

# SEPARABLE TEE CONNECTORS (FMCTs-400)

## CHARACTERISTICS

**For polymeric cable up to 36kV  
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 (25-300mm<sup>2</sup>)
- Semi-conducting screen either extruded or taped
- Metallic screen, wire or polylam type
- Insulation voltage up to 36kV (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

Steel silver-plated 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. Its connection to the cable screen ensures that the assembly is maintained at earth potential.

### 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.

### 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.

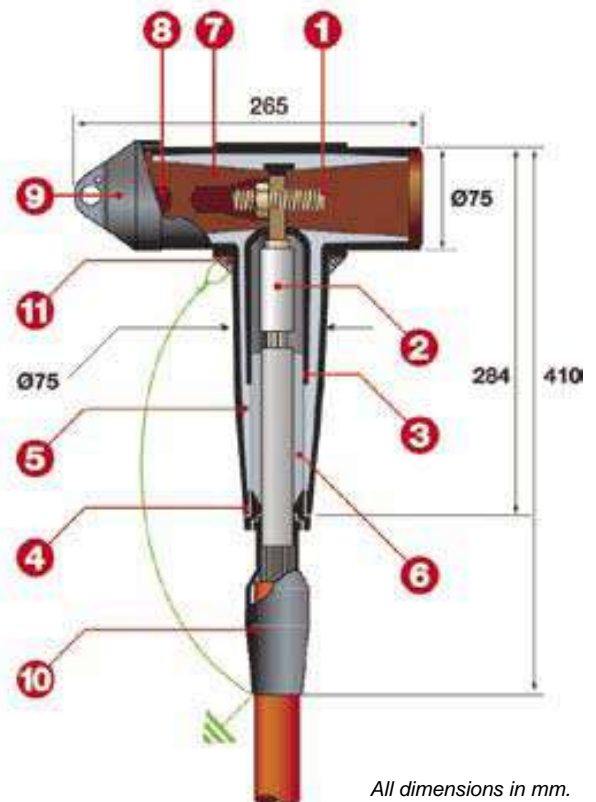
### 10. Earth cover

Made of moulded EPDM, ensures water tight protection of the earthing device.

### 11. Earthing Eye

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

## FMCTs-400 Separable Tee Connector



All dimensions in mm.

## 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 - 17.5 - 24 - 36**

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, 95mm<sup>2</sup>, insulation diameter 23.2mm, aluminium conductor, copper tape screen. Assembly on bushing with threaded contact:

**FMCTs-400-C-24-T2-A95**

**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 | 36kV        |
| 18.5                        | 20.5 | FMCTs-400-Z   | 70   | 50     | 35   |             |
| 19.9                        | 21.9 | FMCTs-400-A   | 95   | 70     | 50   |             |
| 21.4                        | 23.5 | FMCTs-400-B   | 120  | 95     | 70   | 25          |
| 22.9                        | 25.1 | FMCTs-400-C   | 150  | 120    | 95   | 35          |
| 24.4                        | 26.6 | FMCTs-400-D   | 185  | 150    | 120  | 50          |
| 26.0                        | 28.3 | FMCTs-400-E   | 240  | 185    | 150  | 70          |
| 27.8                        | 30.4 | FMCTs-400-F   | 300*   | 240    | 185  | 95          |
| 29.8                        | 32.7 | FMCTs-400-G   |  | 300*   | 240  | 120/<br>150 |
| 31.8                        | 35.3 | FMCTs-400-H   |  |        | 300* | 185         |
| 34.1                        | 38.3 | FMCTs-400-J   |  |        |      | 240         |

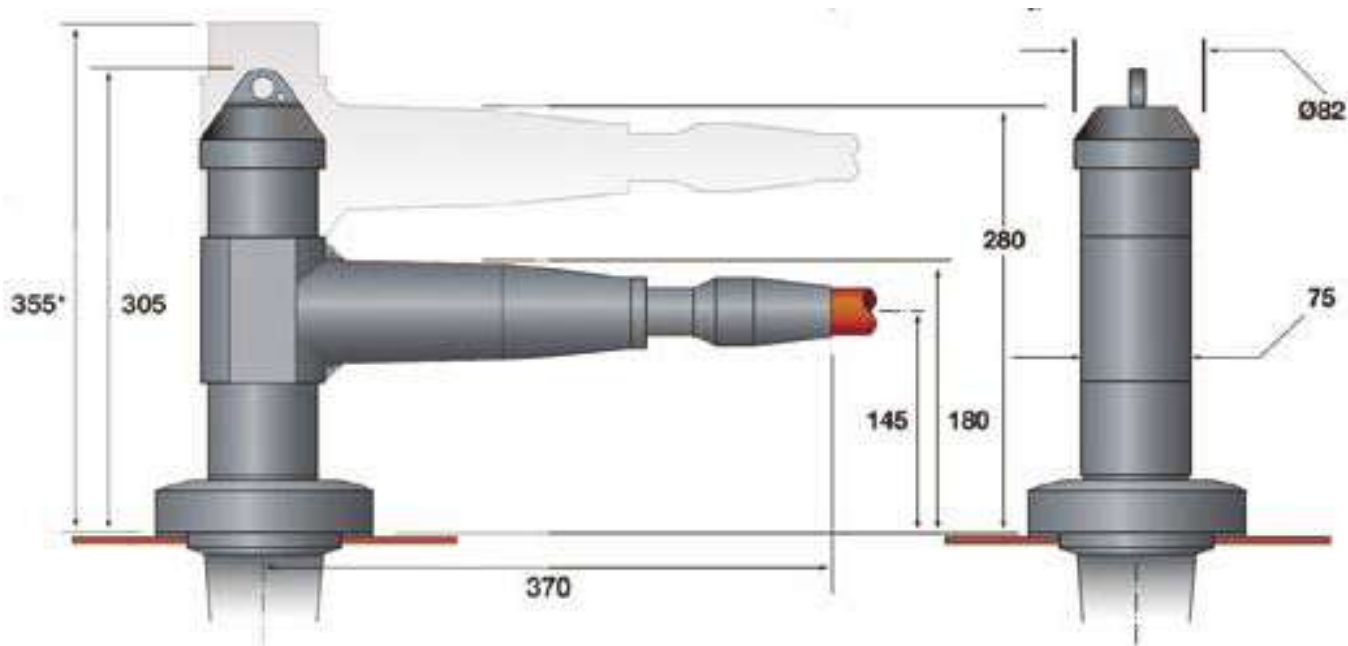
\* Consult us

**TABLE B**

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

## FMCTs-400 Tee Connector

Overall dimensions (mounted on bushing)



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

## ACCESSORIES FOR 400A SEPARABLE CONNECTORS

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### FMPS-400 Stand-Off Plug



- EPDM moulding designed to support and dead-end separable connectors when removed from the equipment.
- The stand-off plug is fitted with a metallic mounting. A part moulded-in, semi-conducting EPDM provides electrical continuity with the connector jacket.
- Operated when de-energised.
- References: **12kV - FMPS-400-12**  
**24kV - FMPS-400-24**  
**36kV - FMPS-400-36**
- Packing: Single Unit

### FMPE-400 Earthing Plug



- EPDM moulding designed to support and earth separable connectors when removed from the equipment
- The earthing plug is equipped with a metallic mounting
- References: **FMPE-400**
- Packing: Single Unit

### FMPCs-400 Straight Connecting Plug



- Epoxy moulding over a copper rod for connecting two separable tee connectors (FMCTs-400), 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.
- References: **12kV - FMPCs-400-12**  
**24kV - FMPCs-400-24**  
**36kV - FMPCs -400-36**
- Packing: Single Unit

### STANDARDS

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

### QUALITY ASSURANCE

Certified to ISO 9001

### OTHER PRODUCTS

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