

# 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.

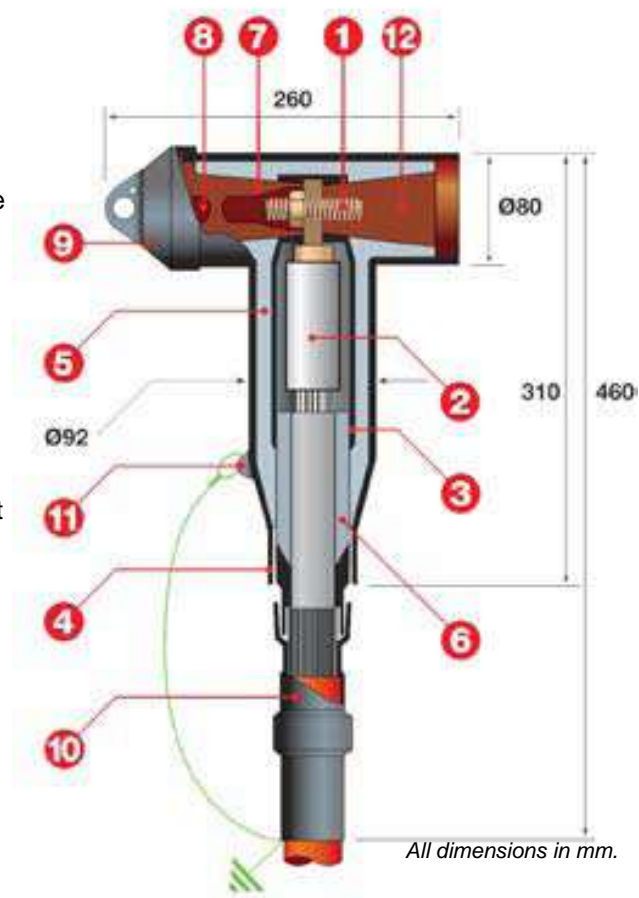
### 11. Earthing Eye

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**

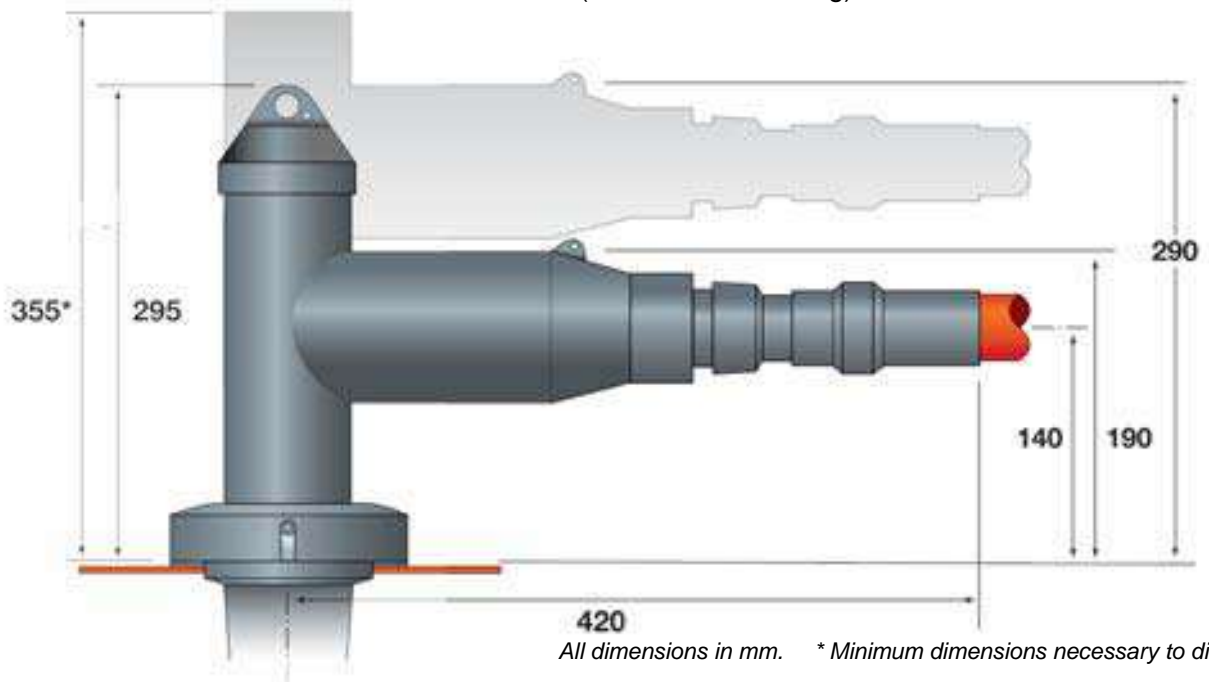
Separable Tee Connector					
Diameter over insulation mm		Kit Reference	Conductor size mm <sup>2</sup> (for guidance only) Highest Voltage		
MIN	MAX		12kV	17.5kV	24kV
18.5	20.5	FMCTs-400/1250-Z	70	50	35
19.7	23.6	FMCTs-400/1250-A	120	95	50
21.0	24.9	FMCTs-400/1250-B	150	120	70
22.2	26.2	FMCTs-400/1250-C		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.

## ACCESSORIES FOR 400A SEPARABLE CONNECTORS

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### 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
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### 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.
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### 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)
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### 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