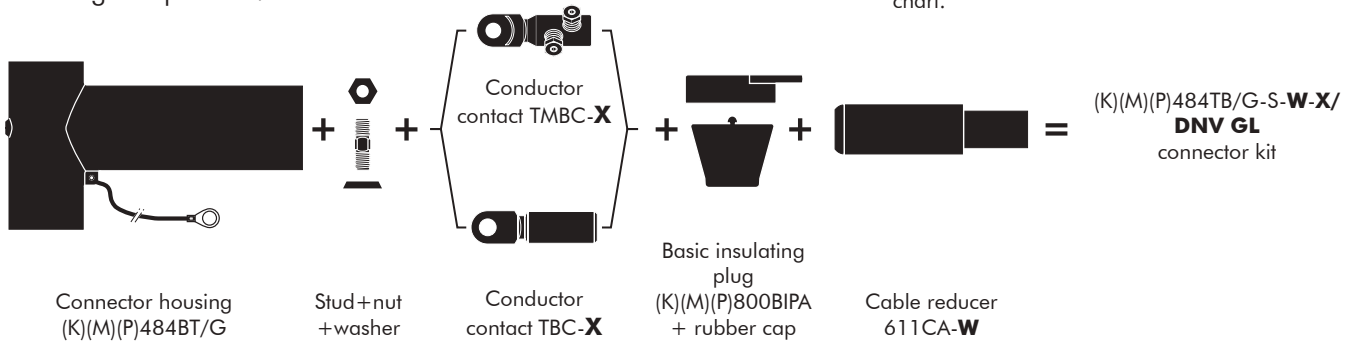
Certified for installation on all vessels classed by DNV GL.

Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Conductor sizes (mm <sup>2</sup> )	
			min	max
484TB/G-DNV GL	12	1250	240	630
K484TB/G-DNV GL	24	1250	240	630
M484TB/G-DNV GL	36	1250	240	630
P484TB/G-DNV GL	42	1250	240	630

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## 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, wipers, 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:

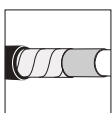
The copper wire screened cable is 36 kV, 240 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 37.0 mm. Order 3 x M484TB/G-S-32-240BI2/DNV GL tee connector kit.

TABLE W

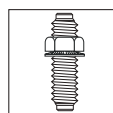
Ordering part number	Dia. over core insulation (mm)	
	min	max
3 x 484TB/G-S-19-X/DNV GL	20.0	26.5
3 x 484TB/G-S-22-X/DNV GL	23.5	31.0
3 x 484TB/G-S-27-X/DNV GL	28.5	37.5
3 x 484TB/G-S-32-X/DNV GL	34.0	42.5
3 x 484TB/G-S-37-X/DNV GL	39.0	48.5
3 x 484TB/G-S-43-X/DNV GL	45.5	56.0

TABLE X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor
	DIN hexagonal	Deep indent	Bolted	DIN hexagonal
240	240BI2	240BI1	240.400UN5	240CU2
300	300BI2	300BI1		300CU2
400	400BI2	400BI1	400.630UN5	400CU2
500	500BI2	500BI1		500CU2
630	-	630BI1		630CU2



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



This product can also be installed using a clamping screw. Please contact our representative.



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



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



For use on vessels classed by DNV GL. Add -/DNV GL to part number

### APPLICATION

Separable tee shape connector 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.
- DNV GL - certification.

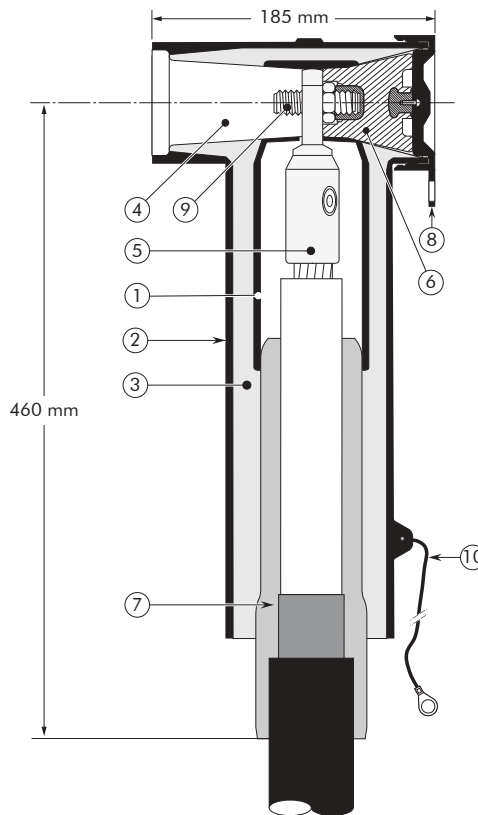


### DESIGN

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 contact.
6. Basic insulating plug (with VD point).
7. Cable reducer.
8. Conductive rubber cap.
9. Stud+nut+washer.
10. Earthing lead.

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



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

**Up to 42 kV**  
**630 A - 1250 A**

## EUROMOLD®



### SPECIFICATIONS AND STANDARDS

The 489TB separable connector meets the requirements of CENELEC HD 629.1.

Certified for installation on all vessels classed by DNV GL.

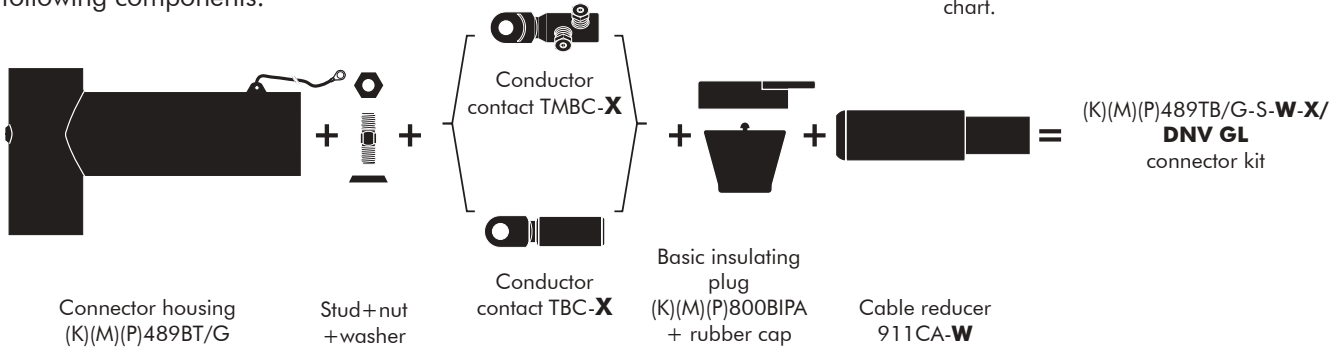
Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Conductor sizes (mm <sup>2</sup> )	
			min	max
489TB/G-DNV GL	12	1250	630	1200
K489TB/G-DNV GL	24	1250	630	1200
M489TB/G-DNV GL	36	1250	630	1200
P489TB/G-DNV GL	42	1250	630	1200

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## KIT CONTENTS

The complete (K)(M)(P)489TB/G tee connector kit comprises 3x the following components:



The kit also comprises silicone grease, field control mastic, gloves, wipers, 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:

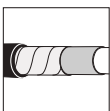
The copper wire screened cable is 36 kV, 1000 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 52 mm. Order 3 x M489TB/G-S-43-1000B11/DNV GL tee connector kit.

TABLE W

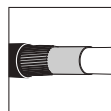
Ordering part number	Dia. over core insulation (mm)	
	min	max
3 x 489TB/G-S-37- <b>X</b> /DNV GL	40	48
3 x 489TB/G-S-43- <b>X</b> /DNV GL	46	54
3 x 489TB/G-S-50- <b>X</b> /DNV GL	53	59
3 x 489TB/G-S-53- <b>X</b> /DNV GL	56	62
3 x 489TB/G-S-56- <b>X</b> /DNV GL	59	65
3 x 489TB/G-S-59- <b>X</b> /DNV GL	62	68

TABLE X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor	Aluminium and copper conductor	Copper conductor
	Deep indent	Bolted	DIN hexagonal
630	630B11	<b>400.630UN5</b>	630CU2
800	800B11	<b>800.1000UN5</b>	800CU2
1000	1000B11		1000CU2
1200	1200B11	<b>1200UN5</b>	-



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.



For use on vessels classed by DNV GL. Add -/DNV GL to part number

## APPLICATION

Separable coupling connector for dual cable arrangement. It has been designed to be used with 480TB, 484TB and 489TB separable tee connectors. Can also be installed on any 8-series coupling connector for a multiple cable arrangement.

## TECHNICAL CHARACTERISTICS

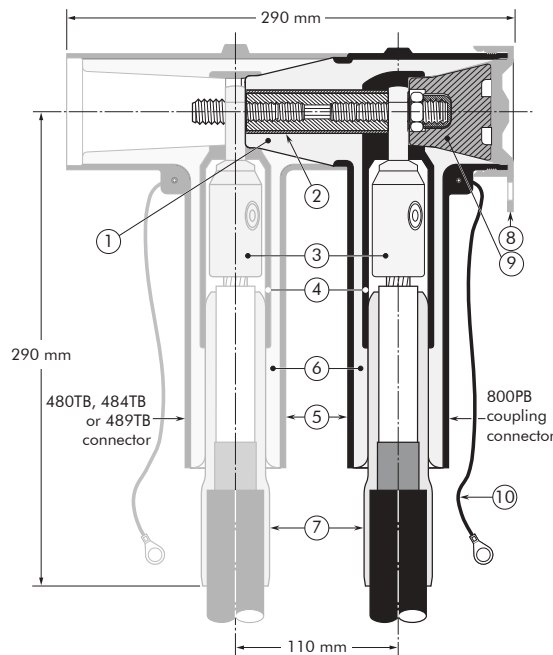
- A thick conductive EPDM jacket provides a total safe to touch screen.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.
- DNV GL - certification.



## DESIGN

1. Interface designed to fit 480TB, 484TB and 489TB connectors.
2. Contact rod for 800PB.
3. Conductor contact.
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.
10. Earthing lead.

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



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

Up to 42 kV  
630A - 1250 A

**EUROMOLD®**



## SPECIFICATIONS AND STANDARDS

The 800PB coupling connector meets the requirements of CENELEC HD 629.1. Certified for installation on all vessels classed by DNV GL.

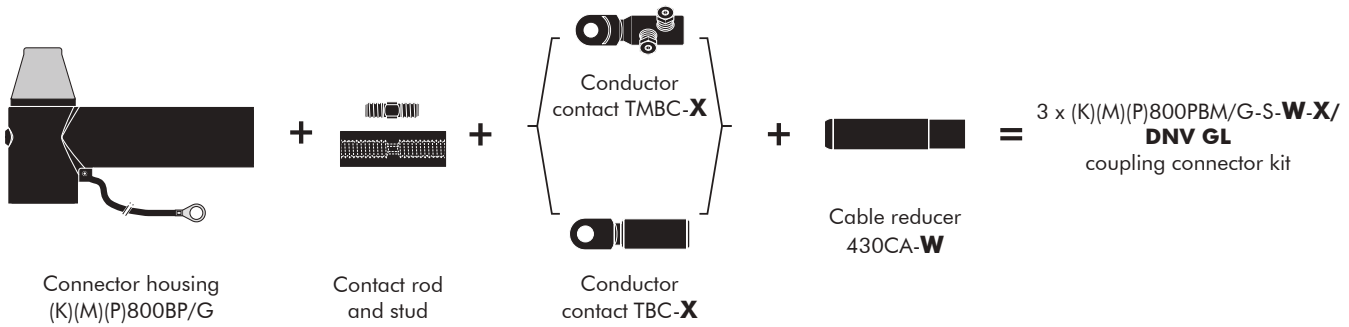
Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Current $I_r$ (A) When using a copper (CU2) or a bolted (UNS) conductor contact	Conductor sizes (mm <sup>2</sup> )	
				min	max
800PB/G-DNV GL	12	630	1250	35	300
K800PB/G-DNV GL	24	630	1250	35	300
M800PB/G-DNV GL	36	630	1250	50	300
P800PB/G-DNV GL	42	630	1250	50	240

10/2019

## KIT CONTENTS

The complete (K)(M)(P) 800PB/G coupling connector kit comprises 3x the following components:

The kit also comprises silicone grease, field control mastic, installation rod, gloves, wipers, 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.

TABLE W

Ordering part number	Dia. over core insulation (mm)	
	min	max
3 x 800PB/G-S-11- <b>X</b> /DNV GL	12.0	17.5
3 x 800PB/G-S-16- <b>X</b> /DNV GL	17.0	23.5
3 x 800PB/G-S-18- <b>X</b> /DNV GL	19.0	28.0
3 x 800PB/G-S-22- <b>X</b> /DNV GL	23.5	32.0
3 x 800PB/G-S-27- <b>X</b> /DNV GL	28.5	37.5
3 x 800PB/G-S-30- <b>X</b> */DNV GL	34.5	40.5

\* will include an adapted installation instruction

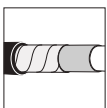
### EXAMPLE:

The cable is 24 kV, 185 mm<sup>2</sup> compact stranded copper with a diameter over core insulation of 27.5 mm.

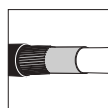
Order 3 x K800PB/G-S-22-95.240UN5/DNV GL coupling connector kit.

TABLE X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor
	DIN hexagonal	Deep indent	Bolted	DIN hexagonal
35	35AL2	35AL1	16.95UN5 50.150UN5 95.240UN5 120.300UN5	35CU2
50	50AL2	50AL1		50CU2
70	70AL2	70AL1		70CU2
95	95AL2	95AL1		95CU2
120	120AL2	120AL1		120CU2
150	150AL2	150AL1		150CU2
185	185AL2	185AL1		185CU2
240	240AL2	240AL1		240CU2
300	300AL2	-		300CU2



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 outdoor applications.  
Order: +MWS.



For use on vessels classed by DNV GL.  
Add -/DNV GL to part number

## APPLICATION

Separable coupling connector for dual cable arrangement. It has been designed to be used with 480TB, 484TB and 489TB separable tee connectors. Can also be installed on any 8-series coupling connector for a multiple cable arrangement.

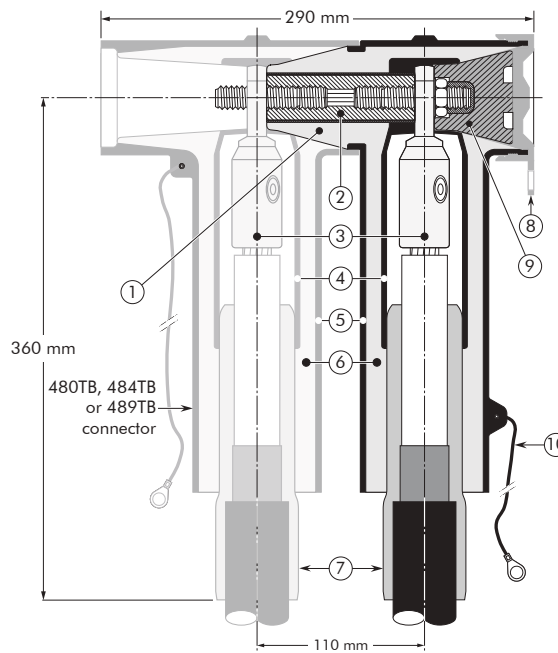
## TECHNICAL CHARACTERISTICS

- 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.
- DNV GL - certification.



## DESIGN

1. Interface designed to fit 480TB, 484TB and 489TB connector.
2. Contact rod for 804PB.
3. Conductor contact.
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. Earthing lead.



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

Up to 42 kV  
1250 A

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

## SPECIFICATIONS AND STANDARDS

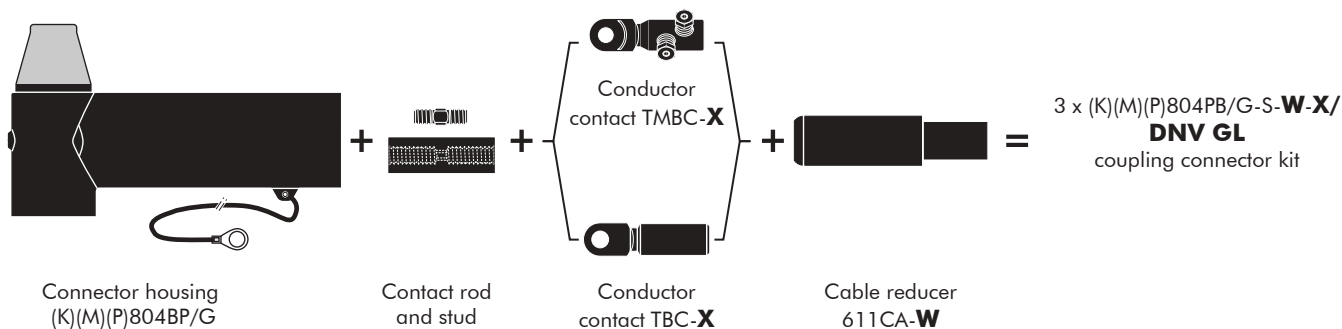
The 804PB coupling connector meets the requirements of CENELEC HD 629.1. Certified for installation on all vessels classed by DNV GL.

Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Conductor sizes (mm <sup>2</sup> )	
			min	max
804PB/G-DNV GL	12	1250	240	630
K804PB/G-DNV GL	24	1250	240	630
M804PB/G-DNV GL	36	1250	240	630
P804PB/G-DNV GL	42	1250	240	630

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## 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, wipers, 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:

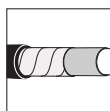
The copper wire screened cable is 36 kV, 240 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 37.0 mm. Order 3 x M804PB/G-S-32-240BI2/DNV GL coupling connector kit.

TABLE W

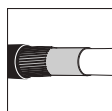
Ordering part number	Dia. over core insulation (mm)	
	min	max
3 x 804PB/G-S-19-X/DNV GL	20.0	26.5
3 x 804PB/G-S-22-X/DNV GL	23.5	31.0
3 x 804PB/G-S-27-X/DNV GL	28.5	37.5
3 x 804PB/G-S-32-X/DNV GL	34.0	42.5
3 x 804PB/G-S-37-X/DNV GL	39.0	48.5
3 x 804PB/G-S-43-X/DNV GL	45.5	56.0

TABLE X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor
	DIN hexagonal	Deep indent	Bolted	DIN hexagonal
240	240BI2	240BI1	240.400UN5	240CU2
300	300BI2	300BI1		300CU2
400	400BI2	400BI1	400.630UN5	400CU2
500	500BI2	500BI1		500CU2
630	-	630BI1		630CU2



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.



For use on vessels classed by DNV GL. Add -/DNV GL to part number

## APPLICATION

Separable coupling connector for dual cable arrangement. It has been designed to be used with 480TB, 484TB and 489TB separable tee connectors. Can also be installed on any 8-series coupling connector for a multiple cable arrangement.

## TECHNICAL CHARACTERISTICS

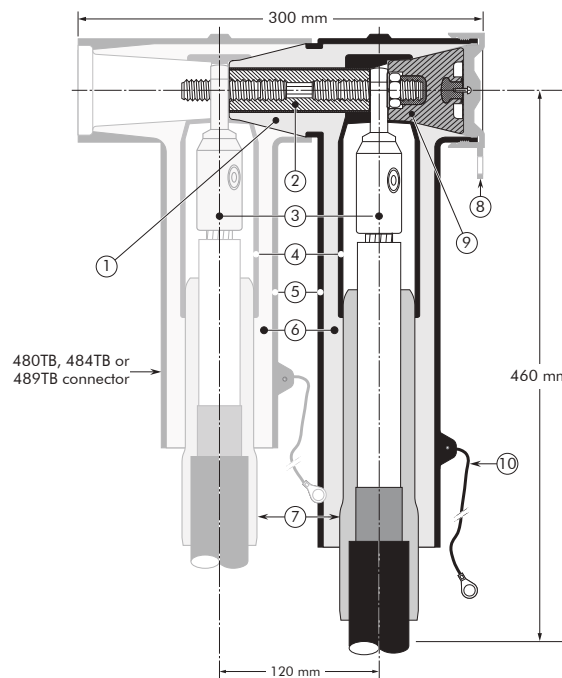
- A thick conductive EPDM jacket provides a total safe to touch screen.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.
- DNV GL - certification.



## DESIGN

1. Interface designed to fit 480TB, 484TB and 489TB connector.
2. Contact rod for 809PB.
3. Conductor contact.
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. Earthing lead.

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



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

Up to 42 kV  
1250 A

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## SPECIFICATIONS AND STANDARDS

The 809PB coupling connector meets the requirements of CENELEC HD 629.1. Certified for installation on all vessels classed by DNV GL.

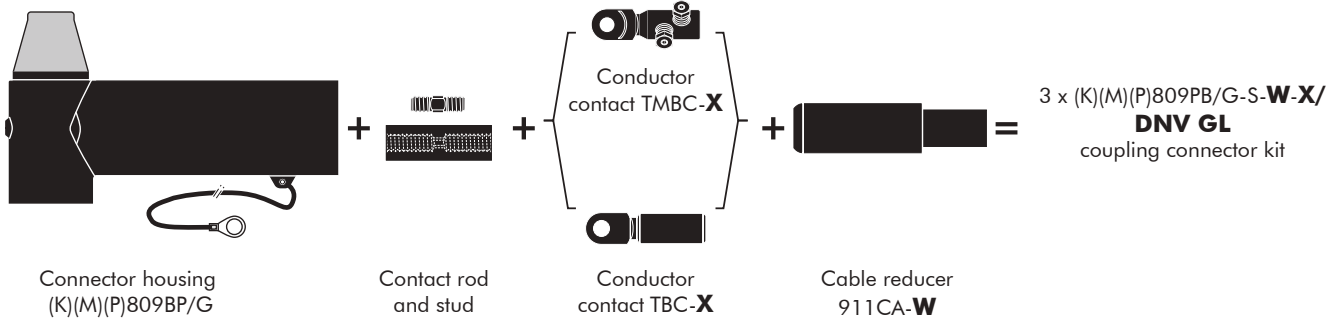
Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Conductor sizes (mm <sup>2</sup> )	
			min	max
809PB/G-DNV GL	12	1250	630	1200
K809PB/G-DNV GL	24	1250	630	1200
M809PB/G-DNV GL	36	1250	630	1200
P809PB/G-DNV GL	42	1250	630	1200

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## KIT CONTENTS

The complete (K)(M)(P)809PB/G coupling connector kit comprises 3x the following components:

The kit also comprises silicone grease, field control mastic, gloves, wipers, 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:

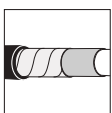
The copper wire screened cable is 36 kV, 1000 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 52 mm. Order 3 x M809PB/G-S-43-1000BI1/DNV GL coupling connector kit.

TABLE W

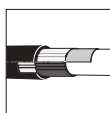
Ordering part number	Dia. over core insulation (mm)	
	min	max
3 x 809PB/G-S-37-X/DNV GL	40	48
3 x 809PB/G-S-43-X/DNV GL	46	54
3 x 809PB/G-S-50-X/DNV GL	53	59
3 x 809PB/G-S-53-X/DNV GL	56	62
3 x 809PB/G-S-56-X/DNV GL	59	65
3 x 809PB/G-S-59-X/DNV GL	62	68

TABLE X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor	Aluminium and copper conductor	Copper conductor
	Deep indent	Bolted	DIN hexagonal
630	630BI1	<b>400.630UN5</b>	630CU2
800	800BI1	<b>800.1000UN5</b>	800CU2
1000	1000BI1		1000CU2
1200	1200BI1	<b>1200UN5</b>	-



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



For use on vessels classed by DNV GL. Add -/DNV GL to part number

# 800SA-DNV GL

**SURGE ARRESTER FOR 480TB, 484TB, 489TB, 800PB, 804PB AND 809PB CONNECTOR**

## 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 480TB, 484TB and 489TB separable tee connectors.

## DESIGN

Surge arrester comprising:

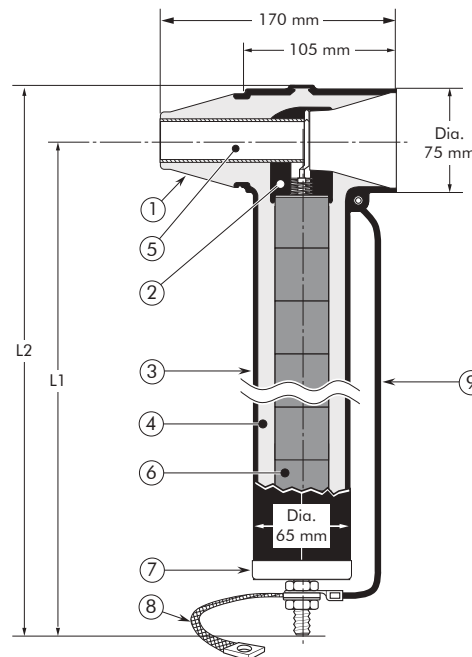
1. Interface designed to fit the 480TB, 484TB and 489TB tee connector.
2. Conductive EPDM insert.
3. Conductive EPDM jacket.
4. Insulating EPDM layer moulded between the insert and the jacket.
5. Receptacle for contact rod.
6. Metal oxide valve elements.
7. Steel cap.
8. Earth connection.
9. Earthing lead.

## SPECIFICATIONS AND STANDARDS

The 800SA surge arresters meet the test requirements of IEC 60099-4. Certified for installation on all vessels classed by DNV GL.

## 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.
- DNV GL - certification.



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

**Up to 42 kV**

**EUROMOLD®**

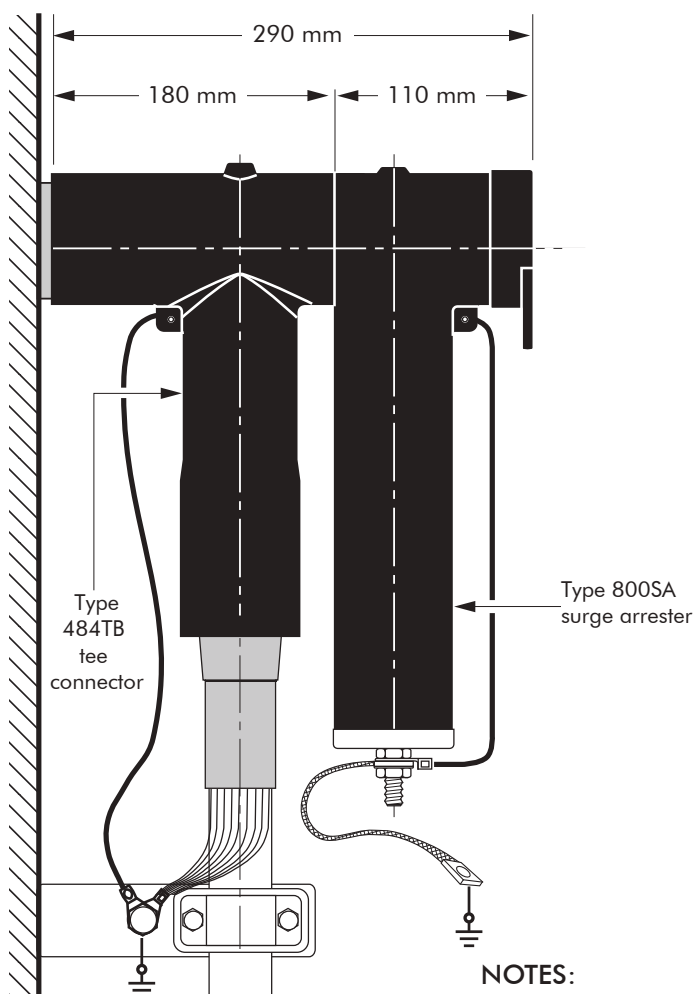


Surge arrester type	Nominal discharge current In (kA)	Rated voltage Ur (kV)	Max. continuous operating voltage Uc (kV)	Dimensions (mm)	
				L1	L2
800SA-10-6N-DNV GL	10	6	4.8	270	310
800SA-10-9N-DNV GL	10	9	7.2	270	310
800SA-10-12N-DNV GL	10	12	9.6	270	310
800SA-10-15N-DNV GL	10	15	12.0	270	310
800SA-10-18N-DNV GL	10	18	14.4	270	310
800SA-10-22N-DNV GL	10	22	17.6	270	310
800SA-10-24N-DNV GL	10	24	19.2	370	410
800SA-10-30N-DNV GL	10	30	24.0	370	410
800SA-10-33N-DNV GL	10	33	26.4	370	410
800SA-10-36N-DNV GL	10	36	28.8	370	410
800SA-10-45N-DNV GL	10	45	36.0	470	510
800SA-10-51N-DNV GL	10	51	40.8	470	510

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## TYPICAL APPLICATION AND DIMENSIONS



### NOTES:

- The surge arrester body needs to be positioned vertically after installation.
- Prior to cable testing, the surge arrester shall be removed.

## 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-DNV GL 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-10-6N-DNV GL	20.4	16.8	18.3	20.5	12.9	13.7	100
800SA-10-9N-DNV GL	28.5	23.5	25.6	28.7	18.0	19.2	100
800SA-10-12N-DNV GL	38.0	31.4	34.2	38.3	24.1	25.7	100
800SA-10-15N-DNV GL	48.1	39.7	43.2	48.4	30.5	32.5	100
800SA-10-18N-DNV GL	58.1	48.0	52.2	58.5	36.8	39.2	100
800SA-10-22N-DNV GL	70.1	57.9	63.0	70.6	44.4	47.3	100
800SA-10-24N-DNV GL	77.0	63.6	69.2	77.6	48.8	52.0	100
800SA-10-30N-DNV GL	97.0	80.1	87.2	97.7	61.5	65.5	100
800SA-10-33N-DNV GL	103.4	85.4	93.0	104.2	65.6	69.9	100
800SA-10-36N-DNV GL	115.9	95.7	104.2	116.8	73.5	78.3	100
800SA-10-45N-DNV GL	144.1	119.0	129.5	145.1	91.3	97.3	100
800SA-10-51N-DNV GL	166.0	137.1	149.2	167.2	105.2	112.1	100

### 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.

### 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 E 5/8" interface as described by IEEE 386.
5. Conductor contact.
6. Basic insulating plug 858 BIPA (with VD point).
7. Cable reducer.
8. Conductive rubber cap.
9. Stud/nut/washer 5/8".
10. Earthing lead.

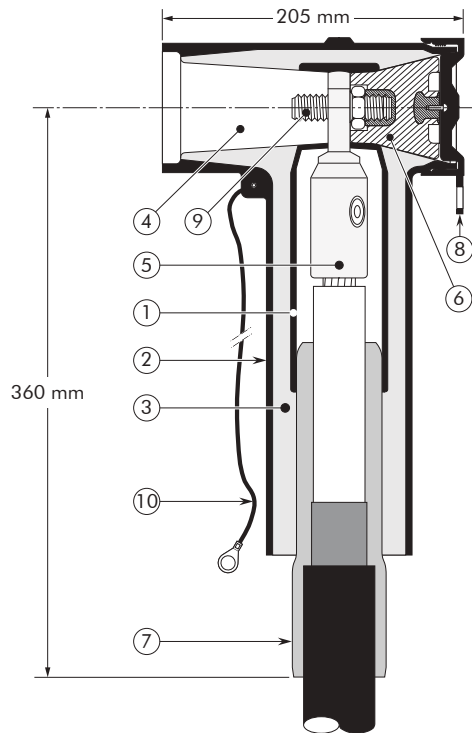
The screen break design enables cable outer sheath testing without removing or dismantling the connector.

### SPECIFICATIONS AND STANDARDS

The 784TB separable connector meets the requirements of CENELEC HD 629.1. Certified for installation on all vessels classed by DNV GL.

### 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.
- DNV GL - certification.



- 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

**Up to 42 kV**  
**Up to 800 A**

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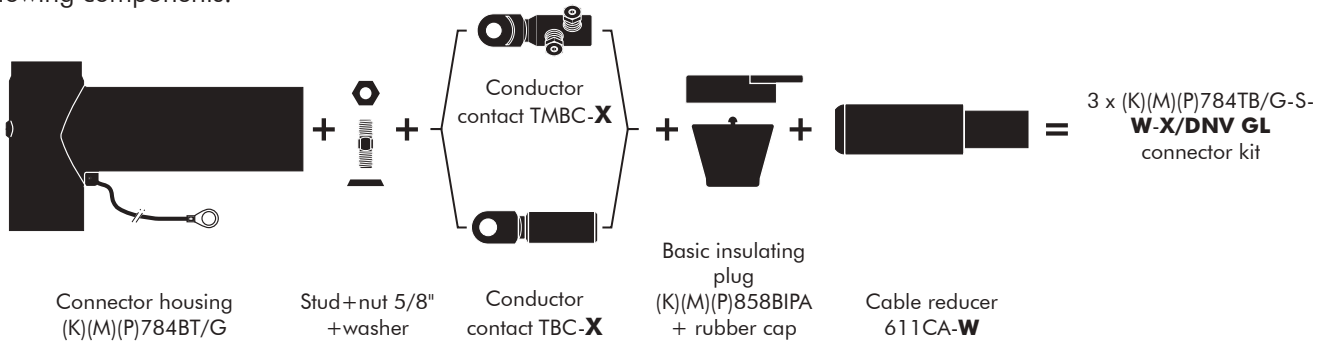
Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A) When installed on an appropriate equipment bushing	Conductor sizes (mm <sup>2</sup> )	
			min	max
784TB/G-DNV GL	12	800	50	630
K784TB/G-DNV GL	24	800	35	630
M784TB/G-DNV GL	36	800	35	630
P784TB/G-DNV GL	42	800	35	630

10/2019

## KIT CONTENTS

The complete (K)(M)(P)784TB/G tee connector kit comprises 3x the following components:

The kit also comprises silicone grease, field control mastic, gloves, wipers, roll adhesive tape, installation instructions, venting rod 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:

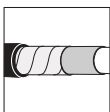
The copper wire screened cable is 36 kV, 240 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 37.0 mm. Order 3 x M784TB/G-S-32-240AL2/DNV GL.

TABLE W

Ordering part number	Dia. over core insulation (mm)	
	min	max
3 x 784TB/G-S-15- <b>X</b> /DNV GL	16.0	22.0
3 x 784TB/G-S-19- <b>X</b> /DNV GL	20.0	26.5
3 x 784TB/G-S-22- <b>X</b> /DNV GL	23.5	31.0
3 x 784TB/G-S-27- <b>X</b> /DNV GL	28.5	37.5
3 x 784TB/G-S-32- <b>X</b> /DNV GL	34.0	42.5
3 x 784TB/G-S-37- <b>X</b> /DNV GL	39.0	48.5
3 x 784TB/G-S-43- <b>X</b> /DNV GL	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	35AL2	35AL1		35UN2
50	50AL2	50AL1		50UN2
70	70AL2	70AL1		70UN2
95	95AL2	95AL1		95UN2
120	120AL2	120AL1		120UN2
150	150AL2	150AL1		150UN2
185	185AL2	185AL1		185UN2
240	240AL2	240AL1		240UN2
300	300AL2	300AL1		300UN2
400	400AL2	400AL1		400UN2
500	500AL2	500AL1		500UN2
630	630AL2	630AL1		630UN2



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



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



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



For use on vessels classed by DNV GL. Add -/DNV GL to part number

### 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

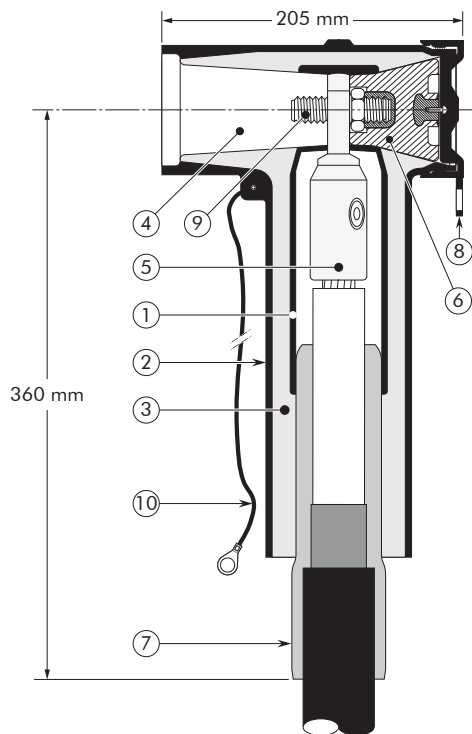
- The thick conductive EPDM jacket provides a total safe to touch screen which ensures safety for personnel.
- Each separable connector is tested for AC withstand and partial discharge prior to leaving the factory.
- DNV GL - certification.



### 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 E 5/8" interface as described by IEEE 386.
5. Conductor contact.
6. Basic insulating plug 858 BIPA (with VD point).
7. Cable reducer.
8. Conductive rubber cap.
9. Stud/nut/washer 5/8".
10. Earthing lead.



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

**Up to 42 kV**  
**Up to 1250 A**

## EUROMOLD®



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

### SPECIFICATIONS AND STANDARDS

The 784TB separable connector meets the requirements of CENELEC HD 629.1. Certified for installation on all vessels classed by DNV GL.

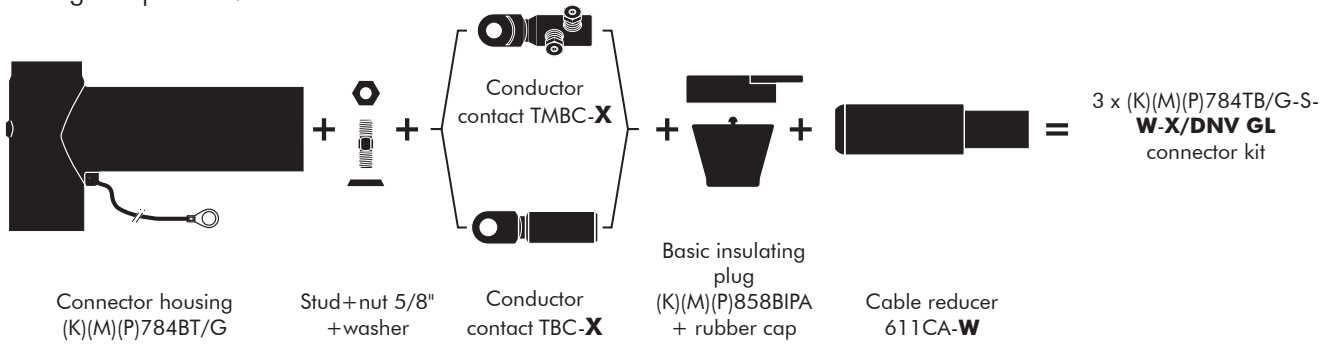
Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A) When installed on an appropriate equipment bushing	Conductor sizes (mm <sup>2</sup> )	
			min	max
784TB/G-DNV GL	12	800	50	630
K784TB/G-DNV GL	24	800	35	630
M784TB/G-DNV GL	36	800	35	630
P784TB/G-DNV GL	42	800	35	630

10/2019

## KIT CONTENTS

The complete (K)(M)(P)784TB/G tee connector kit comprises 3x the following components:

The kit also comprises silicone grease, field control mastic, gloves, wipers, roll adhesive tape, installation instructions, venting rod 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:

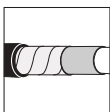
The copper wire screened cable is 36 kV, 240 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 37.0 mm. Order 3 x M784TB/G-S-32-240(K)MBI2/DNV GL.

TABLE W

Ordering part number	Dia. over core insulation (mm)	
	min	max
3 x 784TB/G-S-15-X/DNV GL	16.0	22.0
3 x 784TB/G-S-19-X/DNV GL	20.0	26.5
3 x 784TB/G-S-22-X/DNV GL	23.5	31.0
3 x 784TB/G-S-27-X/DNV GL	28.5	37.5
3 x 784TB/G-S-32-X/DNV GL	34.0	42.5
3 x 784TB/G-S-37-X/DNV GL	39.0	48.5
3 x 784TB/G-S-43-X/DNV GL	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	35BI2	35BI1		35CU2
50	50BI2	50BI1		50CU2
70	70BI2	70BI1		70CU2
95	95BI2	95BI1		95CU2
120	120BI2	120BI1		120CU2
150	150BI2	150BI1		150CU2
185	185BI2	185BI1		185CU2
240	240BI2	240BI1		240CU2
300	300BI2	300BI1		300CU2
400	400BI2	400BI1		400CU2
500	500BI2	500BI1		500CU2
630	-	630BI1		630CU2



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



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



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



For use on vessels classed by DNV GL. Add -/DNV GL to part number

### 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.

### 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 F interface, as described by CENELEC EN 50180 and 50181.
5. Conductor contact.
6. Basic insulating plug.
7. Cable reducer.
8. Conductive rubber cap.
9. Stud+nut+washer.
10. Earthing lead.

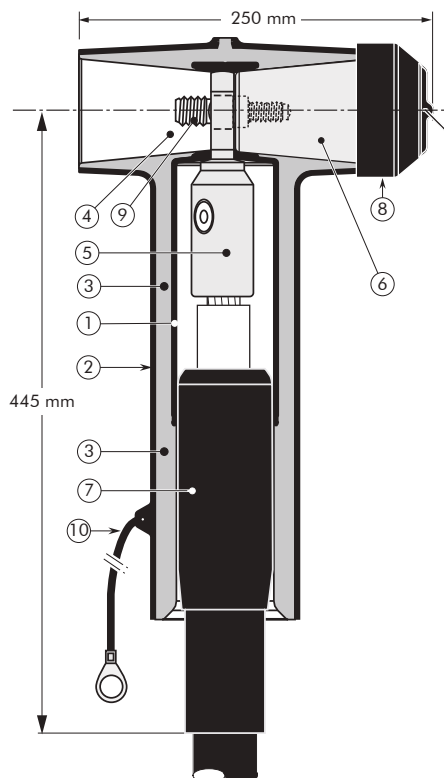
The screen break design enables cable outer sheath testing without removing or dismantling the connector.

### SPECIFICATIONS AND STANDARDS

The 909TB separable connector meets the requirements of CENELEC HD 629.1. Certified for installation on all vessels classed by DNV GL.

### 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.
- DNV GL - certification.



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

**Up to 42 kV - 2500 A**

**EUROMOLD®**

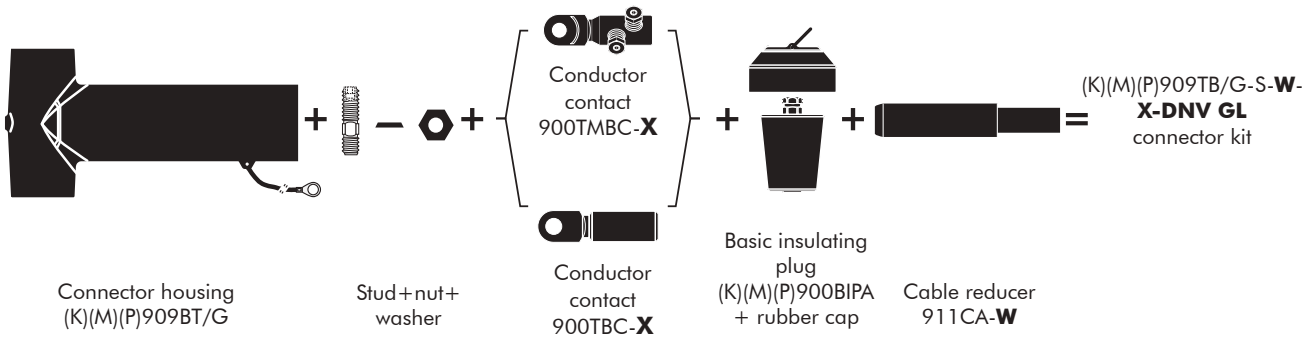


Separable connector type	Voltage Um (kV)	Current Ir (A)	Conductor sizes (mm <sup>2</sup> )	
			min	max
909TB/G-DNV GL	12	630 -1250 - 2500	500	1200
K909TB/G-DNV GL	24	630 -1250 - 2500	400	1200
M909TB/G-DNV GL	36	630 -1250 - 2500	240	1200
P909TB/G-DNV GL	42	630 -1250	240	1200

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## KIT CONTENTS

The complete (K)(M)(P)909TB/G tee connector kit comprises 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 the best centring of the 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, add an 'M' for use up to 36 kV, add a 'P' for use up to 42 kV.

### EXAMPLE:

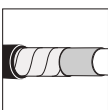
The copper wire screened cable is 36 kV, 1000 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 52 mm. Order M909TB/G-S-43-1000AL1/DNV GL tee connector kit.

TABLE W

Ordering part number	Dia. over core insulation (mm)	
	min	max
909TB/G-S-32-X/DNV GL	35	43
909TB/G-S-37-X/DNV GL	40	48
909TB/G-S-43-X/DNV GL	46	54
909TB/G-S-50-X/DNV GL	53	59
909TB/G-S-53-X/DNV GL	56	62
909TB/G-S-56-X/DNV GL	59	65
909TB/G-S-59-X/DNV GL	62	68

TABLE X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor
	Deep indent	DIN hexagonal	Bolted	DIN hexagonal
240	240BI1	240BI2	<b>240.300UN5</b>	240CU2
300	300BI1	300BI2		300CU2
400	400BI1	400BI2		400CU2
500	500BI1	500BI2	<b>400.630UN5</b>	500CU2
630	630BI1	630BI2		630CU2
800	800BI1	-	<b>800.1000UN5</b>	800CU2
1000	1000BI1	-		1000CU2
1200	1200BI1	-	On request	-



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



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



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



For use on vessels classed by DNV GL. Add -/DNV GL to part number



When installed on an appropriate equipment bushing: 2500 A in dual cable arrangement

### APPLICATION

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

### DESIGN

1. Conductive EPDM insert
2. Conductive EPDM jacket
3. Insulating EPDM layer moulded between insert and jacket
4. Type F interface ref. CENELEC EN 50180 and 50181
5. Conductor connector (hexagonal crimping or bolted type)
6. Basic insulating plug
7. Cable reducer
8. Conductive EPDM cap
9. Stud + nut + washer
10. Earthing lead
11. Heat-shrinkable sleeve

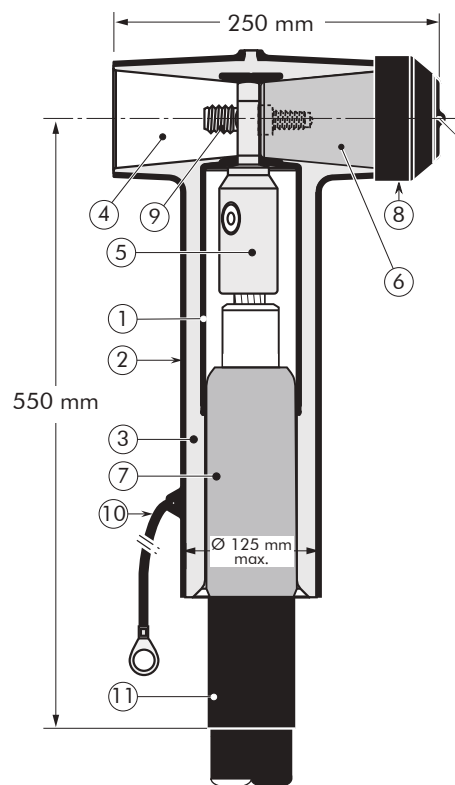
The screen break design enables cable outer sheath testing without removing or dismantling the connector.

### SPECIFICATIONS AND STANDARDS

The R909TB/G separable tee connector is type tested acc. to IEC 60840. Comply with DNV GL rules for classification-ships and offshore units.

### 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.
- DNV GL - certification.



**72.5 kV**  
**1250 A\***

**U (U<sub>m</sub>)**  
**60-69 (72.5) kV**

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Separable connector type	Max. operating voltage U <sub>m</sub> (kV)	Continuous current I <sub>n</sub> (A)	Conductor cross-section** (mm <sup>2</sup> )	
			min	max
R909TB/G-DNV GL	72.5	1250*	95	1200

\* When installed on an appropriate equipment bushing.

\*\* Indicative for cables with 10 mm insulation wall thickness.

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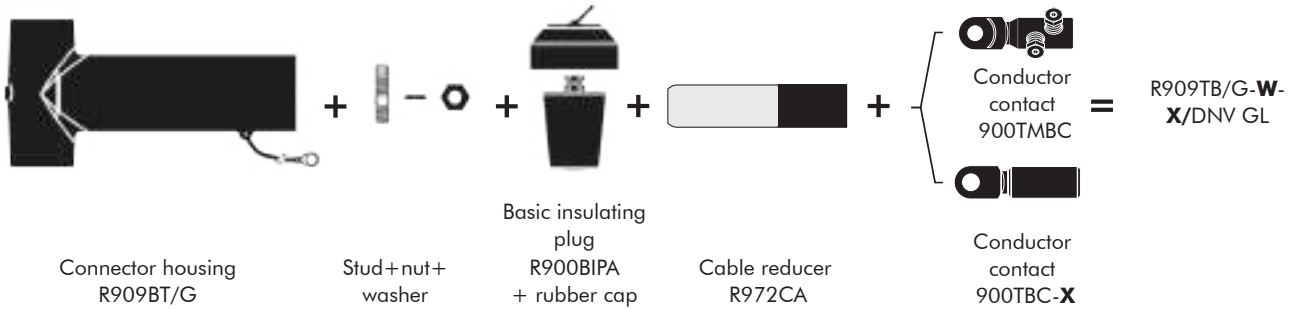


## Kit contents

The complete R909TB/G tee connector kit comprises 1x the following components:

The kit also comprises:  
 + installation instructions  
 + silicone grease  
 + sealing mastic  
 + gloves

+ roll adhesive tape  
 + heat-shrinkable sleeve



## Ordering instructions

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

### Order example:

The copper wire screened cable is 72.5 kV, 800 mm<sup>2</sup> round stranded aluminium with a diameter over XLPE core insulation of 58 mm after preparation and 50 mm<sup>2</sup> copper wire screen.

Order  
 R909TB/G-50-800.1200-14-5 +  
 50x10KU-V/DNV GL tee connector  
 kit.

Table W

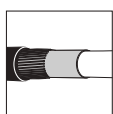
Ordering part number	Ø over core insulation* (mm)	
	min.	max.
3 x R909TB/G-25- <b>X</b> /DNV GL	27	33.5
3 x R909TB/G-30- <b>X</b> /DNV GL	32.5	41
3 x R909TB/G-37- <b>X</b> /DNV GL	40	48
3 x R909TB/G-43- <b>X</b> /DNV GL	46.5	51
3 x R909TB/G-46- <b>X</b> /DNV GL	49.5	55
3 x R909TB/G-50- <b>X</b> /DNV GL	54	59
3 x R909TB/G-53- <b>X</b> /DNV GL	57	64
3 x R909TB/G-58- <b>X</b> /DNV GL	62.5	68

\* after cable preparation

Table X

Conductor size (mm <sup>2</sup> )	Aluminium and Copper conductor (RMV)		Copper conductor (RMV)
	Bolted		DIN hexagonal
95	<b>95.240-14-5</b>		95(K)M-11-2
120			120(K)M-11-2
150			150(K)M-11-2
185			185(K)M-11-2
240	<b>185.400-14-5</b>		240(K)M-11-2
300			300(K)M-11-2
400			400(K)M-11-2
500	<b>400.630-14-5</b>		500(K)M-11-2
630			630(K)M-11-2
800			800(K)M-11-2
1000	<b>800.1200-14-5</b>		1000(K)M-11-2
1200			1200(K)M-11-2

RMV: round stranded compacted conductors



For use with copper wire screened cables. No further earthing device is necessary.



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



For use on vessels classed by DNV GL. Add -/DNV GL to part number



When installed on an appropriate equipment bushing: 1250 A continuously.

### APPLICATION

Separable coupling connector (bolted type) for dual cable arrangement. It has been designed to be used with 909TB separable tee connectors.

### 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.
- DNV GL - certification.

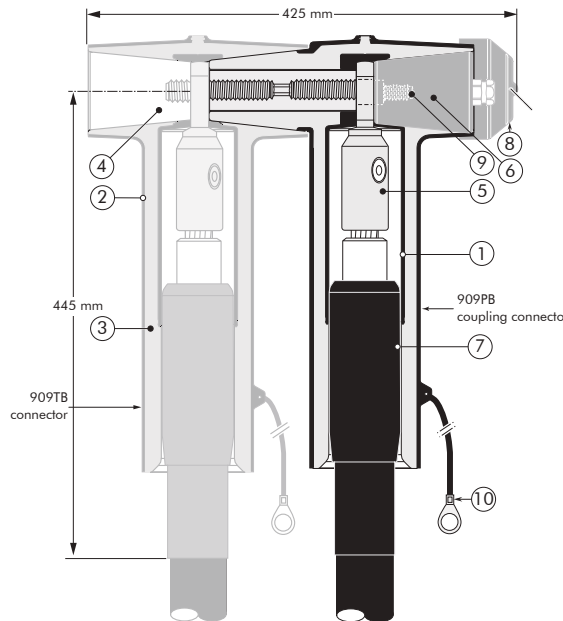


### DESIGN

Separable connector comprising:

1. Conductive EPDM insert.
2. Conductive EPDM jacket.
3. Insulating EPDM layer moulded between the insert and the jacket.
4. Interface to fit 909TB.
5. Conductor contact.
6. Basic insulating plug.
7. Cable reducer.
8. Conductive rubber cap.
9. Stud+nut+washer.
10. Earthing lead.

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



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

**Up to 42 kV - 2500 A**

**EUROMOLD®**

### SPECIFICATIONS AND STANDARDS

The 909PB separable connector meets the requirements of CENELEC HD 629.1.

Certified for installation on all vessels classed by DNV GL.



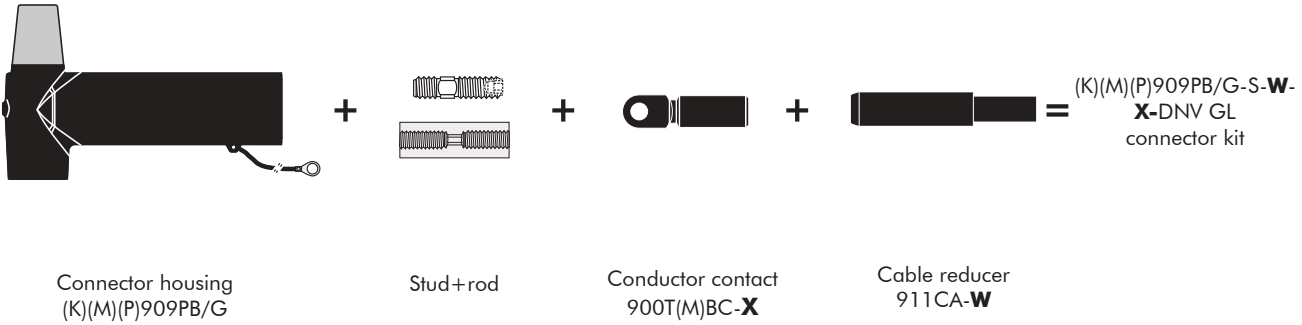
Separable connector type	Voltage $U_m$ (kV)	Current $I_r$ (A)	Conductor sizes (mm <sup>2</sup> )	
			min	max
909PB/G-DNV GL	12	630 - 1250 - 2500	500	1200
K909PB/G-DNV GL	24	630 - 1250 - 2500	400	1200
M909PB/G-DNV GL	36	630 - 1250 - 2500	240	1200
P909PB/G-DNV GL	42	630 - 1250	240	1200

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## KIT CONTENTS

The complete (K)(M)(P)909PB/G tee connector kit comprises 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 the best centring of the 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, add an 'M' for use up to 36 kV, add a 'P' for use up to 42 kV.

TABLE W

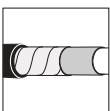
Ordering part number	Dia. over core insulation (mm)	
	min	max
909PB/G-S-32- <b>X</b> /DNV GL	35	43
909PB/G-S-37- <b>X</b> /DNV GL	40	48
909PB/G-S-43- <b>X</b> /DNV GL	46	54
909PB/G-S-50- <b>X</b> /DNV GL	53	59
909PB/G-S-53- <b>X</b> /DNV GL	56	62
909PB/G-S-56- <b>X</b> /DNV GL	59	65
909PB/G-S-59- <b>X</b> /DNV GL	62	68

### EXAMPLE:

The copper wire screened cable is 36 kV, 1000 mm<sup>2</sup> stranded aluminium with a diameter over core insulation of 52 mm. Order M909PB/G-S-43-1000AL1/DNV GL tee connector kit.

TABLE X

Conductor sizes (mm <sup>2</sup> )	Aluminium conductor		Aluminium and copper conductor	Copper conductor
	Deep indent	DIN hexagonal	Bolted	DIN hexagonal
240	240BI1	240BI2	<b>240.300UN5</b>	240CU2
300	300BI1	300BI2		300CU2
400	400BI1	400BI2	<b>400.630UN5</b>	400CU2
500	500BI1	500BI2		500CU2
630	630BI1	630BI2		630CU2
800	800BI1	-	<b>800.1000UN5</b>	800CU2
1000	1000BI1	-		1000CU2
1200	1200BI1	-	On request	-



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



For use on vessels classed by DNV GL. Add -/DNV GL to part number



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: 2500 A in dual cable arrangement

### APPLICATION

Separable coupling connector (bolted type) for dual cable arrangement. It has been designed to be used with R909TB/G separable tee connector. The arrangement might be extended by multiple coupling connectors.

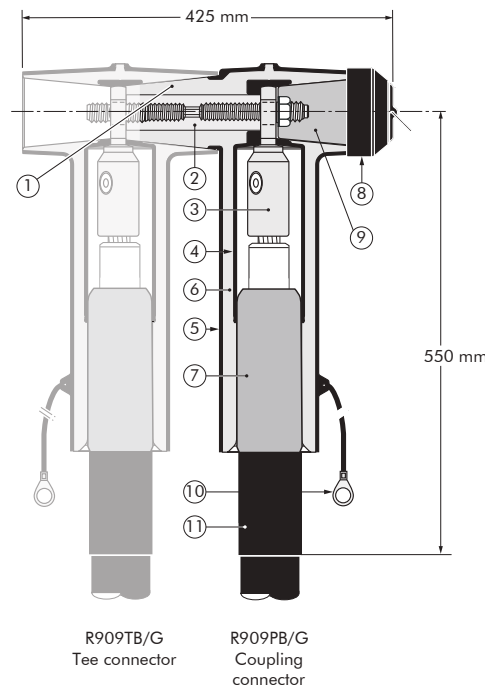
### TECHNICAL CHARACTERISTICS

- 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.
- DNV GL - certification.



### DESIGN

1. Interface designed to fit R909TB/G
  2. Bus for R909PB/G (contact rod and stud)
  3. Conductor connector (hexagonal crimping or bolted type)
  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
  10. Earthing lead
  11. Heat-shrinkable sleeve
- The screen break design enables cable outer sheath testing without removing or dismantling the connector.



**72.5 kV**  
**1250 A\***

**1800 A\*\***

**U (U<sub>m</sub>)**

**60-69 (72.5) kV**

**EUROMOLD®**



### SPECIFICATIONS AND STANDARDS

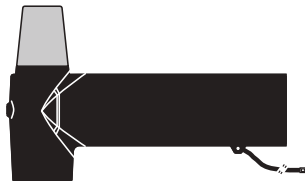
The R909PB/G coupling connector is type tested acc. to IEC 60840. Comply with DNV GL rules for classification-ships and offshore units.

Separable connector type	Max. operating voltage U <sub>m</sub> (kV)	Continuous current I <sub>n</sub> (A)	Conductor cross-section*** (mm <sup>2</sup> )	
			min	max
R909PB/G-DNV GL	72.5	1250*/1800**	95	1200

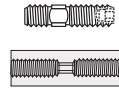
\* When installed on an appropriate equipment bushing.  
\*\* Daisy chain arrangement.  
\*\*\* Indicative for cables with 10 mm insulation wall thickness.

## KIT CONTENTS

The complete R909PB/G coupling connector kit comprises 1x the following components:



Connector housing  
R909PB/G



Contact rod  
and stud



Cable reducer  
R972CA



Conductor  
contact  
900TMBC



Conductor  
contact  
900TBC-X

R909PB/G-**W-  
X/DNV GL**  
coupling  
connector kit

The kit also comprises:  
+ installation instructions  
+ silicone grease  
+ sealing mastic  
+ gloves

+ roll adhesive tape  
+ heat-shrinkable sleeve

## ORDERING INSTRUCTIONS

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

### Order example:

The copper wire screened cable is 72.5 kV, 800 mm<sup>2</sup> round stranded aluminium with a diameter over XLPE core insulation of 58 mm after preparation and 50 mm<sup>2</sup> copper wire screen.

Order  
R909PB/G-50-800.1200-14-5  
+ 50x10 KU-V/DNV GL coupling  
connector kit.

TABLE W

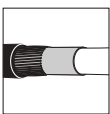
Ordering part number	Ø over core insulation* (mm)	
	min.	max.
3 x R909PB/G-25- <b>X</b> /DNV GL	27	33.5
3 x R909PB/G-30- <b>X</b> /DNV GL	32.5	41
3 x R909PB/G-37- <b>X</b> /DNV GL	40	48
3 x R909PB/G-43- <b>X</b> /DNV GL	46.5	51
3 x R909PB/G-46- <b>X</b> /DNV GL	49.5	55
3 x R909PB/G-50- <b>X</b> /DNV GL	54	59
3 x R909PB/G-53- <b>X</b> /DNV GL	57	64
3 x R909PB/G-58- <b>X</b> /DNV GL	62.5	68

\* after cable preparation

TABLE X

Conductor size (mm <sup>2</sup> )	Aluminium and Copper conductor (RMV)		Copper conductor (RMV)
	Bolted		DIN hexagonal
95	<b>95.240-14-5</b>		95(K)M-11-2
120			120(K)M-11-2
150			150(K)M-11-2
185			185(K)M-11-2
240		<b>185.400-14-5</b>	240(K)M-11-2
300			300(K)M-11-2
400	<b>400.630-14-5</b>		400(K)M-11-2
500			500(K)M-11-2
630			630(K)M-11-2
800		<b>800.1200-14-5</b>	800(K)M-11-2
1000			1000(K)M-11-2
1200			1200(K)M-11-2

RMV: round stranded compacted conductors



For use with copper wire screened cables. No further earthing device is necessary.



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



For use on vessels classed by DNV GL. Add -/DNV GL to part number



When installed on an appropriate equipment bushing: 1250 A continuously.



When in a daisy chain arrangement or similar: 1800 A continuously.

# 900SA-CD31.5-DNV GL

## INTERFACE F SURGE ARRESTER

### APPLICATION

Surge arrester designed to protect 72.5 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 909TB and 909PB separable tee connectors.

### TECHNICAL CHARACTERISTICS

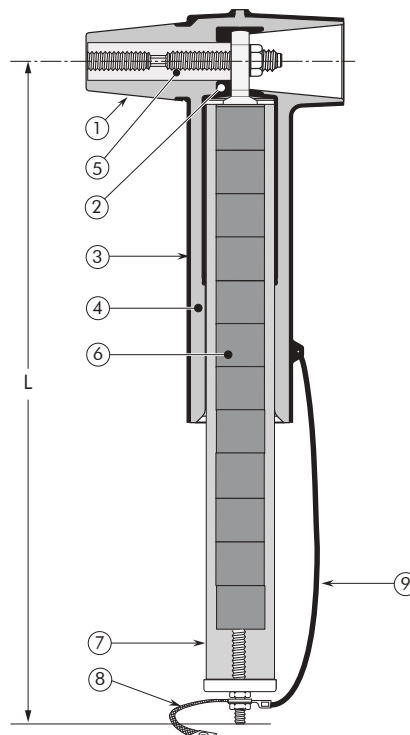
- A ZnO varistor screened, separable surge arrester in an elbow configuration.
- 100% routine tested.
- DNV GL - certification.



### DESIGN

Surge arrester comprising:

1. Interface designed to fit the 909TB and 909PB 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. ZnO varistors.
7. ZnO module.
8. Earth connection.
9. Earth lead.



Up to 72.5 kV

**EUROMOLD®**



### SPECIFICATIONS AND STANDARDS

The 900SA-CD31.5 surge arresters meet the test requirements of IEC 60099-4-2014. Comply with DNV GL rules for classification-ships and offshore units.

Rated data	
Nominal Discharge Current $I_N$	10 kA
Charge transfer rating $Q_{rs}$	1,2 C
Rated thermal energy $W_{th}$	5 kJ/kV <sub>Ur</sub>
Arrester Class	SL
Short circuit current $I_s$	31,5 kA
High current impulse 4/10 $\mu$ s	100 kA
Long duration current impulse (2 ms)	600 A

Dimensions and weight	
Length L (bushing to grounding terminal)	745 mm
Weight	25 kg

## ORDERING INSTRUCTIONS

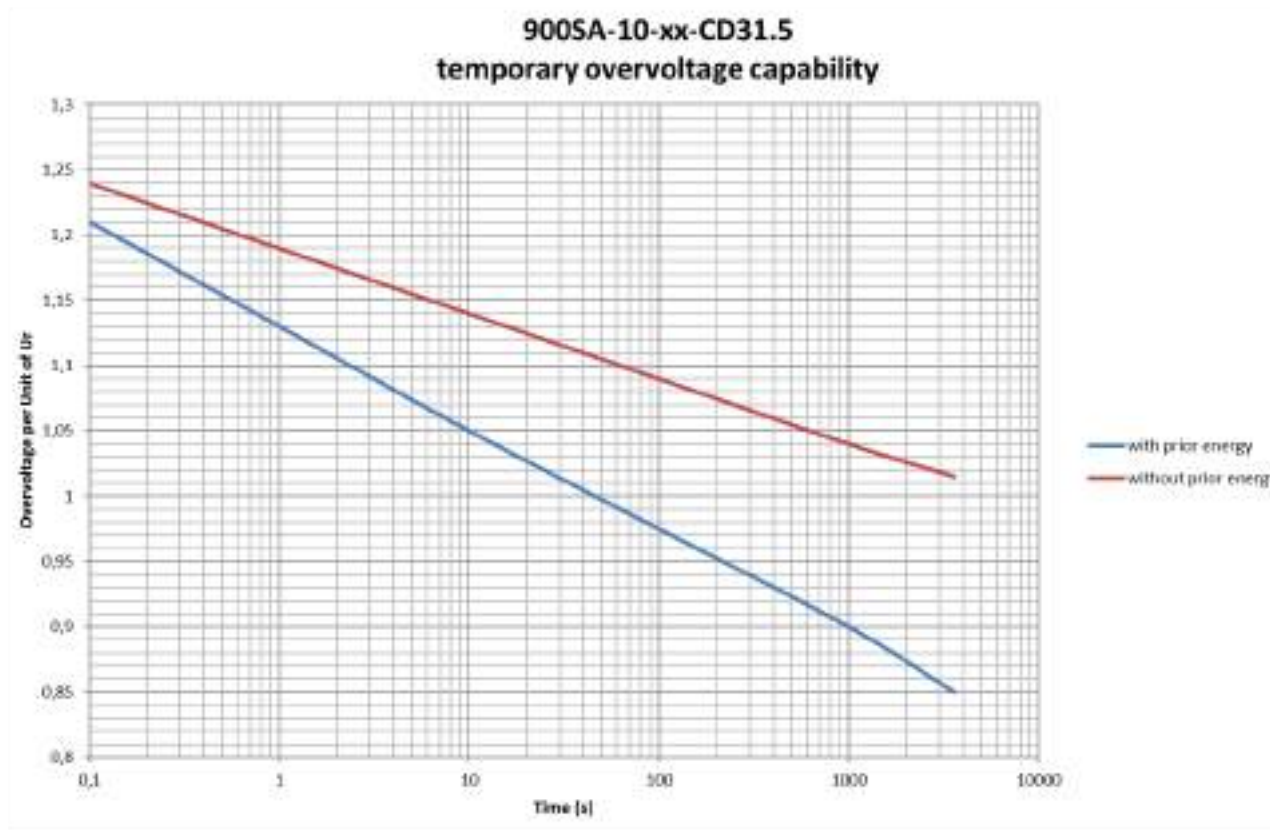
To order the surge arrester specify the surge arrester type.

## KIT CONTENT

- Surge arrester type 900SA-CD31.5/DNV GL
- Contact rod
- Stud
- Nylon vent rod
- Silicone grease+wipers
- Set of gloves
- Installation instruction

## TECHNICAL DATA

Ordering part number	Rated voltage $U_r$ (kV)	Max. continuous operating voltage $U_c$ (kV)	Steep current residual voltage @ 10 kA [1/2 $\mu$ s] (kV)	Lightning current residual voltage [8/20 $\mu$ s] (kV)			Switching impulse residual voltage [30/70 $\mu$ s] (kV)	
				@ 5 kA	@ 10 kA	@ 20 kA	@ 250 A	@ 500 A
900SA-10-74-CD31.5/DNV GL	74	59.2	213	187	197	213	160	163



### APPLICATION

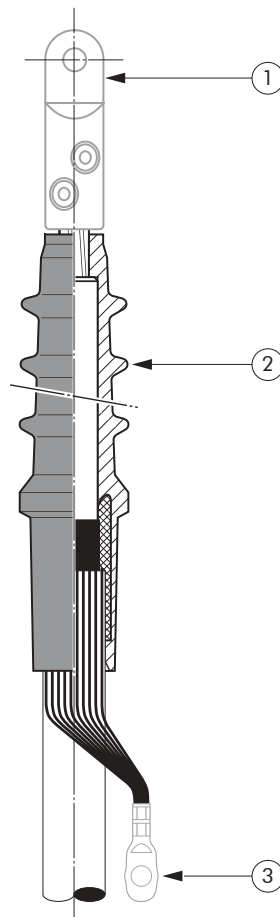
A kit of 3 terminations for use indoors in controlled environmental conditions and subject to light condensation. Provides a simple and quick method of stress relieving on screened polymeric cables.



### DESIGN

Indoor termination comprising:

1. Mechanical cable lug.
2. High flexibility silicone rubber housing, allowing larger tolerances on cable insulation diameters, with integrated conductive rubber insert, providing stress relief.
3. Earthing lug (not included in the standard kit).



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

**Up to 36 kV**

### SPECIFICATIONS AND STANDARDS

Meets the requirements of CENELEC HD 629.1 and IEC 60502-4.

Certified for installation on all vessels classed by DNV GL.



Termination type	Voltage Um (kV)	Conductor sizes (mm <sup>2</sup> )	
		min	max
AIN 10-DNV GL	12	25	1200
AIN 20-DNV GL	24	35	1200
AIN 30-DNV GL	36	50	1000
AIN 36-DNV GL	36	150	1000

10/2019



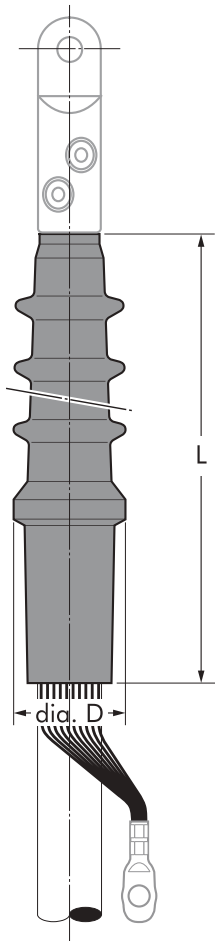
## KIT CONTENTS

A kit always comprises  
3 termination housings,  
mechanical cable lugs,  
installation instructions, special  
lubricant, wiper, adhesive tape,  
field control mastic, ...

Earthing lugs are not included  
in the standard kit, but can be  
ordered separately.

## ORDERING INSTRUCTIONS

Select the part number  
corresponding to both the system  
voltage and the cable dimensions  
in mm.

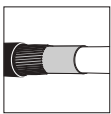


Voltage Um (kV)	Conductor sizes (mm <sup>2</sup> )		Diameter over core insulation (mm)		Number of sheds	L (mm)	Dia. D (mm)	Ordering part number
	min	max	min	max				
12	25	95	12.7	21.0	2	150	37	3 x AIN 10-1/DNV GL
	120	240	19.0	28.5	2	150	43	3 x AIN 10-2/DNV GL
	300	500	27.0	37.0	2	150	60	3 x AIN 10-3/DNV GL
	630	800	34.0	46.0	3	225	68	3 x AIN 20-4/DNV GL
	1000		39.0	50.0	7	405	98	3 x AIN 36-5/DNV GL
	1200		46.0	58.0	7	405	98	3 x AIN 36-6/DNV GL
24	35	70	18.0	23.5	3	225	47	3 x AIN 20-1/DNV GL
	95	240	22.5	33.0	3	225	56	3 x AIN 20-2/DNV GL
	300	500	31.0	41.0	3	225	68	3 x AIN 20-3/DNV GL
	400	630	34.0	46.0	3	225	68	3 x AIN 20-4/DNV GL
	630	800	39.0	50.0	7	405	98	3 x AIN 36-5/DNV GL
	1000	1200	46.0	58.0	7	405	98	3 x AIN 36-6/DNV GL
36	50	70	23.5	29.0	6	300	74	3 x AIN 30-1/DNV GL
	95	240	27.0	38.0	6	300	74	3 x AIN 30-2/DNV GL
	240	400	32.0	43.0	6	300	81	3 x AIN 30-3/DNV GL
	400	630	39.0	50.0	7	405	98	3 x AIN 36-5/DNV GL
	630	1000	46.0	58.0	7	405	98	3 x AIN 36-6/DNV GL

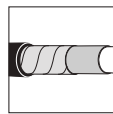
### EXAMPLE:

A set of 3 indoor terminations  
for a 24 kV - 240 mm<sup>2</sup> stranded  
aluminium cable with copper wire  
screen. The diameter over core  
insulation is 30.4 mm.

Order a 3 x AIN 20-2+C95-  
240x12/DNV GL termination kit.



For use with copper  
wire screened cables.  
No earthing  
device is  
necessary.



For use with  
copper tape  
screened cables.  
Order: -/MT.



For use with  
three-core cables.  
Please contact our  
representative.



No heating or flame  
is required.



For use on vessels  
classed by DNV GL.  
Add -/DNV GL to part  
number

### APPLICATION

A kit of 3 terminations for use outdoors and exposed to prolonged sunshine and other weather conditions.

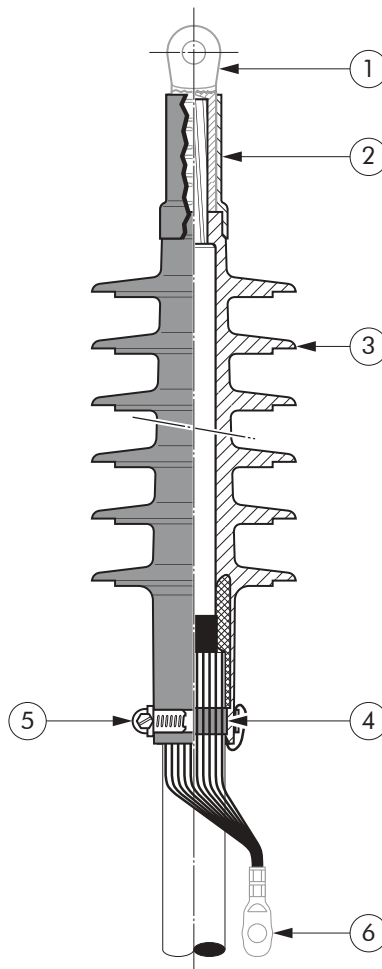
To connect polymeric insulated cable to equipment and for the outdoor terminating on to overhead lines or busbars.



### DESIGN

Outdoor termination comprising:

1. Mechanical cable lug.
2. Water sealing silicone sleeve.
3. Silicone housing with sheds and integrated conductive silicone rubber insert providing stress relief for the cable.
4. Water sealing mastic.
5. Earthing clamp.
6. Earthing lug (not included in the standard kit).



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

### SPECIFICATIONS AND STANDARDS

Meets the requirements of CENELEC HD 629.1 and IEC 60502-4.

Certified for installation on all vessels classed by DNV GL.



Termination type	Voltage $U_m$ (kV)	Conductor sizes (mm <sup>2</sup> )	
		min	max
AFN 10-DNV GL	12	25	1200
AFN 20-DNV GL	24	35	1200
AFN 30-DNV GL	36	50	1000
AFN 36-DNV GL	36	70	1000

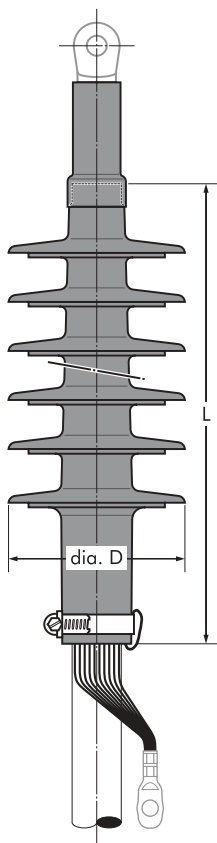
10/2019

## KIT CONTENTS

A kit always comprises 3 termination housings, mechanical cable lugs, water sealing sleeve, the installation instructions, special lubricant, wiper, earthing clamp, water sealing mastic, adhesive tape, field control mastic, ...

## ORDERING INSTRUCTIONS

Select the part number corresponding to both the system voltage and the cable dimensions in mm.

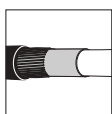


Earthing lugs are not included in the standard kit, but can be ordered separately.

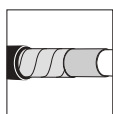
Voltage Um (kV)	Conductor sizes (mm <sup>2</sup> )		Diameter over core insulation (mm)		Number of sheds	L (mm) (max)	Dia. D (mm)	Creepage distance (mm)	Ordering part number
	min	max	min	max					
12	25	95	12.7	21.0	3	210	90	369	3 x AFN 10-1/DNV GL
	120	240	19.0	28.5	3	210	96	365	3 x AFN 10-2/DNV GL
	300	500	27.0	37.0	3	210	105	360	3 x AFN 10-3/DNV GL
	630	800	34.0	46.0	4	240	118	462	3 x AFN 20-4/DNV GL
	1000		39.0	50.0	7	405	127	755	3 x AFN 36-5/DNV GL
	1200		46.0	58.0	7	405	127	755	3 x AFN 36-6/DNV GL
24	35	70	18.0	23.5	4	240	100	480	3 x AFN 20-1/DNV GL
	95	240	22.5	33.0	4	240	112	499	3 x AFN 20-2/DNV GL
	300	500	31.0	41.0	4	240	118	462	3 x AFN 20-3/DNV GL
	400	630	34.0	46.0	4	240	118	462	3 x AFN 20-4/DNV GL
	630	800	39.0	50.0	7	405	127	755	3 x AFN 36-5/DNV GL
	1000	1200	46.0	58.0	7	405	127	755	3 x AFN 36-6/DNV GL
36	50	70	23.5	29.0	6	300	115	695	3 x AFN 30-1/DNV GL
	95	240	27.0	38.0	6	300	115	694	3 x AFN 30-2/DNV GL
	240	400	32.0	43.0	6	300	127	718	3 x AFN 30-3/DNV GL
	400	630	39.0	50.0	7	405	127	755	3 x AFN 36-5/DNV GL
	630	1000	46.0	58.0	7	405	127	755	3 x AFN 36-6/DNV GL

### EXAMPLE:

A set of 3 outdoor terminations for a 24 kV - 240 mm<sup>2</sup> stranded aluminium cable with copper wire screen. The diameter over core insulation is 30.4 mm. Order a 3 x AFN 20-2+C95-240x12/DNV GL termination kit.



For use with copper wire screened cables. No earthing device is necessary.



For use with copper tape screened cables. Order: -/MT.



For use with three-core cables. Please contact our representative.



No heating or flame is required.



For use on vessels classed by DNV GL. Add -/DNV GL to part number

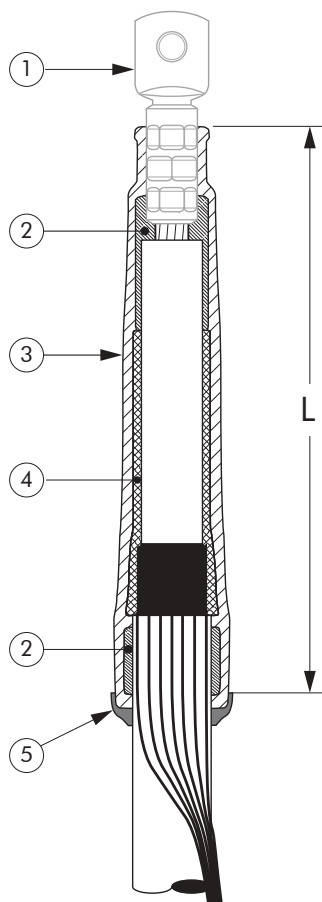
### APPLICATION

A kit of 3 terminations for use indoors in controlled environmental conditions and subject to light condensation. To connect polymeric insulated cable to equipment.



### DESIGN

- Indoor termination comprising:
1. Cable lug (not included in the standard kit).
  2. Water sealing mastic.
  3. Silicone tube.
  4. Stress control mastic.
  5. Conductive EPDM ring.



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

**Up to 24 kV**

### SPECIFICATIONS AND STANDARDS

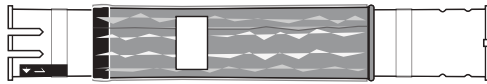
Meets the requirements of CENELEC HD 629.1.  
Certified for installation on all vessels classed by DNV GL.



Termination type	Voltage Um (kV)	Strike distance L (mm)	Diameter over core insulation (mm)		Conductor sizes (mm <sup>2</sup> )	
			min	max	min	max
ITK 212-DNV GL	12	260	14	33	50	400
ITK 312-DNV GL	12	300	30	50	400	1000
ITK 224-DNV GL	24	260	14	33	25	240
ITK 324-DNV GL	24	300	30	50	300	800

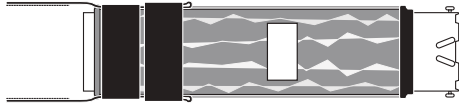
## KIT CONTENTS

The complete ITK termination kit comprises the following components:



= 3 x ITK 212 or ITK 224/DNV GL termination kit

3 x Factory pre-assembled silicone tubes comprising stress relief and sealing mastic.



= 3 x ITK 312 or ITK 324/DNV GL termination kit

3 x Factory pre-assembled silicone tubes comprising stress relief and sealing mastic.

The kit also comprises water sealing mastic and installation instructions.

## ORDERING INSTRUCTIONS

Select the part number corresponding to both the system voltage and the cable insulation diameter in mm.

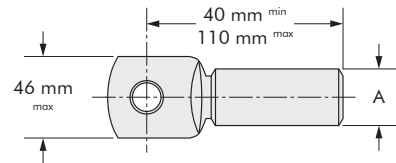
### EXAMPLE:

The copper wire screened cable is 12 kV, 150 mm<sup>2</sup> stranded aluminium.

The diameter over core insulation is 26.2 mm.

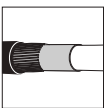
Order a 3 x ITK 212/DNV GL termination kit.

Ordering part number	Voltage Um (kV)	Diameter over core insulation (mm)		Conductor sizes (mm <sup>2</sup> )	
		min	max	min	max
3 x ITK 212/DNV GL	12	14	33	50	400
3 x ITK 312/DNV GL	12	30	50	400	1000
3 x ITK 224/DNV GL	24	14	33	25	240
3 x ITK 324/DNV GL	24	30	50	300	800

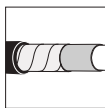


All commercialised European standard cable lugs can be used.

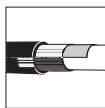
Cable lugs should be within the dimensions specified (not applicable for ITK 312 and ITK 324).



For use with copper wire screened cables. No earthing device is necessary.



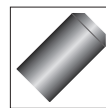
For use with copper tape screened cables. Also order a Kit MT.



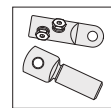
For use with Alupe or C 33-226 cables. Please contact our representative.



For use on vessels classed by DNV GL. Add -/DNV GL to part number



If the cable lug barrel diameter (A) is less than 20 mm: order a rubber adapting sleeve.



Can be supplied with all common types of cable lugs.

### APPLICATION

A kit of 3 terminations for use outdoors and exposed to prolonged sunshine and other weather conditions.

To connect polymeric insulated cable to equipment and for the outdoor terminating on to overhead lines or busbars.



### DESIGN

Outdoor termination comprising:

1. Cable lug (not included in the standard kit).
2. Water sealing mastic.
3. Sheds which can be installed upwards or down.
4. Silicone tube with sheds.
5. Silicone tube.
6. Stress control mastic.
7. Conductive EPDM ring.

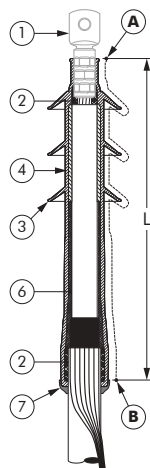


Fig. 1

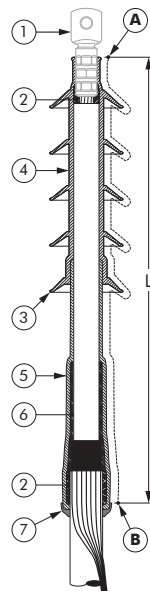


Fig. 2

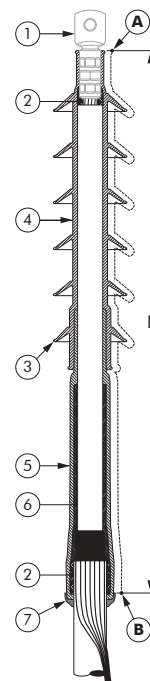


Fig. 3

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

**Up to 24 kV**

### SPECIFICATIONS AND STANDARDS

Meets the requirements of CENELEC HD 629.1.

Certified for installation on all vessels classed by DNV GL.

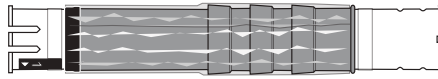


Termination type	Voltage Um (kV)	Creepage distance A-B (mm)	Strike distance "L" (mm)	Diameter over core insulation (mm)		Number of sheds	Conductor sizes (mm <sup>2</sup> )		Fig. no.
				min	max		min	max	
OTK 212-DNV GL	12	420	300	14	33	3	50	400	1
OTK 312-DNV GL	12	890	650	30	50	6	500	1000	3
OTK 224-DNV GL	24	600	400	19	33	5	50	240	2
OTK 324-DNV GL	24	890	650	30	50	6	300	630	3

## KIT CONTENTS

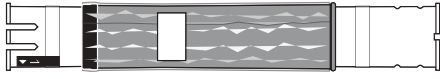
The complete OTK termination kit comprises the following components:

The kit also comprises water sealing mastic and installation instructions.



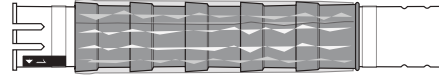
3 x Factory pre-assembled silicone tubes comprising stress relief and sealing mastic.

= 3 x OTK 212/DNV GL termination kit



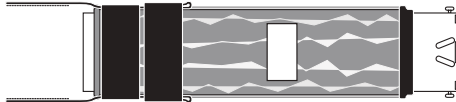
3 x Factory pre-assembled silicone tubes comprising stress relief and sealing mastic.

+



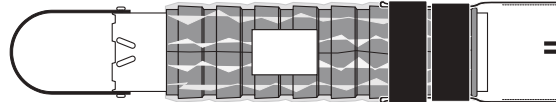
3 x Silicone tube with 5 sheds

= 3 x OTK 224/DNV GL termination kit



3 x Factory pre-assembled silicone tubes comprising stress relief and sealing mastic.

+



3 x Silicone tube with 6 sheds

= 3 x OTK 312/DNV GL  
or  
3 x OTK 324/DNV GL termination kit

## ORDERING INSTRUCTIONS

Select the part number corresponding to both the system voltage and the cable insulation diameter in mm.

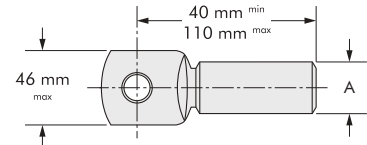
### EXAMPLE:

The copper wire screened cable is 24 kV, 150 mm<sup>2</sup> stranded aluminium.

The diameter over core insulation is 26.2 mm.

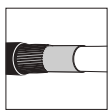
Order a 3 x OTK 224/DNV GL termination kit.

Ordering part number	Voltage Um (kV)	Diameter over core insulation (mm)		Conductor sizes (mm <sup>2</sup> )	
		min	max	min	max
3 x OTK 212/DNV GL	12	14	33	50	400
3 x OTK 312/DNV GL	12	30	50	500	1000
3 x OTK 224/DNV GL	24	19	33	50	240
3 x OTK 324/DNV GL	24	30	50	300	630

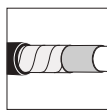


All commercialised European standard cable lugs can be used.

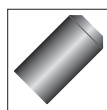
Cable lugs should be within the dimensions specified (not applicable for OTK 312 and OTK 324).



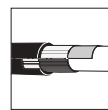
For use with copper wire screened cables. No earthing device is necessary.



For use with copper tape screened cables. Also order a Kit MT.



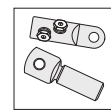
If the cable lug barrel diameter (A) is less than 20 mm: order a rubber adapting sleeve.



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



For use on vessels classed by DNV GL. Add -/DNV GL to part number



Can be supplied with all common types of cable lugs.

# MONOi-DNV GL

## HEAT-SHRINKABLE INDOOR TERMINATION

### APPLICATION

The "MONOi-DNV GL" terminations are a single component solution, for single core polymeric cables.

### SPECIFICATIONS AND STANDARDS

Certified for installation on all vessels classed by DNV GL.



### TECHNICAL DESCRIPTION

The "MONOi-DNV GL" indoor terminations are designed for max system voltages of 36 kV, for compact switchgears as well as for installations where space is limited.

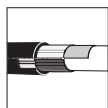
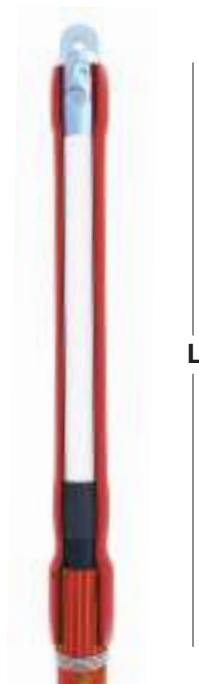
Easy, quick to install, reducing installation time and errors. The kit consists of a stress control mastic strip, a co extruded dual wall tube and red anti-tracking sealing mastic.

Each MONOi termination kit contains material to allow for 3 phase installation.

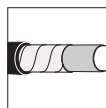


Type tested acc.:  
Cenelec HD 629.1 S2  
IEC 60502-4

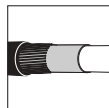
Voltage Um kV	Type	Application range (mm <sup>2</sup> )	L (mm)
12	3x12MONOi 1.95/DNV GL	25 ÷ 95	260
12	3x12MONOi 1.240/DNV GL	70 ÷ 240	260
12	3x12MONOi 1.400/DNV GL	185 ÷ 400	280
12	3x12MONOi 1.630/DNV GL	400 ÷ 630	310
24	3x24MONOi 1.95/DNV GL	25 ÷ 95	320
24	3x24MONOi 1.240/DNV GL	70 ÷ 240	320
24	3x24MONOi 1.400/DNV GL	185 ÷ 400	340
24	3x24MONOi 1.630/DNV GL	400 ÷ 630	370
36	3x36MONOi 1.95/DNV GL	25 ÷ 95	420
36	3x36MONOi 1.240/DNV GL	70 ÷ 240	420
36	3x36MONOi 1.400/DNV GL	185 ÷ 400	440
36	3x36MONOi 1.630/DNV GL	400 ÷ 630	460



For cables with AL foil screen/ vapor screen please contact our sales office.



Please add a the letter "A" at the end of the product code for cables with Cu tape screen.



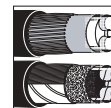
Earth kit included for cables with wire screens.



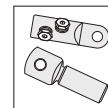
For other cable types please contact our sales office.



For use on vessels classed by DNV GL. Add -/DNV GL to part number



Various earth connection design solutions exist for armoring. For exact details contact our sales office.



Design accommodates various lug types.



Various earth connection kits are available for screen connection. For exact details contact our sales office.





## APPLICATION

The "MONOe-DNV GL" terminations are a single component solution, for single core polymeric cables.

## SPECIFICATIONS AND STANDARDS

Certified for installation on all vessels classed by DNV GL.

## TECHNICAL DESCRIPTION

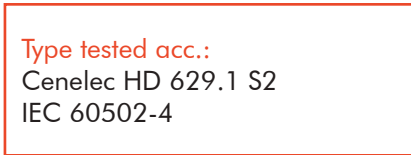
The "MONOe-DNV GL" outdoor terminations are designed for max system voltages of 36 kV.

Easy, quick to install, reducing installation time and errors.

The kit consists of a stress control mastic strip, a co extruded dual wall tube, red anti-tracking sealing mastic and anti-tracking rain sheds.

Each MONOe termination kit contains material to allow for 3 phase installation.

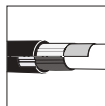
Type tested acc.:  
Cenelec HD 629.1 S2  
IEC 60502-4



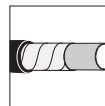
Voltage Um kV	Type	Application range (mm <sup>2</sup> )	L (mm)
12	3x12MONOe 1.95/DNV GL	25÷95	390
12	3x12MONOe 1.240/DNV GL	70÷240	390
12	3x12MONOe 1.400/DNV GL	185÷400	410
12	3x12MONOe 1.630/DNV GL	400÷630	440
24	3x24MONOe 1.95/DNV GL	25÷95	410
24	3x24MONOe 1.240/DNV GL	70÷240	410
24	3x24MONOe 1.400/DNV GL	185÷400	440
24	3x24MONOe 1.630/DNV GL	400÷630	490
36	3x36MONOe 1.95/DNV GL	25÷95	470
36	3x36MONOe 1.240/DNV GL	70÷240	470
36	3x36MONOe 1.400/DNV GL	185÷400	500
36	3x36MONOe 1.630/DNV GL	400÷630	520



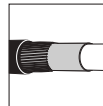
Designed for outdoor application.



For cables with AL foil screen/ vapor screen please contact our sales office.



Please add the letter "A" at the end of the product code for cables with Cu tape screen.



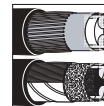
Earth kit included for cables with wire screens.



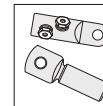
For other cable types please contact our sales office.



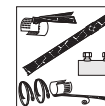
For use on vessels classed by DNV GL. Add -/DNV GL to part number



Various earth connection design solutions exist for armoring. For exact details contact our sales office.



Design accommodates various lug types.



Various earth connection kits are available for screen connection. For exact details contact our sales office.

# MONOi3 W-DNV GL

## HEAT-SHRINKABLE INDOOR TERMINATION

### APPLICATION

"MONOi3 W-DNV GL" heat-shrinkable indoor terminations are designed for armored three core plastic insulated cables with Cu wire or tape screen.

### SPECIFICATIONS AND STANDARDS

Certified for installation on all vessels classed by DNV GL.



### TECHNICAL DESCRIPTION

The "MONOi3 W-DNV GL" indoor terminations are designed for max system voltages of 36kV, for compact switchgears as well as for installations where space is limited.

Easy, quick to install, reducing installation time and errors. The kit consists of a stress control mastic strip, a co extruded dual wall tube and red anti-tracking sealing mastic.

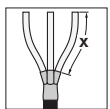
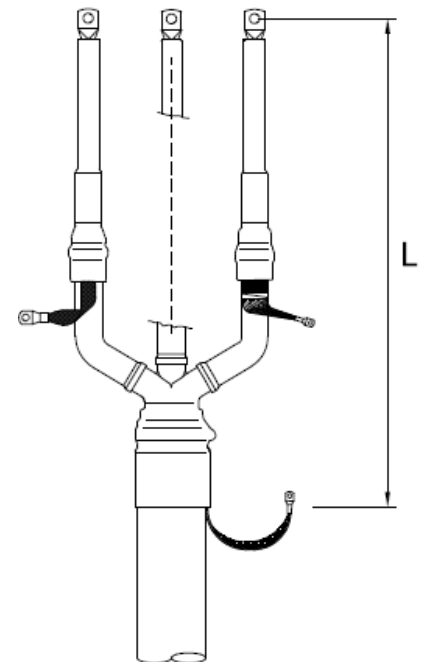
Red anti-tracking break-out and red anti-tracking tubes "GT2" with adjustable length are include in the kit.

Right angle or straight heat-shrinkable boots are available on request.

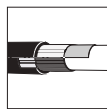


Type tested acc.:  
Cenelec HD 629.1 S2  
IEC 60502-4

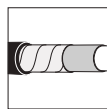
Voltage Um kV	Type	Application range (mm <sup>2</sup> )	L (mm)
12	12MONOI3.95W/DNV GL	25-95	600
12	12MONOI3.240W/DNV GL	70-240	600
12	12MONOI3.300W/DNV GL	120-300	600
12	12MONOI3.500W/DNV GL	300-500	600
24	24MONOI3.95W/DNV GL	25-95	700
24	24MONOI3.240W/DNV GL	70-240	700
24	24MONOI3.400W/DNV GL	185-400	700
36	36MONOI3.95W/DNV GL	25-95	1000
36	36MONOI3.240W/DNV GL	70-240	1000
36	36MONOI3.400W/DNV GL	185-400	1000



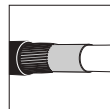
Various tail length exist, please check requirements of your end customer and inform our sales office accordingly.



For cables with AL foil screen/ vapor screen please contact our sales office.



Earth kit included for cables with tape screens.



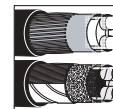
Earth kit included for cables with wire screens.



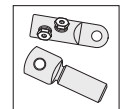
For other cable types please contact our sales office.



For use on vessels classed by DNV GL. Add -/DNV GL to part number



Various earth connection design solutions exist for armoring. For exact details contact our sales office.



Design accommodates various lug types.



## APPLICATION

"MONOe3 W-DNV GL" heat-shrinkable outdoor terminations are designed for armored three core plastic insulated cables with Cu wire or tape screen.

## SPECIFICATIONS AND STANDARDS

Certified for installation on all vessels classed by DNV GL.

## TECHNICAL DESCRIPTION

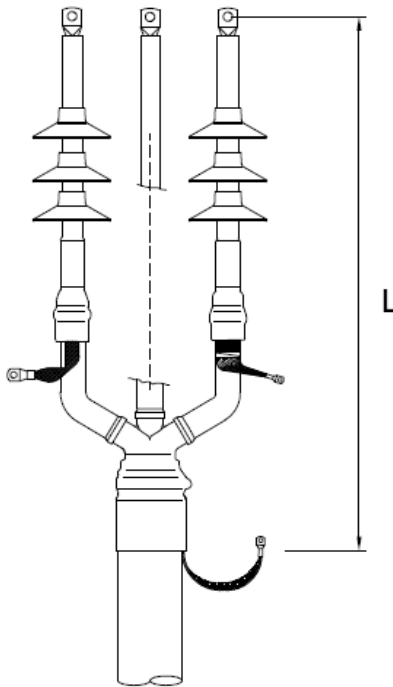
The "MONOe3 W-DNV GL" outdoor terminations are designed for max system voltages of 36 kV Easy, quick to install, reducing installation time and errors.

The kit consists of a stress control mastic strip, a co extruded dual wall tube and red anti-tracking sealing mastic.

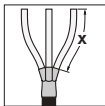
Red anti-tracking break-out and red anti-tracking tubes "GT2" with adjustable length are include in the kit.

Anti-tracking rain sheds complete the terminations.

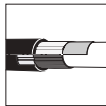
Type tested acc.:  
Cenelec HD 629.1 S2  
IEC 60502-4



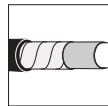
Voltage Um kV	Type	Application range (mm <sup>2</sup> )	L (mm)
12	12MONOe3.95W/DNV GL	25-95	700
12	12MONOe3.240W/DNV GL	70-240	700
12	12MONOe3.300W/DNV GL	120-300	700
12	12MONOe3.500W/DNV GL	300-500	700
24	24MONOe3.95W/DNV GL	25-95	800
24	24MONOe3.240W/DNV GL	70-240	800
24	24MONOe3.400W/DNV GL	185-400	800
36	36MONOe3.95W/DNV GL	25-95	1200
36	36MONOe3.240W/DNV GL	70-240	1200
36	36MONOe3.400W/DNV GL	185-400	1200



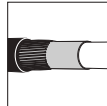
Various tail length exist, please check requirements of your end customer and inform our sales office accordingly.



For cables with AL foil screen/ vapor screen please contact our sales office.



Earth kit included for cables with tape screens.



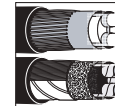
Earth kit included for cables with wire screens.



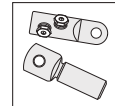
For other cable types please contact our sales office.



For use on vessels classed by DNV GL. Add -/DNV GL to part number



Various earth connection design solutions exist for armoring. For exact details contact our sales office.



Design accommodates various lug types.

### APPLICATION

The 1TTE heat-shrinkable low voltage outdoor termination kits are designed for cables up to 4 cores with or without armor. The adhesive coating on the lug sealing tubes, the breakout body and fingers provides a good environmental seal, while the cores are protected with thin or medium wall tubing. All components are UV resistant.

### SPECIFICATIONS AND STANDARDS

Certified for installation on all vessels classed by DNV GL.



### KIT CONTENTS

- Breakout
- Core protection tube (thin or medium wall sleeves)
- Lug sealing tubes w. adhesive
- For armored cable: Armor continuity kit consist of corrosion protection sleeve and earth braid



Type tested acc. to:  
EN 50393

Type	Application range (mm <sup>2</sup> )
1TTE3 & 1TTE 4.16 W/DNV GL	4 ÷ 16
1TTE3 & 1TTE 4.50 W/DNV GL	16 ÷ 50
1TTE3 & 1TTE 4.150 W/DNV GL	70 ÷ 150
1TTE3 & 1TTE 4.300 W/DNV GL	185 ÷ 300

Kits for unarmored cables

Type	Application range (mm <sup>2</sup> )
1TTE3 & 1TTE 4.16 Z/DNV GL	4 ÷ 16
1TTE3 & 1TTE 4.50 Z/DNV GL	16 ÷ 50
1TTE3 & 1TTE 4.150 Z/DNV GL	70 ÷ 150
1TTE3 & 1TTE 4.300 Z/DNV GL	185 ÷ 300

Kits for armored cables



10/2019



**APPLICATION**

The 1GLT4 GR 1 - 7 low voltage heat-shrinkable straight joint kits are designed for plastic insulated cables in full accordance with DIN47640.

The kits are designed to accommodate the DIN specific mechanical shear bolt connectors (GPH D-Series), and are fully type tested acc. to EN50393. GT4 heavy wall tubing w. adhesive is used to create the joint. The tube is used to insulate the core/connector as well as rebuilding the outer jacket.

**Type tested acc. to:**  
EN50393

**Meets specifications:**  
DIN47640

**TECHNICAL DESCRIPTION**

- 4 x GT4 heavy wall tubing w. adhesive for core insulation
- 4 x GPH D series mechanical shear bolt connectors (only "C" series)
- 1 x GT4 heavy wall tubing w. adhesive to rebuild the outer sheath

**SPECIFICATIONS AND STANDARDS**

Certified for installation on all vessels classed by DNV GL.



Type	Application range (mm <sup>2</sup> )	L (mm)
1GLT4-GR1/DNV GL	4 ÷ 16	420
1GLT4-GR2/DNV GL	16 ÷ 35	430
1GLT4-GR3/DNV GL	25 ÷ 50	500
1GLT4-GR4/DNV GL	35 ÷ 95	710
1GLT4-GR5/DNV GL	35 ÷ 150	890
1GLT4-GR6/DNV GL	95 ÷ 150	890
1GLT4-GR7/DNV GL	95 ÷ 240	1100

Type	Application range (mm <sup>2</sup> )	L (mm)
1GLT4-GR1 C/DNV GL	4 ÷ 16 Cu/Al	420
1GLT4-GR2 C/DNV GL	16 ÷ 35 Cu/Al	430
1GLT4-GR3 C/DNV GL	25 ÷ 50 Cu/Al	500
1GLT4-GR4 C/DNV GL	35 ÷ 95 Cu/Al	710
1GLT4-GR5 C/DNV GL	35 ÷ 150 Cu/Al	890
1GLT4-GR6 C/DNV GL	95 ÷ 150 Cu/Al	890
1GLT4-GR7 C/DNV GL	95 ÷ 240 Cu/Al	1100

With code C the kits are supplied w. mechanical connectors



### CONNECTOR BODY

**Material:** high strength aluminum alloy

**Type:**

D...-S: with inspection hole

D...-T: with oil stop

**Surface:**

D...-V: tin-plated

### BOLTS

**Material:** high strength aluminum alloy

**Surface:** uncoated

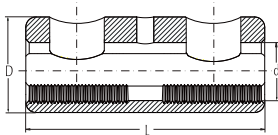
**Type:**

D...:with hexagon socket bolts

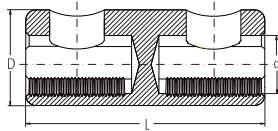
D...-K: with shear-off-head bolts



D...-S



D...-T



### SPECIFICATIONS AND STANDARDS

Certified for installation on all vessels classed by DNV GL.



Cat. no.	AL in mm <sup>2</sup> acc. to EN 60228				CU in mm <sup>2</sup> acc. to EN 60228			CU class 5 in mm <sup>2</sup> acc. to EN 60228		Dimensions mm			Tool/outer and inner hexagon	
	rm round strand.	sm sector strand.	re round solid	se sector solid	rm round strand.	sm sector strand.	re round solid	without contact sleeve	with contact sleeve	L	D	d	shear- off-head bolt	hexagon socket bolt
D1,5-16 SV(-T/-S)-V-K <sup>1),3)</sup> /DNV GL	10-16		10-16		1,5-16		1,5-16	1,5-16		30	12	6,1	SW8	
D1,5-16 SV(-T/-S)-V <sup>1),3)</sup> /DNV GL					1,5-16		1,5-16	1,5-16		30	12	6,1		SW3 <sup>4)</sup>
D1,5-35 SV(-T/-S)-V-K <sup>3)</sup> /DNV GL	10-35	35	10-35	35	1,5-35	35	1,5-35	1,5-35		36	16	9,0	SW5 <sup>2)</sup>	
D10-35 SV(-T/-S)-V(-K) <sup>3)</sup> /DNV GL	10-35	35	10-35	35	10-35	35	10-35	10-35		36	16	9,0	SW8	SW5
D25-50 SV(-T/-S)-V(-K)/DNV GL	25-50	35-50	25-50	35-50	25-50	35-50	25-35	50	25-35 <sup>7)</sup>	36	18	10,0	SW8	SW5
D4-50 SV(-T/-S)-V-K/DNV GL	10-50	35-50	10-50	35-50	4-50	35-50	4-35	50	4-35 <sup>7)</sup>	36	18	10,0	SW5 <sup>2)</sup>	
D16-95 SV(-T/-S)-V(-K)/DNV GL	16-95	35-95	16-95	35-95	16-95	35-95	16-35	95	16-70 <sup>7)</sup>	55	25	14,0	SW10	SW6
D25-150 SV(-T/-S)-V-K/DNV GL	25-150	35-150	25-150	35-150	25-150	35-150	16-35	120-150	35-95 <sup>7)</sup>	70	28	17,0	SW6 <sup>2) 5)</sup>	
D35-150 SV(-T/-S)-V(-K)/DNV GL	35-150	35-150	50-150	50-150	35-150	35-150	35	120-150	25-95 <sup>7)</sup>	70	28	17,0	SW13 <sup>5)</sup>	SW6 <sup>5)</sup>
D25-185 SV(-T/-S)-V-K <sup>6)</sup> /DNV GL	25-185	35-185	25-185	35-185	25-185	35-185	25-35	150	25-120 <sup>7)</sup>	80	32	19,0	SW6 <sup>2)</sup>	
D70-185 SV(-T/-S)-V(-K) <sup>6)</sup> /DNV GL	70-185	70-185	70-185	70-185	70-185	70-185		150-185	70-120 <sup>7)</sup>	80	32	19,0	SW13	SW6
D50-240 SV(-T/-S)-V-K <sup>6)</sup> /DNV GL	50-240	50-240	50-240	50-240	50-240	50-240		240	50-185 <sup>7)</sup>	120	35	22,0	SW8 <sup>2)</sup>	
D120-240 SV(-T/-S)-V(-K) <sup>6)</sup> /DNV GL	120-240	120-240	120-240	120-240	120-240	120-240		240	120-185 <sup>7)</sup>	120	35	22,0	SW13	SW6

<sup>1)</sup> Connector Body: brass

<sup>2)</sup> Double shear-off-head bolt

<sup>3)</sup> Without sector channel

<sup>4)</sup> Hexagon socket bolt, steel

<sup>5)</sup> Bolt, brass (tin-plated)

<sup>6)</sup> With four shear-off-head bolts

<sup>7)</sup> Contact sleeves available on request

# MECHANICAL CABLE LUG 0.6/1 KV WITH SECTOR CHANNEL

# D-SERIES DNV GL



## CONNECTOR BODY

**Material:** high strength aluminum alloy

**Surface:**

D...-V: tin-plated

## SPECIFICATIONS AND STANDARDS

Certified for installation on all vessels classed by DNV GL.



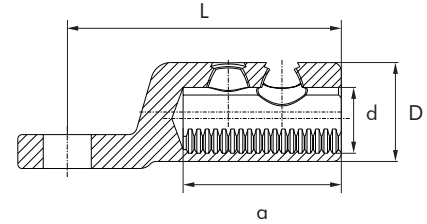
## BOLTS

**Material:** high strength aluminum alloy

**Surface:** uncoated

**Type:**

D...-K: with shear-off-head bolts



Cat. no.	AL in mm <sup>2</sup> acc. to EN 60228,				CU in mm <sup>2</sup> acc. to EN 60228			CU class 5 in mm <sup>2</sup> acc. to EN 60228		Dimensions mm				Tool/ outer and inner hexagon
	rm round strand.	sm sector strand.	re round solid	se sector solid	rm round strand.	sm sector strand.	re round solid	without contact sleeve	with contact sleeve	L	D	d	a	
D1,5-35 x 8 SK-V-K <sup>2)</sup> /DNV GL	10-35	35	10-35	35	1,5-35	35	1,5-35	1,5-35		40	16	9,0	16	SW5 <sup>1)</sup>
D1,5-35 x 10 SK-V-K <sup>2)</sup> /DNV GL														
D10-35 x 8 SK-V-K <sup>2)</sup> /DNV GL	10-35	35	10-35	35	10-35	35	10-35	10-35		40	16	9,0	16	SW8
D10-35 x 10 SK-V-K <sup>2)</sup> /DNV GL														
D25-50 x 10 SK-V-K/DNV GL	25-50	35-50	25-50	35-50	25-50	35-50	25-35	50	25-35 <sup>5)</sup>	40	18	10,0	16	SW8
D25-50 x 12 SK-V-K/DNV GL														
D4-50 x 10 SK-V-K/DNV GL	10-50	35-50	10-50	35-50	4-50	35-50	4-35	50	4-35 <sup>5)</sup>	40	18	10,0	16	SW5 <sup>1)</sup>
D4-50 x 12 SK-V-K/DNV GL														
D16-95 x 10 SK-V-K/DNV GL	16-95	35-95	19-95	35-95	16-95	35-95	16-35	95	16-70 <sup>5)</sup>	52	25	14,0	24	SW10
D16-95 x 12 SK-V-K/DNV GL														
D25-150 x 12 SK-V-K/DNV GL	25-150	35-150	25-150	35-150	25-150	35-150	16-35	120-150	35-95 <sup>5)</sup>	60	28	17,0	31	SW6 <sup>1) 3)</sup>
D25-150 x 16 SK-V-K/DNV GL														
D35-150 x 12 SK-V-K/DNV GL	35-150	35-150	50-150	50-150	35-150	35-150	35	120-150	25-95 <sup>5)</sup>	60	28	17,0	31	SW13 <sup>3)</sup>
D35-150 x 16 SK-V-K/DNV GL														
D50-240 x 12 SK-V-K <sup>4)</sup> /DNV GL	50-240	50-240	50-240	50-240	50-240	50-240		240	50-185 <sup>5)</sup>	97	35	22,0	56	SW8 <sup>1)</sup>
D50-240 x 16 SK-V-K <sup>4)</sup> /DNV GL														
D120-240 x 12 SK-V-K <sup>4)</sup> /DNV GL	120-240	120-240	120-240	120-240	120-240	120-240		240	120-185 <sup>5)</sup>	97	35	22,0	56	SW13
D120-240 x 16 SK-V-K <sup>4)</sup> /DNV GL														

<sup>1)</sup> Double shear-off-head bolt

<sup>2)</sup> Without sector channel

<sup>3)</sup> Bolt, brass (tin-plated)

<sup>4)</sup> With two shear-off-head bolts

<sup>5)</sup> Contact sleeves available on request

Other palm holes on request.



### APPLICATION

Nexans cover NX-FIRE is designed to use standard LV/MV/HV joints in applications in which low smoke emission and resistance to fire are needed. Products is supplied "open" to be easy to install in the field in every conditions.

### TESTS

The cover has been tested according to the following International standards

- IEC 60332-3-22 cat. A (fire propagation test)
- IEC 60331-11 & 21 (fire resistance test)
- BS 6387 cat. C (fire resistance test)
- IEC 61034-1&2 (low smoke emission)
- BS EN50268-2:2000 / BS 6853:1999 Annex B.2 (Low Smoke and Toxic emissions)

### TECHNICAL CHARACTERISTICS

- Designed with different layers of material to withstand high temperatures
- Suitable to protect Low, Medium and High voltage cables from fire.
- All the materials included in the kit are "low smoke emission" and halogen free
- Easy to install thanks to the belts and to the "open" shape
- Available in different sizes and lengths



### SPECIFICATIONS AND STANDARDS

Certified for installation on all vessels classed by DNV GL.



Type	D Min (mm)	D Max (mm)	Length (mm)	Side 1	Side 2
NX-FIRE 1.11/DNV GL	20	85	1100	1 CORE	1 CORE
NX-FIRE 1.11E/DNV GL	20	85	1000	1 CORE	1 CORE





Nexans Power Accessories  
power.accessories@nexans.com  
www.nexans.com/power\_accessories

