

## SEPARABLE TEE CONNECTORS (FMCTs-400/1250)

### CHARACTERISTICS

For polymeric cable up to 24kV

Non-loadbreak operation

400 series for 630A (with clamping screw)

The Prysmian range of FORMFIT® Separable Connectors has a wide range of applications including connection to transformers, switchgear units, motors etc. Suitable for indoor and outdoor installations, the connector is entirely protected by a watertight conductive envelope connected to earth.

The connectors are rated for continuous operation at 630 Amp rms, with 900 Amp rms overload (8 hours per 24 hours).

FORMFIT® 400 series of separable connectors are suitable for use with a wide range of polymeric medium voltage cables, including:

- Single core polymeric insulation (PE, XLPE, EPR etc).
- Copper or aluminium conductors (50-630mm<sup>2</sup>).
- Semi-conducting screen either extruded or taped.
- Metallic screen, wire or polylam type.
- Insulation voltage up to 24kV (Um).

### FEATURES & BENEFITS

- No need for special tools, heating, taping or filling
- Vertical, angled or inverted position
- No minimum distance between phases
- Energising may take place immediately after the connector is plugged to its individual bushing, dead end plug etc.
- Connectors packed separately



## DESCRIPTION

### 1. Clamping screw

Copper component, threaded at both ends, for attachment of the mating items: bushing, insulating plug, accessories. A uniform contact pressure is maintained for any combination.

### 2. Conductor contact

The barrel side, sized for the conductor, is of a compression type. Contact with the clamping screw is through the spade.

### 3. Semi-conducting inner screen

Insert of moulded semi-conducting EPDM, enclosing the connecting components, so that ionisation of any air remaining trapped is prevented.

### 4. Semi-conducting outer envelope

Jacket made of semi-conducting EPDM. Its design provides relief of electrical stress as does a cable screen.

### 5. Insulating body

Moulded from insulating EPDM for integral reconstitution of insulation. It maintains a uniform contact pressure on the cable insulation and the interface of the mating items.

### 6. Reducer

Composite EPDM moulding allowing connector adaptation to cables of different cross-sections and voltages.

### 7. Insulating plug

Epoxy component which has a threaded metal insert to accept the clamping screw. (Interface for 600 series mating part)

### 8. Test point

Metallic insert with a hexagonal head. A capacitive voltage divider provides a means of checking that the item is not live before disconnection.

### 9. Cap

Moulded semi-conducting EPDM part, protects and earths the test point during normal use.

### 10. Earth cover

Made of moulded EPDM, ensures watertight protection of the earthing device.

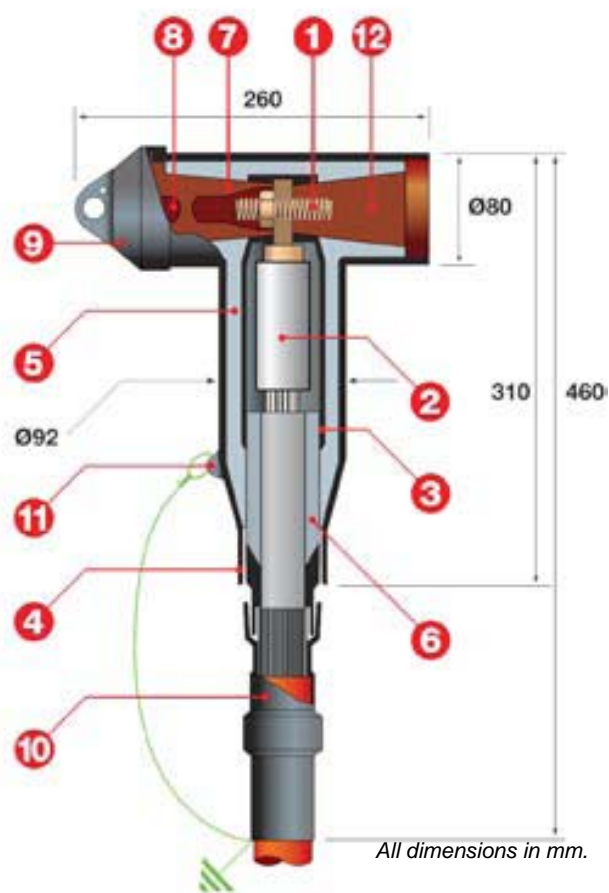
### 11. Earthing Eye

Eye provided for connection of the outer envelope to the cable screen.

### 12. Entrance point

Eye provided for connection of the outer envelope to the cable screen.

## FMCTs-400/1250 Separable Tee Connector



**SELECTION GUIDE**

1. Select from **TABLE A** on the right the kit model corresponding to the diameter over the insulation table.
2. Specify insulation voltage  $U_m$  in kV:  
**12 - 17 - 24**
3. Select from the **TABLE B** (bottom right) the earthing device to suit the cable
4. Select the model of connection end-fitting<sup>(1)</sup> according to:

- Conductor material **C: Copper**  
**A: Aluminium**
- Conductor Size **In mm<sup>2</sup>**

<sup>(1)</sup> Can be crimped or indented by usual tools

**EXAMPLE ORDER**

**Example #1**  
Cable 20kV, 300mm<sup>2</sup>, insulation diameter 33.2mm, aluminium conductor, copper wire screen:  
**FMCTs-400/1250-J-24-T2-A300**

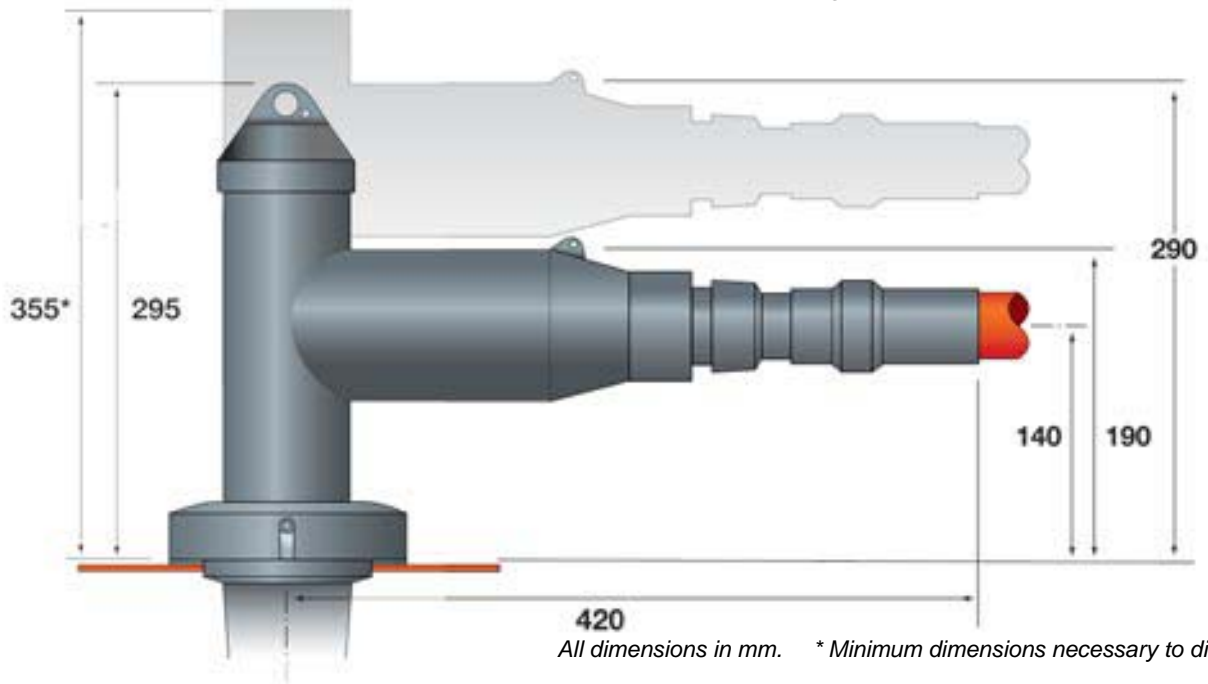
**TABLE A**

| Separable Tee Connector     |      |                  |  |        |      |
|-----------------------------|------|------------------|--|--------|------|
| Diameter over insulation mm |      | Kit Reference    | Conductor size mm <sup>2</sup> (for guidance only) Highest Voltage |        |      |
| MIN                         | MAX  |                  | 12kV   | 17.5kV | 24kV |
| 18.5                        | 20.5 | FMCTs-400/1250-Z | 70   | 50     | 35   |
| 19.7                        | 23.6 | FMCTs-400/1250-A | 120  | 95     | 50   |
| 21.0                        | 24.9 | FMCTs-400/1250-B | 150  | 120    | 70   |
| 22.2                        | 26.2 | FMCTs-400/1250-C |  | 150    | 95   |
| 23.6                        | 27.5 | FMCTs-400/1250-D | 185  |        | 120  |
| 24.9                        | 28.8 | FMCTs-400/1250-E | 240  | 185    | 150  |
| 26.4                        | 30.3 | FMCTs-400/1250-F |  |        |      |
| 27.8                        | 31.8 | FMCTs-400/1250-G | 300  | 240    | 185  |
| 28.5                        | 33.5 | FMCTs-400/1250-H |  | 300    | 240  |
| 31.0                        | 35.0 | FMCTs-400/1250-J | 400  |        | 300  |
| 32.6                        | 36.6 | FMCTs-400/1250-K |  | 400    |      |
| 34.4                        | 38.6 | FMCTs-400/1250-L | 500  |        | 400  |
| 37.7                        | 42.0 | FMCTs-400/1250-M | 630  | 500    |      |
| 38.9                        | 43.4 | FMCTs-400/1250-N |  |        | 500  |
| 40.0                        | 44.5 | FMCTs-400/1250-P |  | 600    |      |
| 42.3                        | 47.1 | FMCTs-400/1250-Q |  |        | 630  |

**TABLE B**

| Earthing Device Reference | Type of Metallic Screen of Cable |
|---------------------------|----------------------------------|
| T1                        | polylam                          |
| T2                        | copper tapes                     |
| T3                        | copper wires                     |

**FMCTs-400/1250** Separable Tee Connector  
Overall dimensions (mounted on bushing)



All dimensions in mm. \* Minimum dimensions necessary to disconnect.

Make the right connection...

## ACCESSORIES FOR 400A SEPARABLE CONNECTORS

### FMPCs-400 Straight Connecting Plug



- Epoxy resin moulding over a copper rod for connecting two separable tee connectors (FMCTs 400/1250), in combinations such as disconnectable cable joint and tee off dual cable supply.
- Connection to rod by the clamping screws of the connectors. Screening of the connecting components. Integral reconstitution of insulation and protection continuity.
- Operated when de-energised.
- References: **12kV - FMPCs-400-12**  
**24kV - FMPCs-400-24**  
**36kV - FMPCs-400-36**
- Packing: Single Unit

### FMPCs-400 Bushing



- In-oil isolated apparatus (transformers, switchgear)
- Indoor or outdoor installation.
- Insulation voltages up to 36kV (Um).
- Continuous 400A rms  
Overload 600A rms (8 hours per 24 hour period).
- Operates when de-energised.
- Interchangeable with 1000A porcelain bushings.
- Packing: supplied as 3 piece kit.

### FMPI-400 Insulating Plug



- Epoxy resin moulding which provides a dead-end facility for separable tee connectors
- Operated when de-energised.
- Capacity voltage divider included in casting, protected by a cap of semi-conducting EPDM.
- References: **12kV - FMPI-400-12**  
**24kV - FMPI-400-24**  
**36kV - FMPI -400-36**
- Packing: Single Unit (with cap)

### STANDARDS

Master specification PRYSMIAN SP.5 Generally meet the requirements of IEC 540 - EDF HN 52-S-61 - ANSI/IEE 386 - NF C 33-051 - NFC33-001 - DIN 52 278 - CEI 20/24.

### QUALITY ASSURANCE

Certified to ISO 9001

### OTHER PRODUCTS

We also supply other accessories from the 400 series  
Details available on request