



Power Systems for Topside and Subsea Applications

Power Connectors for Topside and Subsea Applications



Withstand the Hazards of Offshore

At TE Connectivity (TE), we want to help you solve your toughest challenges for deeper and more stringent applications, whether it is for oil and gas production that goes deeper and deeper with harsher and harsher environment or for cost-effective marine renewable energies. With the trusted brands of DEUTSCH, Raychem, Rochester, and SEACON, we create engineered technology solutions tailor-made to your specific applications and projects, applying the most stringent design codes and qualification standards. We have the widest range of wetmate and drymate connectors and penetrators for subsea applications today. Enabling us to offer turnkey system solutions for enhanced oil recovery, production, and well access systems.



Find the Right Power Connector for Your Application

- Dry-mate, splash-zone, or wet-mate
- Explosion-proof versions meeting ATEX/CSA requirements for increased topside safety
- A variety of voltage and current ratings to meet your exact application needs

Create Rugged Systems

- Complete systems, including penetrators, wet-mate connectors, jumpers, etc.
- Robust performance under extreme pressures and corrosive conditions



Receive Superior Service and Support

- Strong engineering capabilities for technology or product development and also during project execution
- All integrated facility including machining, assembly and test lab for full control of the manufacturing process
- ISO 9001 and OSHAS 180001 certified facility

Reduce Risk with Our World-Class On-Site Test Laboratory

- High-pressure test tanks to evaluate performance under pressure, temperature extremes, and water turbidity
- Environmental and gas testing simulation equipment
- Faraday cages for high-voltage testing to 200 kV

TE Components . . . TE Technology . . . TE Know-how . . .

AMP | AGASTAT | CII | HARTMAN | KILOVAC | MICRODOT | NANONICS | POLAMCO | Raychem
SEACON | Rochester | DEUTSCH

Empower Engineers to Solve Problems, Moving the World Forward.



P6-MD300 Quick-Connect/Disconnect Connectors

Explosion Proof for Splash Zone Turret Applications

- Bayonet quick connect/disconnect
- Splash zone mateable
- Explosion proof certified

Applications

- Disconnectable FPSO turret
- Shallow water umbilical splices
- Marine renewable energy

Electrical Characteristics

- **Number of Contacts:** 3
- **Rated Voltage $U_0/U(U_m)$:** 6/10 (12) kV
- **Maximum Rated Current:** 300 A
- **Rated Power Frequency:** 15 to 85 Hz
- **Insulation Resistance @5 kVDC:** >5 G Ω
- **Contact Resistance:** <0.1 m Ω per contact

Mechanical Characteristics

- **Rated Water Depth:** 400 m
- **Rated Number of Mating Cycles:** 100
- **Body Material:** AISI 316L stainless steel
- **Insulation Material:** PEEK

Environmental Characteristics

- **Rated Temperature:** (0°C to +45°C)
- **Storage Temperature Range:**
-25°C to +60°C
- **Design Life:** 20 years

Additional Characteristics

- **Qualification Standard:** ATEX, CSA and IECEx field certified. Protection mode: Flameproof enclosure “d” of the EN 60079-1

Notes

Can be deployed initially in 3000 m water depth





HydraElectric 10kV System*

6/10 (12) kV, 400 A for Depths to 3000 m

- Umbilical cable termination
- Wet mate
- Jumpers (straight termination)
- Penetrators
- Dry-mate cable termination
- Diode shunted caps

Applications

- Subsea pumping
- Subsea water injection
- Subsea power distribution
- Subsea electrical heating

Electrical Characteristics

- **Number of Contacts:** 1
- **Rated Voltage U_0/U (U_m):** 6/10 (12) kV
- **Maximum Rated Current:** 400 A
- **Rated Power Frequency:** 15 to 120 Hz
- **Insulation Resistance @5 kVDC:** >10 G Ω
- **Contact Resistance:** <0.1 m Ω per contact

Mechanical Characteristics

- **Rated Water Depth:** 3000 m
- **Rated Number of Mating Cycles:** 30
- **Differential Pressure Rating:** (internal-ambient) 345 bar (5000 psi) @ 400A
888 bar (13,000 psi) @ 250A
1034 bar (15,000 psi) @ 400A
- **Differential Pressure Rating:** (ambient-internal) 300 bar
- **Body Material:** Super Duplex
- **Insulation Material:** PEEK
- **Insulation Material (Penetrators):** PEEK or ceramic

Environmental Characteristics

- **Rated Temperature (Seawater):** -5°C to +30°C
- **Rated Internal Temperature:** 80°C @ 345 bar (5000 psi)
121°C @ 888 bar (13,000 psi)
80°C @ 1034 bar (15,000 psi)
- **Storage Temperature Range:** -25°C to +60°C
- **Design Life:** 20 years

Additional Characteristics

- **Qualification Standard:** TD0153, Final Ver. 1

Notes

Additional qualification standards or features available or possible to develop, please contact us

* Formerly Deutsch Offshore P6-SW400





HydraElectric 10kV + System*

6/10 (12) kV, 1600 A, 200 Hz for Depths to 2000 m

- Wet mate
- Jumpers (straight or elbow termination)
- Penetrators
- Dry-mate cable termination
- Insulated caps

Applications

- Subsea gas compression
- Subsea electrical heating

Electrical Characteristics

- **Number of Contacts:** 1
- **Rated Voltage U_0/U (U_m):** 6/10 (12) kV
- **Maximum Rated Current:** 1800 A
- **Rated Power Frequency:** 15 to 200 Hz
- **Insulation Resistance @5 kVDC:** >10 G Ω
- **Contact Resistance:** <0.05 m Ω per contact

Mechanical Characteristics

- **Rated Water Depth:** 2000 m
- **Rated Number of Mating Cycles:** 100
- **Differential Pressure Rating:**
(internal-ambient) 204 bar (dry gas)
220 bar (wet gas)
- **Differential Pressure Rating:**
(ambient-internal) 200 bar
- **Body Material:** Super Duplex or 6Mo
- **Insulation Material:** PEEK
- **Insulation Material (Penetrators):**
PEEK or ceramic

Environmental Characteristics

- **Rated Temperature (Seawater):**
-1°C to +15°C
- **Rated Internal Temperature:** 50°C
- **Interfacing Internal Media:** Nitrogen,
dry or wet gas, or dielectric oil
- **Rated Temperature Range:**
-1°C to +15°C
- **Storage Temperature Range:**
-25°C to +60°C
- **Design Life:** 25 years

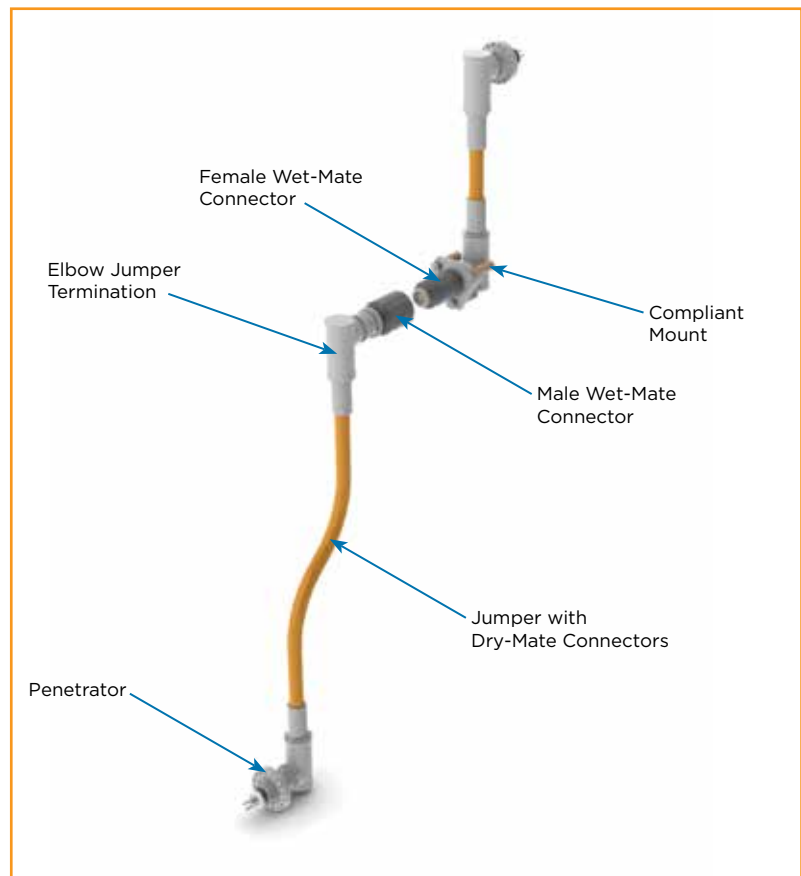
Additional Characteristics

- **Qualification Standard:** NHT-E51-00029
Rev03M

Notes

Additional qualification standards or features available or possible to develop, please contact us

* Formerly Deutsch Offshore P6-SW1600





HydraElectric 30kV System*

18/30 (36) kV, 400 A for Depths to 3000 m

- Umbilical cable termination
- Wet mate
- Jumpers (straight termination)
- Penetrators
- Direct or dry-mate cable termination
- Insulated caps

Applications

- Subsea pumping
- Subsea gas compression
- Subsea power distribution
- Subsea electrical heating

Electrical Characteristics

- **Number of Contacts:** 1
- **Rated Voltage U_0/U (U_m):** 18/30 (36) kV
- **Maximum Rated Current:** 400 A
- **Rated Power Frequency:** 15 to 200 Hz
- **Insulation Resistance @5 kVDC:** >10 G Ω
- **Contact Resistance:** <0.1 m Ω per contact

Mechanical Characteristics

- **Rated Water Depth:** 3000 m
- **Rated Number of Mating Cycles:** 30
- **Differential Pressure Rating:**
(internal-ambient) 300 bar
- **Differential Pressure Rating:**
(ambient-internal) PBOF (± 10 bar)
- **Body Material:** Super Duplex or 6Mo
- **Insulation Material:** PEEK
- **Insulation Material (Penetrators):** PEEK

Environmental Characteristics

- **Rated Temperature (Seawater):**
-5°C to +30°C
- **Rated Internal Temperature:** 60°C
- **Interfacing Internal Media:** Nitrogen or dielectric oil
- **Rated Temperature Range:**
-5°C to +30°C
- **Storage Temperature Range:**
-25°C to +60°C
- **Design Life:** 25 years

Additional Characteristics

- **Qualification Standard:** TD0153, Final Ver. 1

Notes

Additional qualification standards or features available or possible to develop, please contact us

* Formerly Deutsch Offshore P18-SW400





HydraElectric 30kV + System*

18/30 (36) kV, 900 A for Depths to 2000 m

- Wet mate
- Jumpers (straight termination)
- Penetrators
- Dry-mate cable termination
- Insulated caps

Applications

- Subsea pumping
- Subsea gas compression
- Subsea power distribution
- Subsea electrical heating

Electrical Characteristics

- **Number of Contacts:** 1
- **Rated Voltage U_0/U (U_m):** 18/30 (36) kV
- **Maximum Rated Current:** 900 A
- **Rated Power Frequency:** 15 to 70 Hz
- **Insulation Resistance @5 kVDC:** >10 G Ω
- **Contact Resistance:** <0.1 m Ω per contact

Mechanical Characteristics

- **Rated Water Depth:** 2000 m
- **Rated Number of Mating Cycles:** 100
- **Differential Pressure Rating:**
(internal-ambient) 200 bar
- **Differential Pressure Rating:**
(ambient-internal) 200 bar
- **Body Material:** Super Duplex or 6Mo
- **Insulation Material:** PEEK
- **Insulation Material (Penetrators):** PEEK

Environmental Characteristics

- **Rated Temperature (Seawater):**
-5°C to +40°C
- **Rated Internal Temperature:** 50°C
- **Interfacing Internal Media:** Nitrogen or dielectric oil
- **Rated Temperature Range:**
-5°C to +30°C
- **Storage Temperature Range:**
-25°C to +60°C
- **Design Life:** 25 years

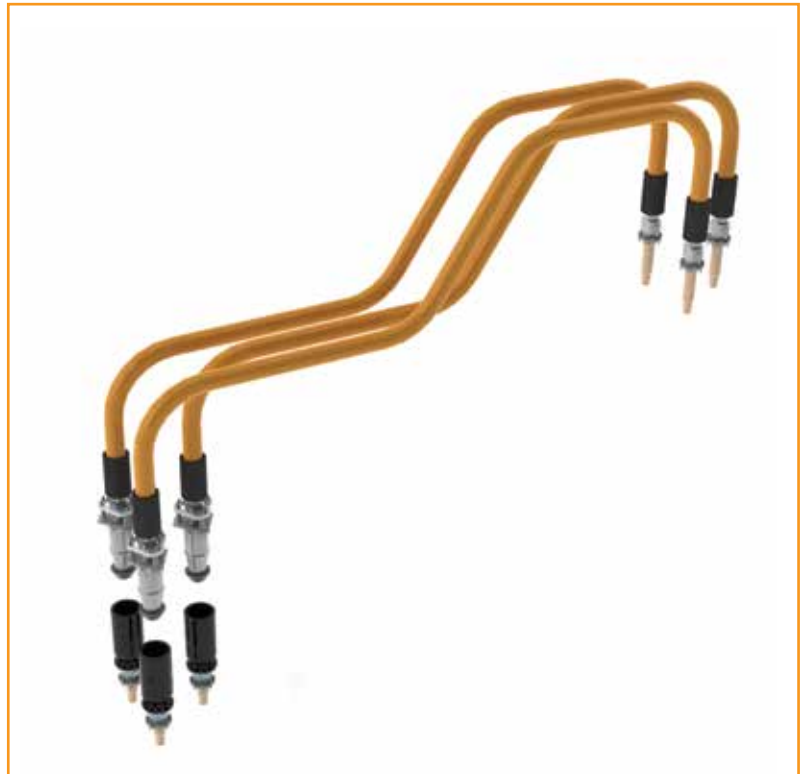
Additional Characteristics

- **Qualification Standard:** NHT-E51-00029 Rev03M

Notes

Additional qualification standards or features available or possible to develop, please contact us

* Formerly Deutsch Offshore P18-SW900



LET'S CONNECT

We make it easy to connect with our experts and are ready to provide all the support you need. Just call your local support number or visit www.te.com/industrial to chat with a Product Information Specialist.

Technical Support

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Consult TE for the latest dimensions and design specifications.

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