Euromold
a Nexans company

Medium voltage separable connectors and bushings
- Interface B -

Catalogue 2014
Euromold
a Nexans company

Nexans Network Solutions
Div. Euromold
COMPANY PRESENTATION

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

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

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

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

While every care is taken to ensure that the information contained in this publication is correct, no legal responsibility can be accepted for any inaccuracy. Nexans Network Solutions N.V. - Div. Euromold reserves the right to alter or modify the characteristics of its products described in this catalogue as standards and technology evolve.
Table of contents
400LR - elbow connector
400TE - tee connector
400T1 - equipment bushing
400AR-1 - equipment bushing
400AR-2 - equipment bushing
400AR-8 - equipment bushing
400SFR-P - equipment bushing
Accessories
Possible arrangements

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

Dia. 56±0.2
Dia. 46±0.2
Dia. for pin 14 -0.04
40 min
90±0.2
11 min
Dia. 70±0.2
## Connecting possibilities

### BUSHINGS / ACCESSORIES

- **Equipment interface**
- **(K)(M)400T1** Equipment bushing
- **(K)(M)400AR-1** Equipment bushing
- **(K)(M)400AR-2** Equipment bushing
- **(K)(M)400AR-8** Equipment bushing
- **(K)400SFR-P** Equipment bushing
- **(K)(M)400SOP** Stand-off plug
- **400GP** Earthing plug

### CONNECTION

- **dead-ending of equipment**
- **one cable to equipment**
- **two cables to equipment**
- **cable isolation**
- **cable earthing**
- **tap-off 630/250A**
- **in-line junction**

### CONNECTORS / ACCESSORIES

- **(K)(M)400DR** Dead-end receptacle
- **(K)(M)400LR/G** Elbow connector
- **(K)(M)400TE/G** Tee connector
- **(K)(M)400RTPA** Reducing tap plug
- **(K)(M)400CP-SC** Connecting plug

---

**Euromold**

a Nexans company
Specifications and standards
The separable connector 400LR meets the requirements of CENELEC HD 629.1.

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 B - 400 A interface as described by CENELEC EN 50180 and 50181.
5. Conductor connector.
6. Cable reducer.
7. Earthing lead.

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

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.

Application
Separable elbow connector (plug-in type) designed to connect polymeric insulated cable to equipment (transformers, switchgear, motors...).

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

Technical characteristics
Up to 36 kV - 400 A

<table>
<thead>
<tr>
<th>Voltage Um (kV)</th>
<th>Current Ir (A)</th>
<th>Conductor sizes (mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>min</td>
<td>max</td>
</tr>
<tr>
<td>400LR/G</td>
<td>12</td>
<td>240</td>
</tr>
<tr>
<td>K400LR/G</td>
<td>24</td>
<td>240</td>
</tr>
<tr>
<td>M400LR/G</td>
<td>36</td>
<td>185</td>
</tr>
</tbody>
</table>
Kit contents
The complete (K)(M)400LR/G elbow connector kit comprises the following components:

- Connector housing [K](M)400BLR/G
- Pin contact + hex. key 400LRF
- Conductor contact 400LRMC-X
- Bail restraint 400BA
- Cable reducer [K](M)400LR/G-W X

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

Ordering instructions
Select the part number which gives the best centring to the cable core insulation diameter and substitute X using table X, according to the conductor size and type. Add a ‘K’ for use up to 24 kV and add an ‘M’ for use up to 36 kV.

### Table W

<table>
<thead>
<tr>
<th>Ordering part number</th>
<th>Dia. over core insulation (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>min</td>
</tr>
<tr>
<td>400LR/G-11-X</td>
<td>12.0</td>
</tr>
<tr>
<td>400LR/G-15-X</td>
<td>16.0</td>
</tr>
<tr>
<td>400LR/G-19-X</td>
<td>20.0</td>
</tr>
<tr>
<td>400LR/G-22-X</td>
<td>23.5</td>
</tr>
<tr>
<td>400LR/G-25-X</td>
<td>26.5</td>
</tr>
<tr>
<td>400LR/G-27-X</td>
<td>28.5</td>
</tr>
</tbody>
</table>

### Table X

<table>
<thead>
<tr>
<th>Conductor sizes (mm²)</th>
<th>Aluminium conductor</th>
<th>Aluminium and copper conductor</th>
<th>Copper conductor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DIN hexagonal</td>
<td>Deep indent</td>
<td>DIN hexagonal</td>
</tr>
<tr>
<td>25</td>
<td>-</td>
<td>-</td>
<td>25(K)M-11-2</td>
</tr>
<tr>
<td>35</td>
<td>35(K)M-12-2</td>
<td>35KM-12-1</td>
<td>35(K)M-11-2</td>
</tr>
<tr>
<td>50</td>
<td>50(K)M-12-2</td>
<td>50KM-12-1</td>
<td>50(K)M-11-2</td>
</tr>
<tr>
<td>70</td>
<td>70(K)M-12-2</td>
<td>70KM-12-1</td>
<td>70(K)M-11-2</td>
</tr>
<tr>
<td>95</td>
<td>95(K)M-12-2</td>
<td>95KM-12-1</td>
<td>95(K)M-11-2</td>
</tr>
<tr>
<td>120</td>
<td>120(K)M-12-2</td>
<td>120KM-12-1</td>
<td>120(K)M-11-2</td>
</tr>
<tr>
<td>150</td>
<td>150(K)M-12-2</td>
<td>150KM-12-1</td>
<td>150(K)M-11-2</td>
</tr>
<tr>
<td>185</td>
<td>185(K)M-12-2</td>
<td>185KM-12-1</td>
<td>185(K)M-11-2</td>
</tr>
<tr>
<td>240</td>
<td>240(K)M-12-2</td>
<td>240KM-12-1</td>
<td>240(K)M-11-2</td>
</tr>
</tbody>
</table>

Example:
The copper wire screened cable is 12 kV, 150 mm² stranded copper with a diameter over core insulation of 23.5 mm. Order a 400LR/G-19-150(K)M-11-2 elbow connector kit.

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

Components can be ordered individually.

---

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 fabric tape (graphite) screened cables. Order additional semi-conductive tape (type TSC).
For use with other cable types. Please contact our representative.
For applications outdoors and in humid climate. Order: +MWS.
Application
Separable tee connector (plug-in type) designed to connect polymeric insulated cable to equipment (transformers, switchgear, motors...).

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.

Specifications and standards
The separable connector 400TE meets the requirements of CENELEC HD 629.1.

<table>
<thead>
<tr>
<th>Separable connector type</th>
<th>Voltage Um (kV)</th>
<th>Current Ir (A)</th>
<th>Conductor sizes (mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400TE/G</td>
<td>12</td>
<td>400</td>
<td>min 70 max 240</td>
</tr>
<tr>
<td>K400TE/G</td>
<td>24</td>
<td>400</td>
<td>min 25 max 240</td>
</tr>
<tr>
<td>M400TE/G</td>
<td>36</td>
<td>400</td>
<td>min 35 max 185</td>
</tr>
</tbody>
</table>

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 B - 400 A interface as described by CENELEC EN 50180 and 50181.
5. Conductor connector.
6. Basic insulating plug (with VD point).
7. Cable reducer.
8. Conductive rubber cap.
9. Clamping pin contact.
10. Bail restraint.
11. Earthing lead.

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

The complete (K)(M)400TE/G elbow connector kit comprises the following components:

- Connector housing: (K)(M)400BT/G
- Clamping pin contact: 400TEF
- Conductor contact: 400TEC-X
- Basic insulating plug + rubber cap: 400T-BA
- Bail restraint: 411CA-W
- Cable reducer: (K)(M)400BIPA

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 and add an 'M' for use up to 36 kV.

### Table X

<table>
<thead>
<tr>
<th>Conductor sizes (mm²)</th>
<th>Aluminium</th>
<th>Copper</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DIN hexagonal</td>
<td>Deep indent</td>
</tr>
<tr>
<td>25</td>
<td>-</td>
<td>35(K)M-12-2</td>
</tr>
<tr>
<td>35</td>
<td>35(K)M-12-2</td>
<td>50(K)M-12-1</td>
</tr>
<tr>
<td>50</td>
<td>50(K)M-12-2</td>
<td>70(K)M-12-1</td>
</tr>
<tr>
<td>70</td>
<td>70(K)M-12-2</td>
<td>95(K)M-12-1</td>
</tr>
<tr>
<td>95</td>
<td>95(K)M-12-2</td>
<td>120(K)M-12-1</td>
</tr>
<tr>
<td>120</td>
<td>120(K)M-12-2</td>
<td>150(K)M-12-1</td>
</tr>
<tr>
<td>150</td>
<td>150(K)M-12-2</td>
<td>185(K)M-12-1</td>
</tr>
<tr>
<td>185</td>
<td>185(K)M-12-2</td>
<td>240(K)M-12-1</td>
</tr>
<tr>
<td>240</td>
<td>240(K)M-12-2</td>
<td>240(K)M-12-1</td>
</tr>
</tbody>
</table>

### Table W

<table>
<thead>
<tr>
<th>Ordering part number</th>
<th>Dia. over core insulation (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>min</td>
</tr>
<tr>
<td>400TE/G-11-X</td>
<td>12.0</td>
</tr>
<tr>
<td>400TE/G-15-X</td>
<td>16.0</td>
</tr>
<tr>
<td>400TE/G-19-X</td>
<td>20.0</td>
</tr>
<tr>
<td>400TE/G-22-X</td>
<td>23.5</td>
</tr>
<tr>
<td>400TE/G-25-X</td>
<td>26.5</td>
</tr>
<tr>
<td>400TE/G-27-X</td>
<td>28.5</td>
</tr>
</tbody>
</table>

### Example:
The copper wire screened cable is 24 kV, 240 mm² stranded aluminium with a diameter over core insulation of 32.1 mm. Order 3 x K400TE/G-27-240(K)M-12-2 tee connector kit.

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

Components can be ordered individually.
**Application**
For use in equipment insulated with oil fluid, typically for transformers, switchgear, capacitors...

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

**Specifications and standards**
The plug-in type equipment bushings are moulded epoxy insulated parts and meet the requirements of IEC 60137. The (K)(M)400T1 also meets CENELEC EN 50180.

**Ordering instructions**
To order the equipment bushing, specify the type. The bushings are supplied with an earth jumper (/J) or an earth plate (/GS). This earth connection must be specified when ordering. E.g. K400AR-1/J.

---

**Equipment bushing type** | **Voltage Um (kV)** | **Current Ir (A)** | **Dimensions (mm)**
--- | --- | --- | ---
400T1 | 12 | 400 | **A** 310<br>**B** 144<br>**C** 30<br>**D** M12<br>**E** 22<br>**Dia. F** 88<br>**Dia. G** 128<br>**Dia. H** 16
K400T1 | 24 | 400 | **A** 310<br>**B** 144<br>**C** 30<br>**D** M12<br>**E** 22<br>**Dia. F** 88<br>**Dia. G** 128<br>**Dia. H** 16
M400T1 | 36 | 400 | **A** 310<br>**B** 144<br>**C** 30<br>**D** M12<br>**E** 22<br>**Dia. F** 88<br>**Dia. G** 128<br>**Dia. H** 16
400AR-1 | 12 | 400 | **A** 380<br>**B** 213<br>**C** 30<br>**D** M12<br>**E** 22<br>**Dia. F** 74<br>**Dia. G** 128<br>**Dia. H** 16
K400AR-1 | 24 | 400 | **A** 380<br>**B** 213<br>**C** 30<br>**D** M12<br>**E** 22<br>**Dia. F** 74<br>**Dia. G** 128<br>**Dia. H** 16
M400AR-1 | 36 | 400 | **A** 380<br>**B** 213<br>**C** 30<br>**D** M12<br>**E** 22<br>**Dia. F** 74<br>**Dia. G** 128<br>**Dia. H** 16
400AR-2 | 12 | 400 | **A** 329<br>**B** 138<br>**C** 36<br>**D** M16<br>**E** 40<br>**Dia. F** 100<br>**Dia. G** 150<br>**Dia. H** 30
K400AR-2 | 24 | 400 | **A** 329<br>**B** 138<br>**C** 36<br>**D** M16<br>**E** 40<br>**Dia. F** 100<br>**Dia. G** 150<br>**Dia. H** 30
M400AR-2 | 36 | 400 | **A** 329<br>**B** 138<br>**C** 36<br>**D** M16<br>**E** 40<br>**Dia. F** 100<br>**Dia. G** 150<br>**Dia. H** 30

---

Minimum oil level:
- 12 kV: 40 mm
- 24 kV: 50 mm
- 36 kV: 75 mm
**FIXINGS FOR EQUIPMENT BUSHINGS**

- **400AR-2/GS Bushing**
  - bushing interface
  - fixing studs
  - sealing gasket

- **400AR-2/J Bushing**
  - bushing interface
  - fixing studs
  - equipment connection

- **400AR-1/J and 400T1/J Bushings**
  - bushing interface
  - fixing studs
  - equipment
  - sealing gasket

---

**Bushing clamping kit**

To order the bushing clamping kit, according to NFC 52-053 standards, simply specify KBCNF-400 (for bushing type 400AR-2).

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

---

**Bushing clamping kit**

To order the bushing clamping kit, simply specify: KBCDS-400B.

Contents:
- 1 x fixing flange
- 6 x stud clamp F
- 1 x sealing gasket.

---

**Bushing clamping kit**

To order the bushing clamping kit, according to DIN 42 538 standards, simply specify KBCD-400B.

Contents:
- 1 x fixing flange B
- 6 x stud clamp E
- 1 x sealing gasket.

---

**Fixing dimensions**

- **Standards NF C 52-053**
  - French standards.

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

---

**Fixing dimensions**

- M10 or M12
  - Min. 55
  - Max. 25
  - 4 fixing studs
  - Dia. 105
  - Dia. 171

- M12
  - Min. 60
  - Max. 30
  - 6 fixing studs
  - Dia. 105
  - Dia. 171

- M10
  - Min. 55
  - Max. 30
  - 6 fixing studs
  - Dia. 90
  - Dia. 140

**Euromold**

*a Nexans company*

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

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

Specifications and standards
The plug-in type equipment bushings 400AR-8 are moulded epoxy insulated parts and meet the requirements of CENELEC EN 50180 and IEC 60137.

Ordering instructions
To order the equipment bushing, specify the type. The bushings can be supplied with an earth jumper (/J). E.g. M400AR-8/J.

400AR-8 INTERFACE B EQUIPMENT BUSHING
Up to 36 kV - 250 A

<table>
<thead>
<tr>
<th>Equipment bushing type</th>
<th>Voltage Um (kV)</th>
<th>Current Ir (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400AR-8</td>
<td>12</td>
<td>250</td>
</tr>
<tr>
<td>K400AR-8</td>
<td>24</td>
<td>250</td>
</tr>
<tr>
<td>M400AR-8</td>
<td>36</td>
<td>250</td>
</tr>
</tbody>
</table>

Minimum oil level:
- 12 kV: 40 mm
- 24 kV: 50 mm
- 36 kV: 75 mm

In mm.
**FIXINGS FOR EQUIPMENT BUSHINGS**

### 400AR-8/J Bushing

- **bushing interface**
- **4 x fixing stud M10**
- **A DIN 42 538 fixing flange**
- **E DIN 42 538 stud clamp**
- **equipment**
- **sealing gasket**
- **equipment connection**
- **tabs for the bail restraint**
- **earth jumper**

### Bushing clamping kit

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

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

### Fixing dimensions standards DIN 42 538

German standards.

In mm.
**Application**
For use in equipment insulated with SF₆ gas.

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

**400SFR-P INTERFACE B EQUIPMENT BUSHING**
Up to 24 kV - 400 A

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

**Design**
The equipment bushing is a moulded epoxy insulated part with a connector interface in accordance with CENELEC EN 50181. The 400SFR-P bushing has a shank outside this standard, adapted for use in SF₆ gas.

**Specifications and standards**
The plug-in type equipment bushing 400SFR-P meets the requirements of CENELEC EN 50180 and IEC 60137.

**Ordering instructions**
To order the equipment bushing, simply specify the type.

<table>
<thead>
<tr>
<th>Equipment bushing type</th>
<th>Voltage Um (kV)</th>
<th>Current Ir (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400SFR-P</td>
<td>12</td>
<td>400</td>
</tr>
<tr>
<td>K400SFR-P</td>
<td>24</td>
<td>400</td>
</tr>
</tbody>
</table>
400SFR-P Bushing for gas insulated switchgear

In mm.
**Accessories**

**Interface B**

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

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

Up to 36 kV

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

**400DR**

**Dead-end receptacle**
Fits over a bushing with a type B interface to provide 'dead-end' facility.
Is used with a 400BA restraint bail.

**Ordering instructions**
Order 400DR for 12 kV, K400DR for 24 kV or M400DR for 36 kV applications.
Can be supplied with integral earth lead: add -/G.

**400SOP**

**Stand-off plug**
Is designed to support and 'dead-end' connectors with a type B interface when removed from equipment.

**Ordering instructions**
Order 400SOP for 12 kV, K400SOP for 24 kV or M400SOP for 36 kV applications.

**400GP**

**Earthing plug**
Is designed to support and earth connectors with a type B interface when removed from equipment.

**Ordering instructions**
Order 400GP for 12 kV, 24 or 36 kV applications.
### 400BIPA
**Basic insulating plug**
Acts as a tightening nut for the 400TE tee connector kit.
The plug contains a voltage detection point.
The conductive rubber protection cap is included.

### 400CP-SC
**Connecting plug**
For connecting a 400TE and one or more 430TB, 400TB or 440TB connectors, thus creating a multiple cable connection to equipment.

### 400RTPA
**Reducing tap plug**
Provides a type A interface to a 400TE connector.
A 'C' spanner, 600SW, is used to tighten the reducing tap plug on to its mating part.

### Kit MT
**Earthing kit for copper tape screened cables**
Contains a tinned copper braid (25 mm² - L=500 mm), a tinned copper wire for cleating and water sealing mastic.

---

### Ordering instructions

- **400BIPA** for 12 kV, K400BIPA for 24 kV or M400BIPA for 36 kV applications.
- **400CP-SC** for 12 kV, K400CP-SC for 24 kV or M400CP-SC for 36 kV applications.
- Order **600SW** for the ‘C’ spanner.
- **Kit MT** for 12 kV, 24 kV or 36 kV applications.
POSSIBLE ARRANGEMENTS

INTERFACE B

400TE/G
Single cable arrangement. Order 400TE/G for 12 kV, K400TE/G for 24 kV or M400TE/G for 36 kV applications.

400TE/G-P2
Dual cable arrangement. Order 400TE/G-P2 for 12 kV, K400TE/G-P2 for 24 kV or M400TE/G-P2 for 36 kV applications.

400TE/G-P4
Single cable arrangement with tap-off. Order 400TE/G-P4 for 12 kV or K400TE/G-P4 for 24 kV applications.
**Connector on stand-off plug**

Order 400SOP for 12 kV, K400SOP for 24 kV or M400SOP for 36 kV applications.

---

**Connector on earthing plug**

Order 400GP for 12 kV, 24 kV and 36 kV applications.

---

**Cable and equipment testing**

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

Distributed by:

Euromold
a Nexans company

Nexans Network Solutions N.V. - Div. Euromold
Zuid III, Industrielaan 12, B-9320 Erembodegem
Tel.: +32 (0)53 85 02 11 • www.euromold.be • sales.euromold@nexans.com

Catalogue also available on CD-ROM, website and Mobile Apps