Power Connectors for Topside and Subsea Applications

iS Rayfast

TE connectivity

DEUTSCH

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, and Rochester, we create engineered technology solutions tailor-made to your specific applications and projects, applying the most stringent design codes and qualification standards. This helps to allow you to produce your products in the safest way and with the highest possible reliability. We can propose one of the widest ranges of wet-mate and dry-mate connectors, penetrators, and jumpers to solve almost any connectivity challenge for power application

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

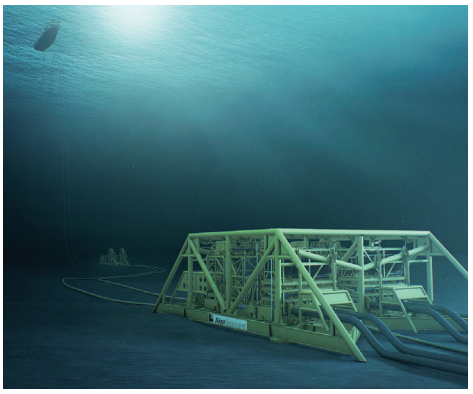
TE Components . . . TE Technology . . . TE Know-how . . .

AMP | Agastat | CII | Hartman | Kilovac | Microdot | Nanonics | Raychem | Rochester | DEUTSCH

Get your product to market faster with a smarter, better solution.

Go to: DesignSmarterFaster.com.
Your best place to get started, today!

Here you can get connected to the inner circle of TE AD&M's best thinkers. Working together early in your design review process, we can help you reach a better connectivity solution.



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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 Uo/U (Um):** 6/10 (12) kV
- **Maximum Rated Current:** 300 A
- **Rated Power Frequency:** 15 to 85 Hz
- **Insulation Resistance @5 kVDC:** >5 GΩ
- **Contact Resistance:** <0.1 mΩ 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 -1°C to 60°C (in air):** (in air)
- **Storage Temperature Range:** -25°C to 60°C
- **Design Life:** 20 years

Additional Characteristics

- **Qualification Standard:** IEC60079-00 & IEC 60079-1 Ex d IIB T4..T6

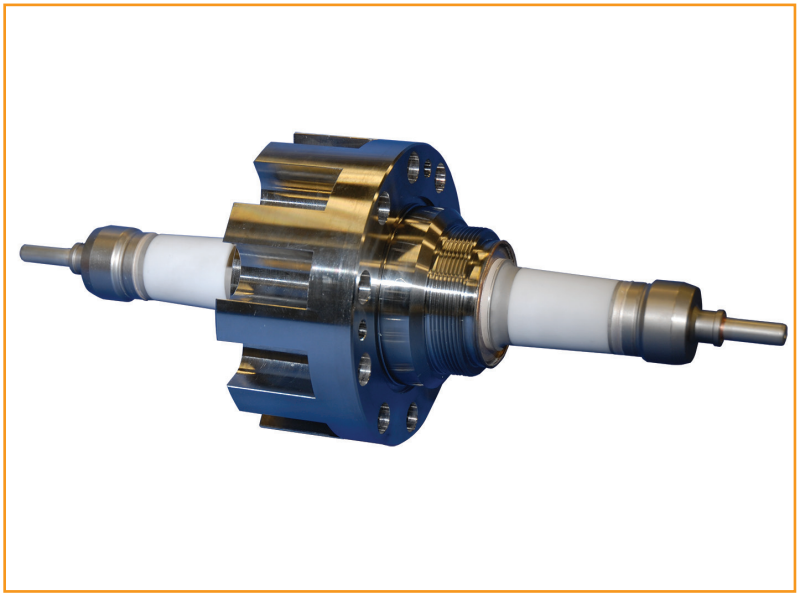
Notes

Can be deployed initially in 3000 m water depth

P6-SW400 Wet-Mate Connection 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 Uo/U (Um):** 6/10 (12) kV
- **Maximum Rated Current:** 400 A
- **Rated Power Frequency:** 15 to 120 Hz
- **Insulation Resistance @5 kVDC:** >10 GΩ
- **Contact Resistance:** <0.1 mΩ 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

P6-SW1600 Wet-Mate Connection 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 Uo/U (Um):** 6/10 (12) kV
- **Maximum Rated Current:** 1800 A
- **Rated Power Frequency:** 15 to 200 Hz
- **Insulation Resistance @5 kVDC:** >10 GΩ
- **Contact Resistance:** <0.05 mΩ 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
- **Storage Temperature Range:** -25°C to 70°C
- **Design Life:** 25 years

Additional Characteristics

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

Notes

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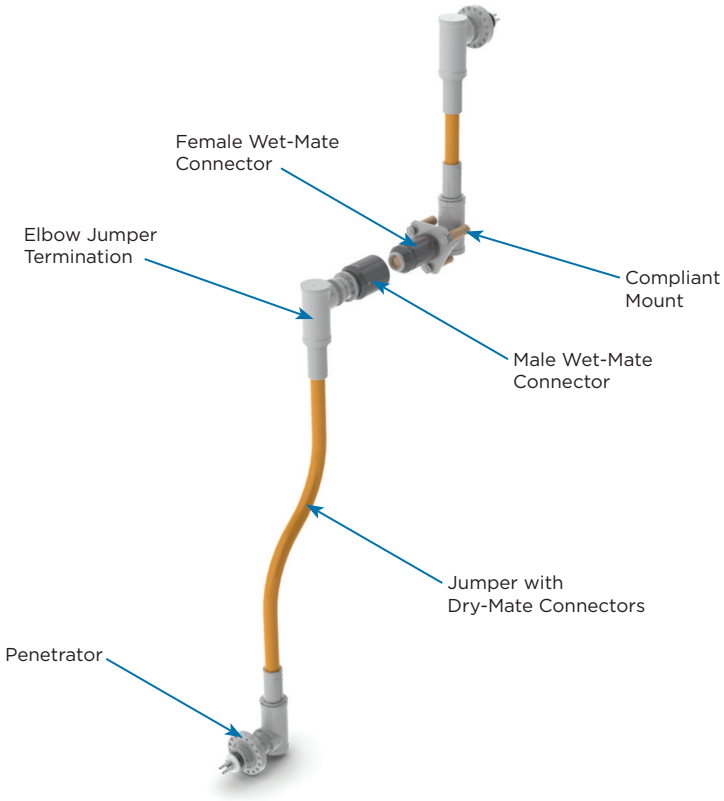
Wet-Mate Connectors

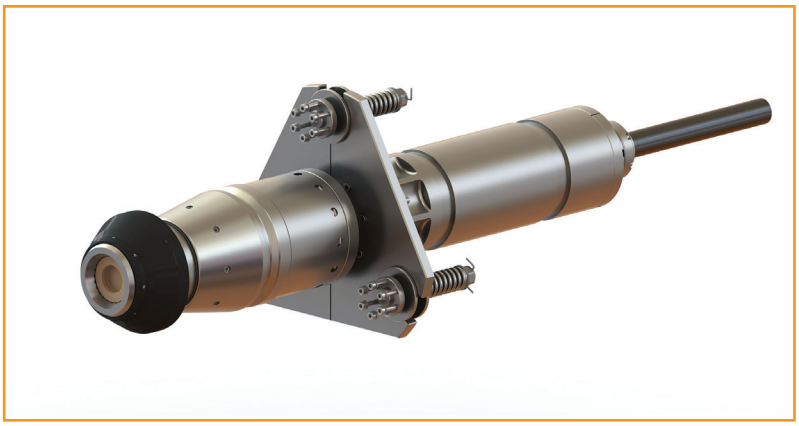
Penetrators



P18-SW400 Wet-Mate Connection 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 Uo/U (Um):** 18/30 (36) kV
- **Maximum Rated Current:** 400 A
- **Rated Power Frequency:** 15 to 200 Hz
- **Insulation Resistance @5 kVDC:** >10 GΩ
- **Contact Resistance:** <0.1 mΩ 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
- **Storage Temperature Range:** -25°C to 60°C
- **Design Life:** 25 years

Additional Characteristics

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

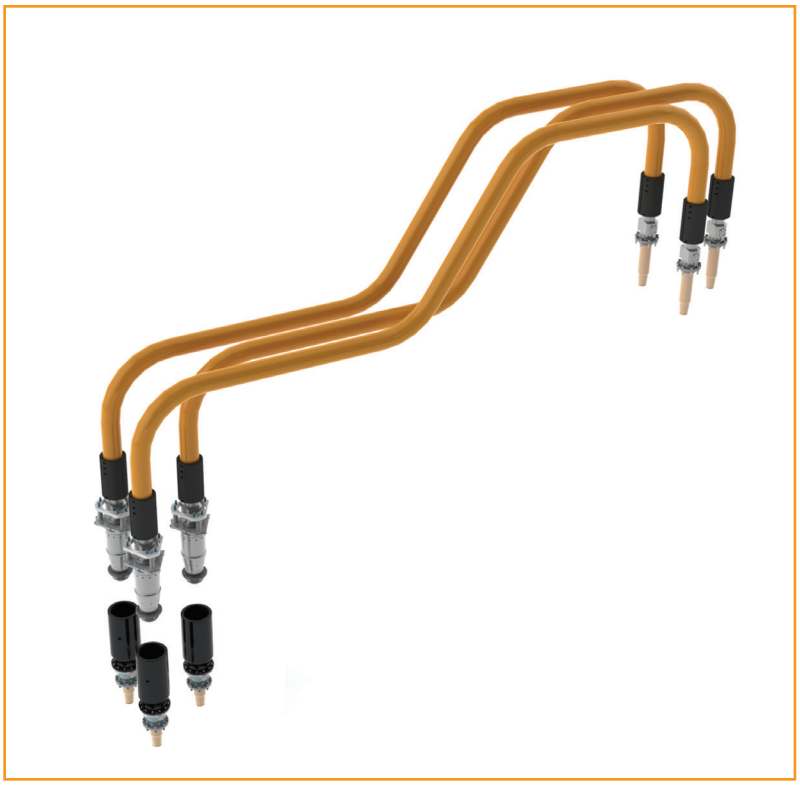
Notes

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

P18-SW900 Wet-Mate Connection 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 Uo/U (Um):** 18/30 (36) kV
- **Maximum Rated Current:** 900 A
- **Rated Power Frequency:** 15 to 70 Hz
- **Insulation Resistance @5 kVDC:** >10 GΩ
- **Contact Resistance:** <0.1 mΩ 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
- **Storage Temperature Range:** -25°C to 70°C
- **Design Life:** 25 years

Additional Characteristics

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

Notes

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