

The background of the entire page is a dense, overlapping collage of various SubConn connectors. These include circular connectors with different pin counts (4, 6, 8, 12, 16, 20, 24, 30, 36, 40, 48, 60, 72, 96, 120, 144, 168, 192, 216, 240, 288, 312, 336, 360, 384, 408, 432, 456, 480, 504, 528, 552, 576, 600, 624, 648, 672, 696, 720, 744, 768, 792, 816, 840, 864, 888, 912, 936, 960, 984, 1008, 1032, 1056, 1080, 1104, 1128, 1152, 1176, 1200, 1224, 1248, 1272, 1296, 1320, 1344, 1368, 1392, 1416, 1440, 1464, 1488, 1512, 1536, 1560, 1584, 1608, 1632, 1656, 1680, 1704, 1728, 1752, 1776, 1800, 1824, 1848, 1872, 1896, 1920, 1944, 1968, 1992, 2016, 2040, 2064, 2088, 2112, 2136, 2160, 2184, 2208, 2232, 2256, 2280, 2304, 2328, 2352, 2376, 2400, 2424, 2448, 2472, 2496, 2520, 2544, 2568, 2592, 2616, 2640, 2664, 2688, 2712, 2736, 2760, 2784, 2808, 2832, 2856, 2880, 2904, 2928, 2952, 2976, 3000, 3024, 3048, 3072, 3096, 3120, 3144, 3168, 3192, 3216, 3240, 3264, 3288, 3312, 3336, 3360, 3384, 3408, 3432, 3456, 3480, 3504, 3528, 3552, 3576, 3600, 3624, 3648, 3672, 3696, 3720, 3744, 3768, 3792, 3816, 3840, 3864, 3888, 3912, 3936, 3960, 3984, 4008, 4032, 4056, 4080, 4104, 4128, 4152, 4176, 4200, 4224, 4248, 4272, 4296, 4320, 4344, 4368, 4392, 4416, 4440, 4464, 4488, 4512, 4536, 4560, 4584, 4608, 4632, 4656, 4680, 4704, 4728, 4752, 4776, 4800, 4824, 4848, 4872, 4896, 4920, 4944, 4968, 4992, 5016, 5040, 5064, 5088, 5112, 5136, 5160, 5184, 5208, 5232, 5256, 5280, 5304, 5328, 5352, 5376, 5400, 5424, 5448, 5472, 5496, 5520, 5544, 5568, 5592, 5616, 5640, 5664, 5688, 5712, 5736, 5760, 5784, 5808, 5832, 5856, 5880, 5904, 5928, 5952, 5976, 6000, 6024, 6048, 6072, 6096, 6120, 6144, 6168, 6192, 6216, 6240, 6264, 6288, 6312, 6336, 6360, 6384, 6408, 6432, 6456, 6480, 6504, 6528, 6552, 6576, 6600, 6624, 6648, 6672, 6696, 6720, 6744, 6768, 6792, 6816, 6840, 6864, 6888, 6912, 6936, 6960, 6984, 7008, 7032, 7056, 7080, 7104, 7128, 7152, 7176, 7200, 7224, 7248, 7272, 7296, 7320, 7344, 7368, 7392, 7416, 7440, 7464, 7488, 7512, 7536, 7560, 7584, 7608, 7632, 7656, 7680, 7704, 7728, 7752, 7776, 7800, 7824, 7848, 7872, 7896, 7920, 7944, 7968, 7992, 8016, 8040, 8064, 8088, 8112, 8136, 8160, 8184, 8208, 8232, 8256, 8280, 8304, 8328, 8352, 8376, 8400, 8424, 8448, 8472, 8496, 8520, 8544, 8568, 8592, 8616, 8640, 8664, 8688, 8712, 8736, 8760, 8784, 8808, 8832, 8856, 8880, 8904, 8928, 8952, 8976, 9000, 9024, 9048, 9072, 9096, 9120, 9144, 9168, 9192, 9216, 9240, 9264, 9288, 9312, 9336, 9360, 9384, 9408, 9432, 9456, 9480, 9504, 9528, 9552, 9576, 9600, 9624, 9648, 9672, 9696, 9720, 9744, 9768, 9792, 9816, 9840, 9864, 9888, 9912, 9936, 9960, 9984, 10000. The connectors are shown in various orientations and colors, including black, red, and blue.

**SubConn**<sup>®</sup>  
DEPENDABILITY AT EVERY LEVEL

# Underwater and harsh environment connectors

4th  
edition

**Marubeni**  
Ele-Next

# SubConn® Circular series



The SubConn® Circular series forms the basis of the technology that characterises most SubConn® products available today. First introduced in 1978, these connectors are widely recognised as a dependable and rugged connectivity solution for underwater and harsh marine environment applications. SubConn® Circular connectors are available in various standard size configurations with 1 to 25 contacts.

The SubConn® Circular series offers the ability to combine signal and power within a single connector. SubConn® Circular connectors are manufactured from high-grade chloroprene rubber with different types of body material and feature a high depth rating. The connectors are available in different standard shell sizes with contacts rated at 600 V up to 10 A. SubConn® Circular connectors are available in bulkhead, inline, Pressure Balanced Oil Filled (PBOF) and field installable overmould versions. All bulkhead connectors come with colour coded or numbered teflon (PTFE) leads.

For easy integration with systems and equipment, SubConn® Circular connectors are available with dedicated cables, locking sleeves, pressure proof dummy connectors and other accessories. All SubConn® cables are manufactured from flexible and water-resistant chloroprene rubber or polyurethane (PUR). The characteristic SubConn® locking sleeves are manufactured from injection moulded polyoxymethylene (POM) or stainless steel and come with stainless steel retaining snap rings.

## Applications

- Offshore oil and gas, renewable energy and subsea systems
- Defence systems and equipment
- Oceanographic systems, equipment and instrumentation solutions
- Remotely Operated Vehicle (ROV) and Remotely Operated Towed Vehicle (ROTV) systems
- Underwater camera, video and lighting systems
- Ocean bottom seismic systems
- Diving systems and equipment

## Options

- Customised harness cables and direct moulding to selected polyurethane (PUR) cables
- Customer specified cable, wire leads and bulkhead thread lengths
- Customer specified connector body material
- Certified pressure testing to specific ocean depths

# SubConn® Circular

## Mini 1 contact

### Connector specifications

Voltage rating	600 V DC/AC rms
Current rating	10 A
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Design depth rating	1,400 bar, 20,000 psi
Qualified pressure tested	800 bar, 11,600 psi

### Material specifications

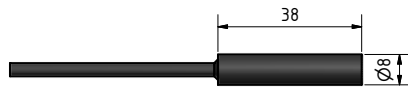
Connector body	Chloroprene rubber
Contacts	Gold plated brass UNS - C36000
Locking sleeves	POM
Inline cable (2 ft, 60 cm)	18 AWG, 0.82 mm <sup>2</sup> chloroprene rubber

### Inline cable colour code

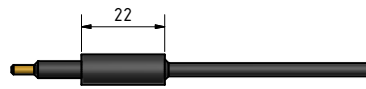
1 Black

### Nominal cable outside diameter (OD)

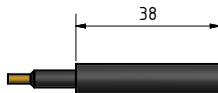
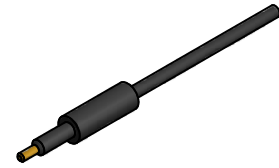
Chloroprene rubber cable 0.142", 3.6 mm



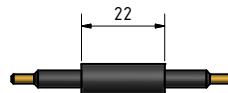
ILM1F



ILM1M



OMM1F



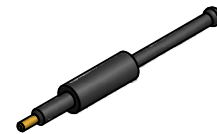
OMM1M



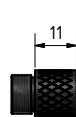
DCM1F



DCM1M



DLSM1-F



DLSM1-M



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Circular

## 2, 3, 4 and 5 contacts

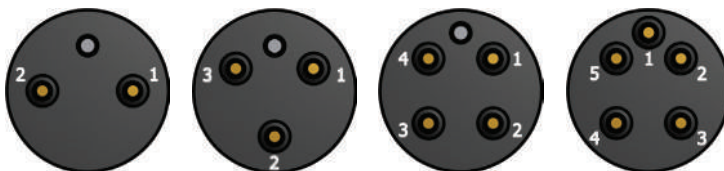
### Connector specifications

Voltage rating	600 V DC/AC rms
2 contacts current rating	10 A per contact (max 20 A per connector)
3, 4 and 5 contacts current rating	10 A per contact (max 30 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Design depth rating	1,400 bar, 20,000 psi
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Gold plated brass UNS - C36000
Location pin	Stainless steel AISI 303
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
2, 3 and 4 conductor inline cable (2 ft, 60 cm)	16 AWG, 1.31 mm <sup>2</sup> chloroprene rubber
5 conductor inline cable (2 ft, 60 cm)	18 AWG, 0.82 mm <sup>2</sup> chloroprene rubber
Bulkhead and PBOF leads (1 ft, 30 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE
OM leads (3", 7 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE

### Face view (male)



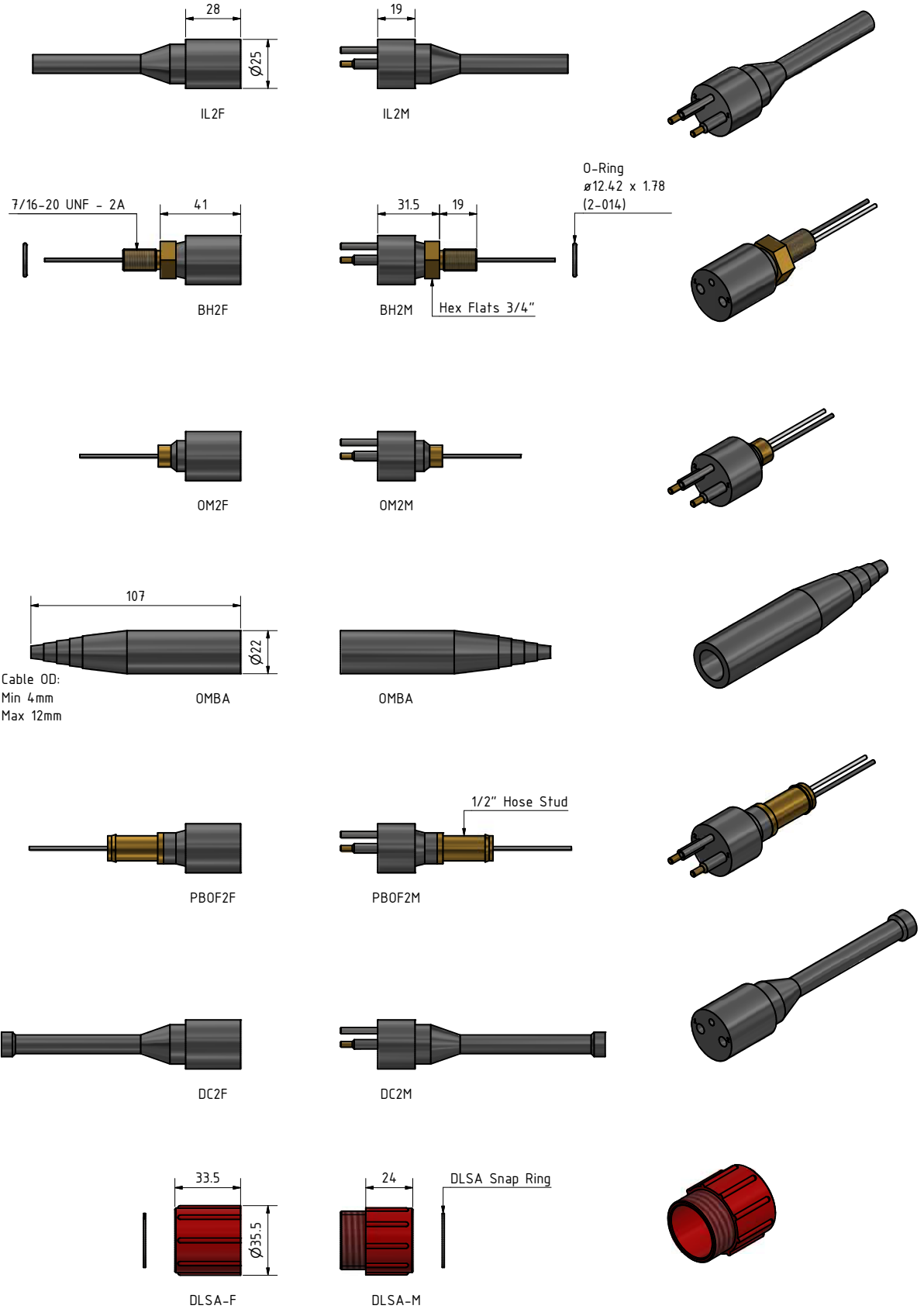
### Inline cable colour code

1 Black	4 Green
2 White	5 Orange
3 Red	

(3 conductor cable colour code: 1 black, 2 white, 3 green)

### Nominal cable outside diameter (OD)

2 conductor cable 0.365", 9.3 mm
3 conductor cable 0.385", 9.8 mm
4 conductor cable 0.410", 10.4 mm
5 conductor cable 0.465", 11.8 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Circular Splitconn

## 2 contacts

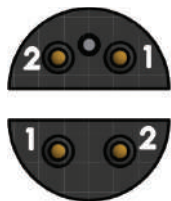
### Connector specifications

Voltage rating	600 V DC/AC rms
2 contacts current rating	10 A per contact (max 20 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Design depth rating	1,400 bar, 20,000 psi
Qualified pressure tested	800 bar, 11,600 psi

### Material specifications

Connector body	Chloroprene rubber
Contacts	Gold plated brass UNS - C36000
Location pin	Stainless steel AISI 303
Locking sleeves	POM
Snap rings	Stainless steel AISI 302
2 conductor inline cable (2 ft, 60 cm)	18 AWG, 0.82 mm <sup>2</sup> chloroprene rubber

### Face view (male)

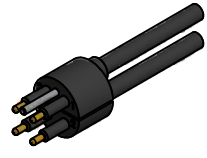
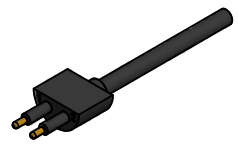
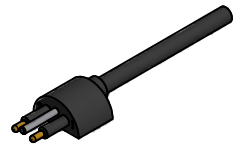
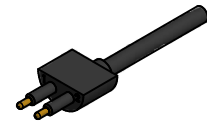
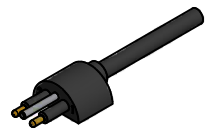
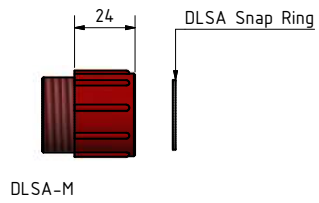
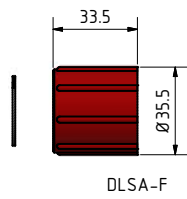
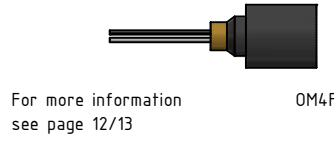
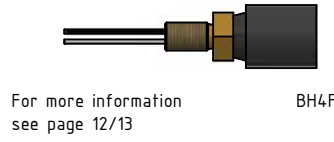
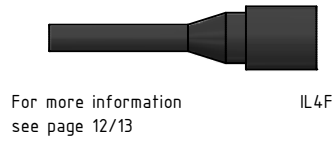


### Inline cable colour code

- 1 Black
- 2 White

### Nominal cable outside diameter (OD)

2 conductor cable 0.276", 7 mm



# Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Circular

## 6, 8 and 10 contacts

### Connector specifications

Voltage rating	600 V DC/AC rms
Current rating	10 A per contact (max 50 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Design depth rating	1,400 bar, 20,000 psi
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Gold plated brass UNS - C36000
Location pin	Stainless steel AISI 303
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
6 and 8 conductor inline cable (2 ft, 60 cm)	16 AWG, 1.31 mm <sup>2</sup> chloroprene rubber
10 conductor inline cable (2 ft, 60 cm)	18 AWG, 0.82 mm <sup>2</sup> chloroprene rubber
Bulkhead and PBOF leads (1 ft, 30 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE
OM leads (3", 7 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE

### Face view (male)

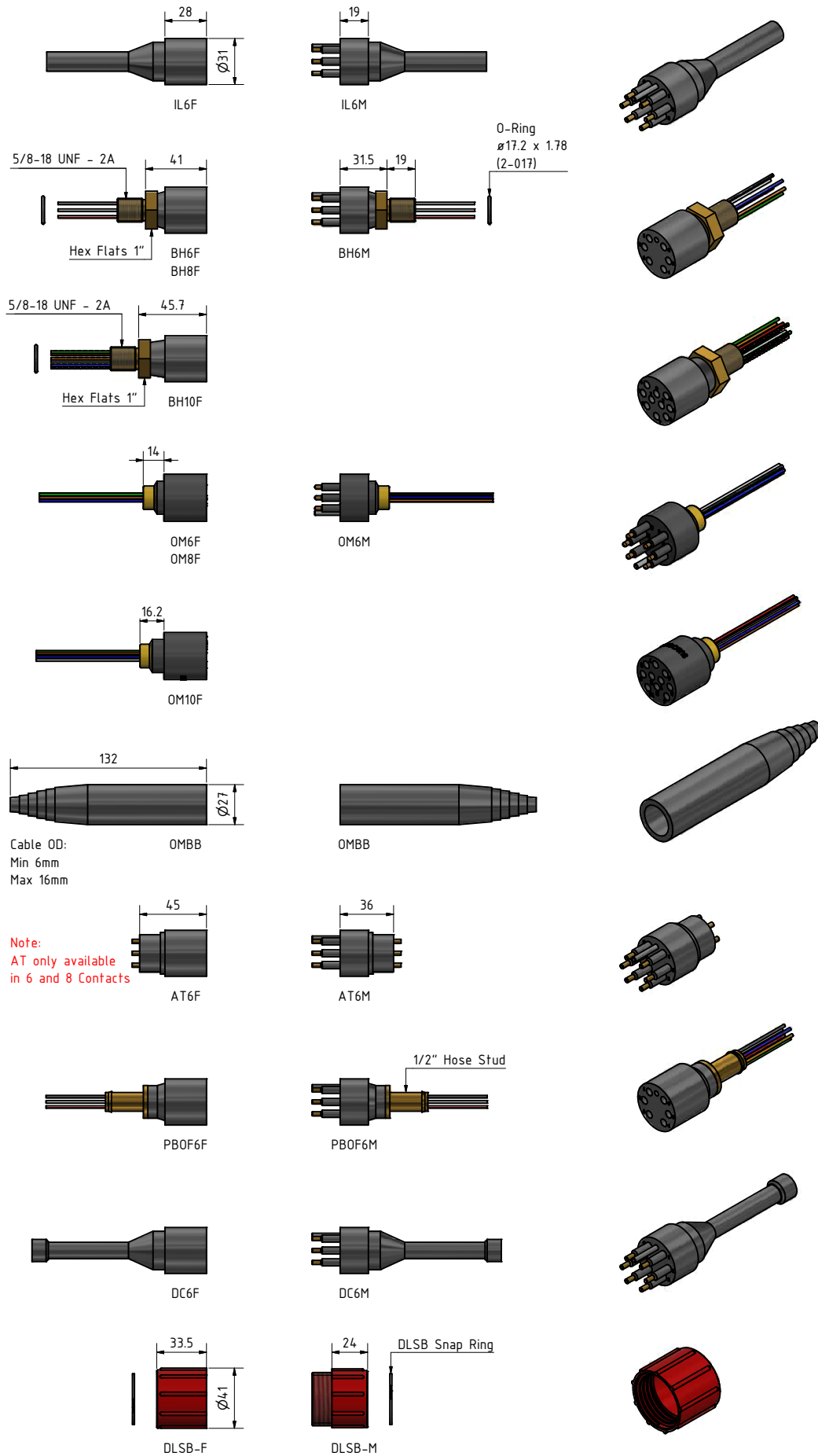


### Inline cable colour code

1 Black	4 Green	7 White/black	10 Orange/black
2 White	5 Orange	8 Red/black	
3 Red	6 Blue	9 Green/black	

### Nominal cable outside diameter (OD)

6 conductor cable 0.520", 13.2 mm
8 conductor cable 0.555", 14.1 mm
10 conductor cable 0.605", 15.4 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Circular Right Angle

## 6, 8 and 10 contacts

### Connector specifications

Voltage rating	600 V DC/AC rms
Current rating	10 A per contact (max 50 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Design depth rating	1,400 bar, 20,000 psi
Qualified pressure tested	800 bar, 11,600 psi

### Material specifications

Connector body	Chloroprene rubber
Contacts	Brass UNS - C36000
Location pin	AISI 303
Locking sleeves	POM or stainless steel
Snap rings	AISI 302
6 and 8 conductor inline cable (2 ft, 60 cm)	16 AWG, 1.31 mm <sup>2</sup> chloroprene rubber
10 conductor inline cable (2 ft, 60 cm)	18 AWG, 0.82 mm <sup>2</sup> chloroprene rubber

### Face view (male)

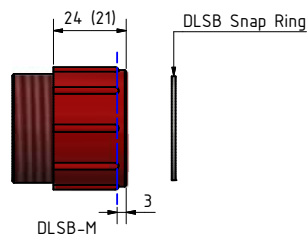
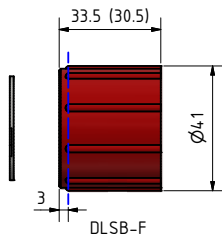
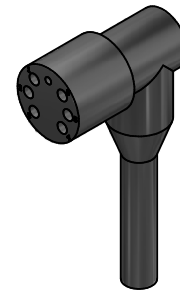
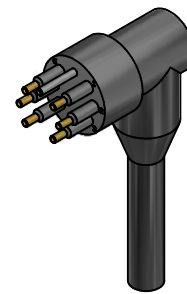
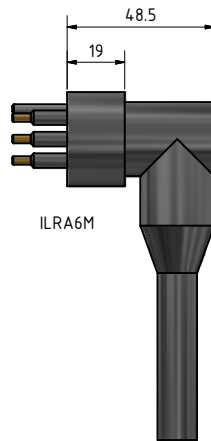
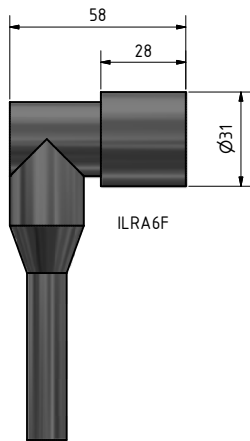


### Inline cable colour code

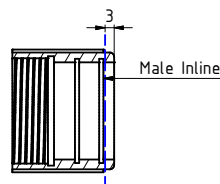
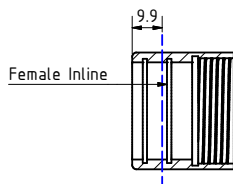
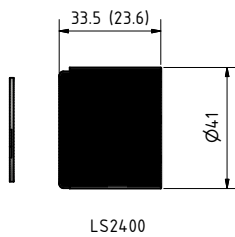
1 Black	3 Red	5 Orange	7 White/black	9 Green/black
2 White	4 Green	6 Blue	8 Red/black	10 Orange/black

### Nominal cable outside diameter (OD)

6 conductor cable 0.520", 13.2 mm
8 conductor cable 0.555", 14.1 mm
10 conductor cable 0.605", 15.4 mm



Note:  
Locking Sleeve has  
to be modified to 30.5/21  
to fit this RA connector



Note:  
When used with Metal Shell  
2400 Locking Sleeve has  
to be modified to 23.6/30.5  
to fit this RA connector

## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Circular

## 12, 16 and 25 contacts

### Connector specifications

Voltage rating	600 V DC/AC rms
12 and 16 contacts current rating	10 A per contact (max 60 A per connector)
25 contacts current rating	3 power contacts 10 A per contact, 22 signal contacts 5 A per contact (max 60 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
12 and 16 contacts connector design depth rating	1,400 bar, 20,000 psi
12, 16 and 25 contacts conn. qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
12 and 16 contacts	Gold plated brass UNS - C36000
25 contacts	Contact 2, 4 and 6: gold plated brass UNS - C36000 Contact 1, 3, 5, 7 - 25: gold plated beryllium copper
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
12 and 16 conductor inline cable (2 ft, 60 cm)	18 AWG, 0.82 mm <sup>2</sup> chloroprene rubber
25 conductor inline cable (2 ft, 60 cm)	3 x 18 AWG, 0.82 mm <sup>2</sup> , 22 x 20 AWG, 0.52 mm <sup>2</sup> polyurethane
12 and 16 contact bulkhead and PBOF leads (1 ft, 30 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE
25 contact bulkhead and PBOF leads (1 ft, 30 cm)	3 x 18 AWG, 0.82 mm <sup>2</sup> , 22 x 22 AWG, 0.33 mm <sup>2</sup> white tagged PTFE
12 and 16 contact OM leads (3", 7 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE

### Face view (male)



### Inline cable colour code for 12 and 16 conductor

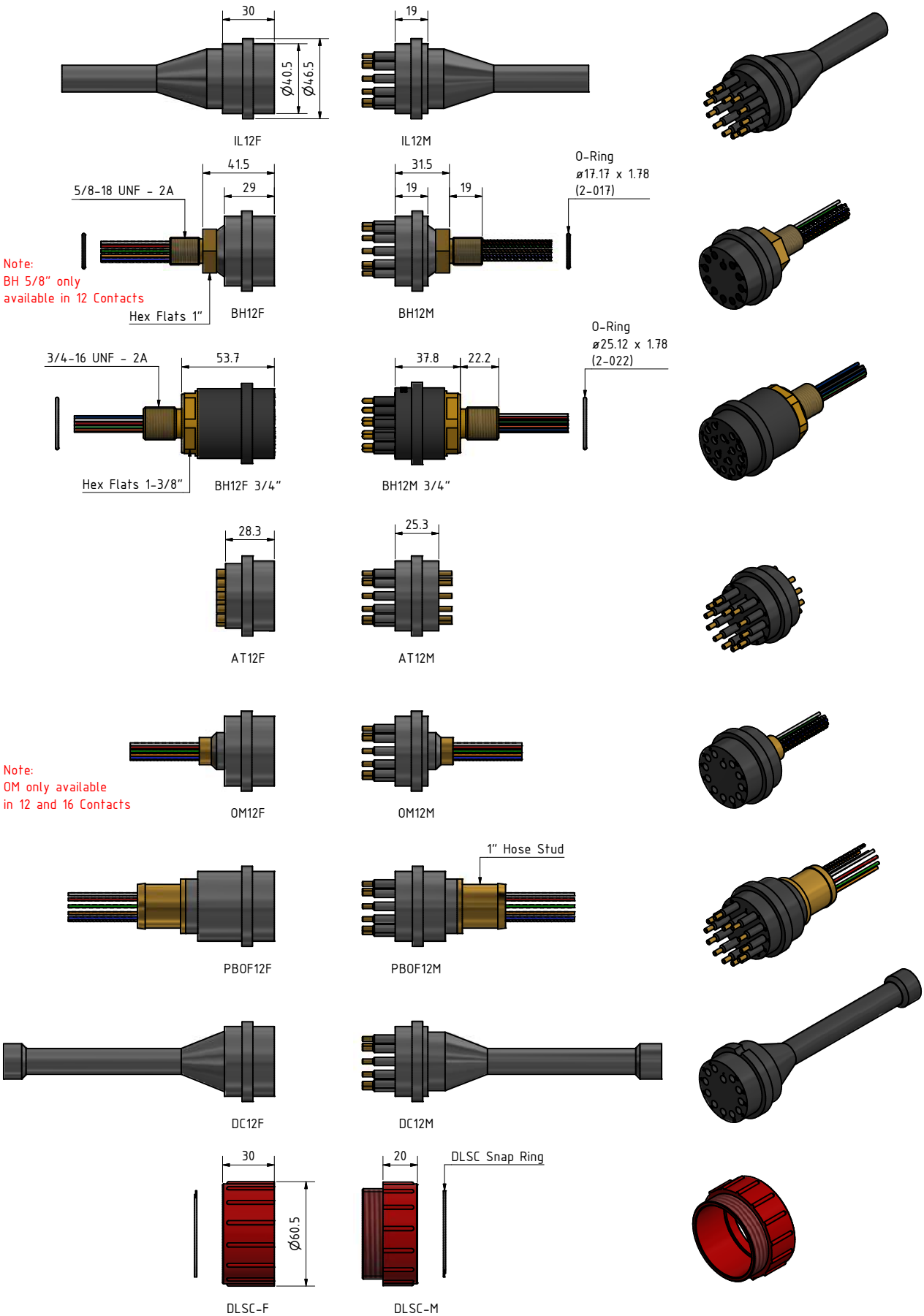
1 Black	5 Orange	9 Green/black	13 Red/white
2 White	6 Blue	10 Orange/black	14 Green/white
3 Red	7 White/black	11 Blue/black	15 Blue/white
4 Green	8 Red/black	12 Black/white	16 Black/red

### Inline cable colour code for 25 conductor

1 Orange	6 Brown-18 AWG	11 Blue	16 White/grey	21 White/green/black
2 Black-18 AWG	7 Yellow	12 White/yellow	17 White/brown/black	22 White/blue/black
3 Grey	8 White/black	13 White/green	18 White/red/black	23 White/brown
4 Red-18 AWG	9 White	14 White/blue	19 White/orange/black	24 White/red
5 Green	10 Purple	15 White/purple	20 White/yellow/black	25 White/orange

### Nominal cable outside diameter (OD)

12 conductor cable 0.605", 15.4 mm
16 conductor cable 0.704", 17.9 mm
25 conductor cable 0.589", 15.0 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



**Quote**

*"We standard fit the SubConn® range of connectors in all of our underwater sensor solutions. Whether the sensor is depth rated to 1,000, 6,000 or 11,000 meters - we trust SubConn® to provide a long-lasting and dependable connection solution."*

*Ben Grant, Managing Director  
Impact Subsea Ltd*

# SubConn® Micro Circular series



To accommodate market demands for ever more flexible, dependable and cost-efficient underwater connectivity solutions, SubConn® Micro connectors are available.

The SubConn® Micro Circular series has enhanced sealing capability and utilise a uniform contact size and design. Based on the original SubConn® Circular series, SubConn® Micro Circular connectors were developed to suit the increasingly more compact design of underwater instruments, equipment and systems.

The SubConn® Micro Circular connectors are available in different standard shell sizes, with 1 to 21 contacts rated at 300 V from 5 to 10 A. SubConn® Micro Circular connector are available in bulkhead, inline, Pressure Balanced Oil Filled (PBOF) and field installable over mould versions. All bulkhead connectors come with colour coded or numbered Teflon (PTFE) leads.

The SubConn® Micro Circular connectors are manufactured from high-grade neoprene and a variety of body material options and feature a high ocean depth rating. The SubConn® Micro Circular connectors have enhanced sealing capability and utilise a uniform contact size and design.

## Applications

- Offshore oil and gas, renewable energy and subsea systems
- Defence systems and equipment
- Oceanographic systems, equipment and instrumentation solutions
- Remotely Operated Vehicle (ROV) and Remotely Operated Towed Vehicle (ROTV) systems
- Underwater camera, video and lighting systems
- Ocean bottom seismic systems
- Diving systems and equipment

## Options

- Customised harness cables and direct moulding to selected polyurethane (PUR) cables
- Customer specified cable, wire leads and bulkhead thread lengths
- Customer specified connector body material
- Certified pressure testing to specific ocean depths

# SubConn® Micro Circular

## 1 contact

### Connector specifications

Voltage rating	300 V DC/AC rms
Current rating	5 A
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi

### Material specifications

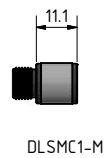
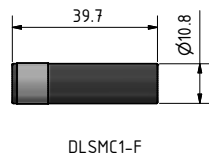
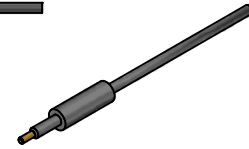
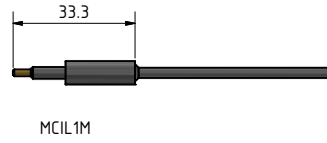
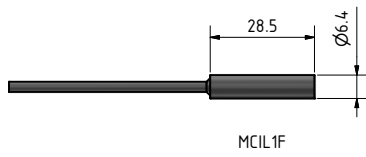
Connector body	Chloroprene rubber
Contacts	Female socket in gold plated brass UNS - C36000 Male pin in gold plated beryllium copper
Inline cable (2 ft, 60 cm)	18 AWG, 0.82 mm <sup>2</sup> chloroprene rubber

### Inline cable colour code

1 Black

### Nominal cable outside diameter (OD)

Chloroprene rubber cable 0.100", 2.54 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Micro Circular

## 2, 3, 4, 5, 6 and 8 contacts and G2 2, 3 and 4 contacts

### Connector specifications

Voltage rating	300 V DC/AC rms
2, 3 and 4 contacts current rating	10 A per contact (max 20 A per connector)
5, 6 and 8 contacts current rating	5 A per contact (max 20 A per connector)
G2 2, 3 and 4 contacts current rating	5 A per contact (max 20 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
PEEK bulkhead body	PEEK-30
2, 3 and 4 contacts	Gold plated brass UNS - C36000
5, 6, 8 contacts and G2 2, 3 and 4 contacts	Female sockets in gold plated brass - UNS C36000
	Male pins in gold plated beryllium copper
Location pin	Stainless steel AISI 303
O-rings	Nitrile
Locking sleeves	ABS or stainless steel
Snap rings	Stainless steel AISI 302
2, 3 and 4 conductor inline cable (2 ft, 60 cm)	18 AWG, 0.82 mm <sup>2</sup> chloroprene rubber
5, 6 and 8 conductor inline cable (2 ft, 60 cm)	20 AWG, 0.52 mm <sup>2</sup> chloroprene rubber
G2 2, 3 and 4 conductor inline cable (2 ft, 60 cm)	20 AWG, 0.52 mm <sup>2</sup> chloroprene rubber
2, 3 and 4 contact bulkhead and PBOF leads (1 ft, 30 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE
5, 6 and 8 contact bulkhead and PBOF leads (1 ft, 30 cm)	22 AWG, 0.33 mm <sup>2</sup> coloured PTFE
G2 2, 3 and 4 contact bulkhead and PBOF leads (1ft, 30 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE
OM leads (3", 7 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE

### Face view (male)



### Inline cable colour code

1 Black	3 Red	5 Orange	7 White/black
2 White	4 Green	6 Blue	8 Red/black

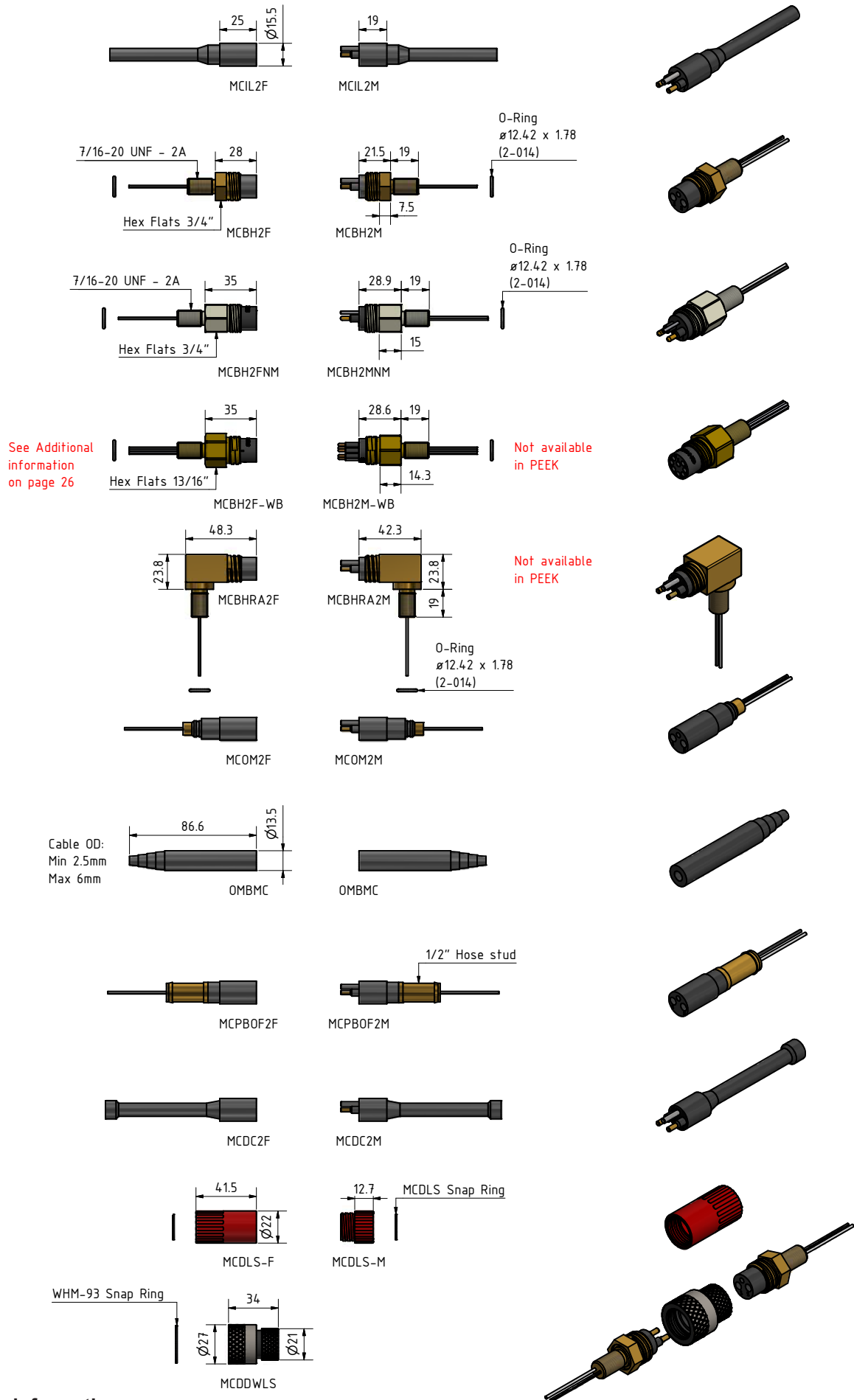
\*\* (3 conductor cable colour code: 1 black, 2 white, 3 green)

### Nominal cable outside diameter (OD)

2 conductor cable 0.340", 8.6 mm	G2 2 conductor cable 0.230", 6.1 mm	5 conductor cable 0.312", 7.9 mm
3 conductor cable 0.360", 9.1 mm	G2 3 conductor cable 0.250", 6.4 mm	6 conductor cable 0.315", 8.0 mm
4 conductor cable 0.385", 9.8 mm	G2 4 conductor cable 0.260", 6.6 mm	8 conductor cable 0.363", 9.2 mm

### Additional information

Micro 2, 3 and 4 contacts in G2 version have the same contact size as 5, 6 and 8 contacts and are available as water blocked (WB).



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Micro Circular Double O-ring

## 2, 3, 4, 5, 6 and 8 contacts and G2 2, 3 and 4 contacts

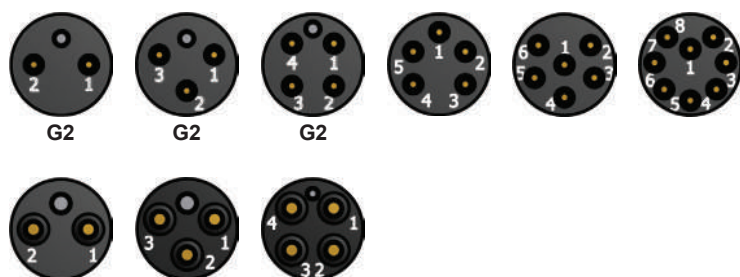
### Connector specifications

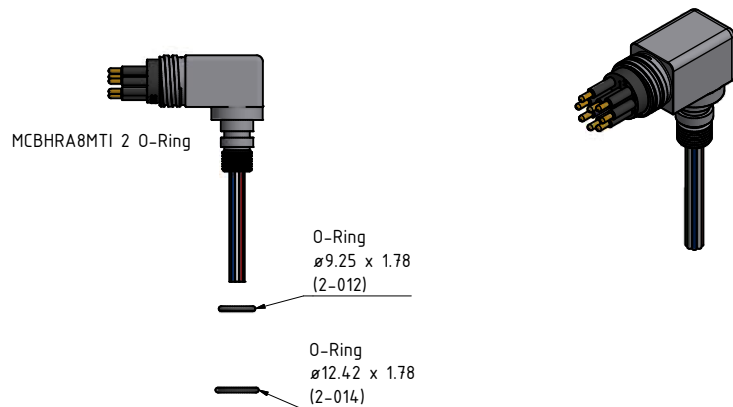
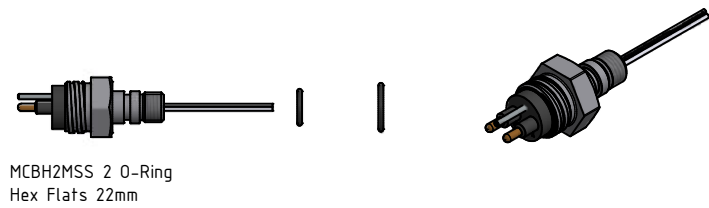
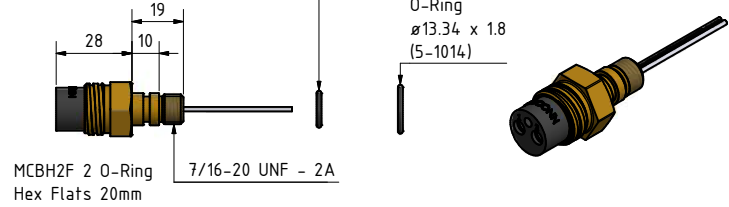
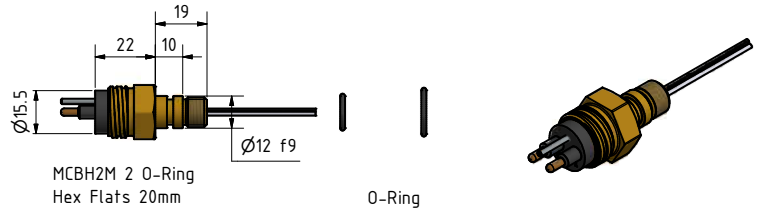
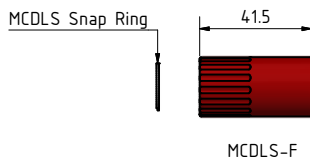
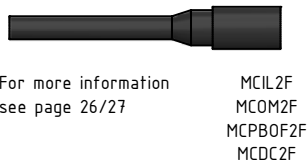
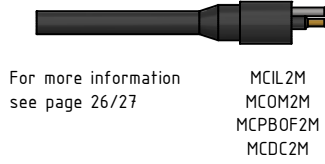
Voltage rating	300 V DC/AC rms
2, 3 and 4 contacts current rating	10 A per contact (max 20 A per connector)
5, 6 and 8 contacts current rating	5 A per contact (max 20 A per connector)
G2 2, 3 and 4 contacts connector current rating	5 A per contact (max 20 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body with 20 mm hex flats	Brass, titanium or anodised aluminium
Bulkhead body with 22 mm hex flats	Anodised aluminium or stainless steel
Bulkhead RA body	Aluminium or titanium
2, 3 and 4 contacts	Gold plated brass UNS - C36000
5, 6, 8 contacts and G2 2, 3 and 4 contacts	Female sockets in gold plated brass UNS C36000
	Male pins in gold plated beryllium copper
Location pin	Stainless steel AISI 303
O-rings	Nitrile
Locking sleeves	ABS or stainless steel
Snap rings	Stainless steel AISI 302
2, 3 and 4 contact bulkhead leads (1 ft, 30 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE
5, 6 and 8 contact bulkhead leads (1 ft, 30 cm)	22 AWG, 0.33 mm <sup>2</sup> coloured PTFE
G2 2, 3 and contact 4 bulkhead leads (1 ft, 30 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE

### Face view (male)





## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Micro Circular

## 10, 12 and 16 contacts

### Connector specifications

Voltage rating	300 V DC/AC rms
Current rating	5 A per contact (max 30 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0,01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Female sockets in gold plated brass UNS - C36000 Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Inline cable (2 ft, 60 cm)	20 AWG, 0.52 mm <sup>2</sup> chloroprene rubber
Bulkhead and PBOF leads (1 ft, 30 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE
OM leads (3", 7 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE

### Face view (male)

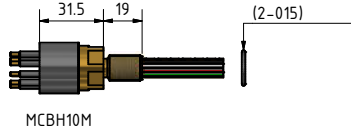
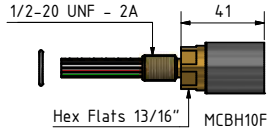
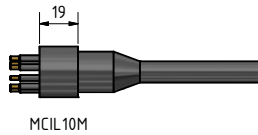
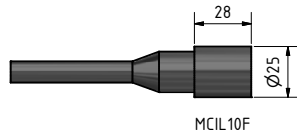


### Inline cable colour code

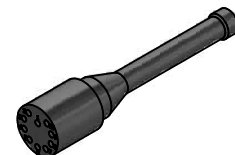
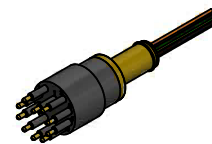
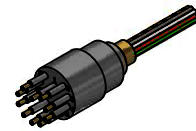
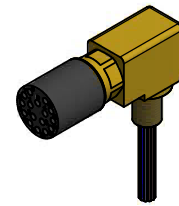
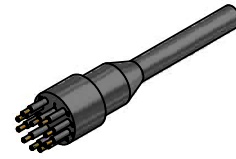
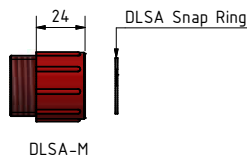
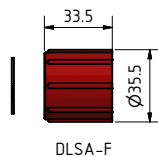
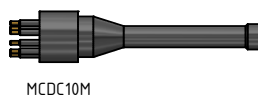
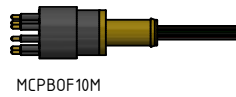
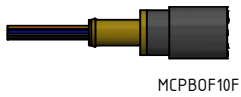
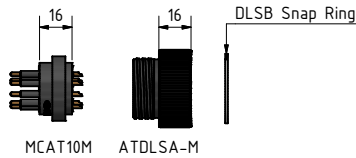
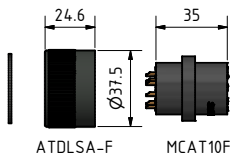
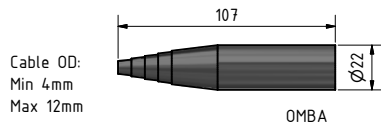
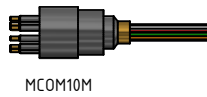
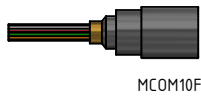
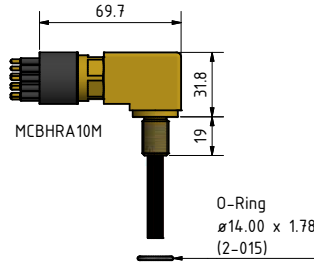
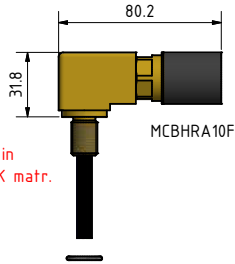
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2 White	6 Blue	10 Orange/black	14 Green/white
3 Red	7 White/black	11 Blue/black	15 Blue/white
4 Green	8 Red/black	12 Black/white	16 Black/red

### Nominal cable outside diameter (OD)

10 conductor cable 0.406", 10.3 mm
12 conductor cable 0.436", 11.0 mm
16 conductor cable 0.472", 12.0 mm



Note:  
RA Body are  
not available in  
Ti, AS & PEEK matr.



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Micro Circular Double O-ring 10, 12 and 16 contacts

## Connector specifications

Voltage rating	300 V DC/AC rms
Current rating	5 A per contact (max 30 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi

## Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, titanium, anodised aluminium or stainless steel
Contacts	Female sockets in gold plated brass UNS - C36000
	Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Bulkhead leads (1 ft, 30 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE

## Face view (male)





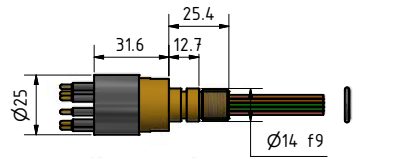
For more information  
see page 30/31

MCIL10F  
MCOM10F  
MCPBOF10F  
MCDC10F



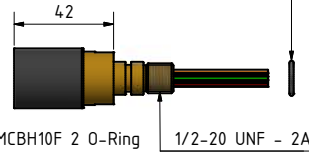
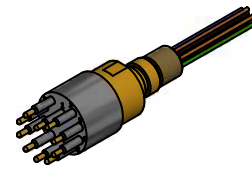
For more information  
see page 30/31

MCIL10M  
MCOM10M  
MCPBOF10M  
MCDC10M



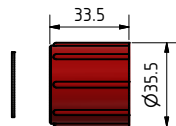
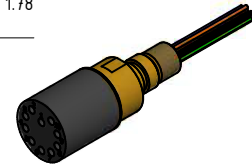
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Key Flats 22mm

O-Ring  
Ø10.82 x 1.78  
(2-013)

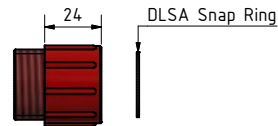


MCBH10F 2 O-Ring  
Key Flats 22mm

O-Ring  
Ø15.6 x 1.78  
(2-016)



DLSA-F



DLSA-M



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Micro Circular

## 21 contacts

### Connector specifications

Voltage rating	300 V DC/AC rms
Current rating	5 A per contact (max 40 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Female sockets in gold plated brass UNS - C36000 Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Inline cable (2 ft, 60 cm)	20 AWG, 0.52 mm² PUR
Bulkhead and PBOF leads (1 ft, 30 cm)	20 AWG, 0.52 mm² white tagged PTFE
OM leads (3", 7 cm)	20 AWG, 0.52 mm² white tagged PTFE

### Face view (male)

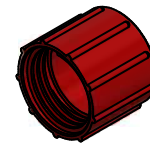
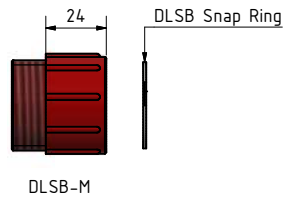
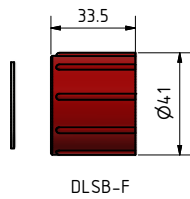
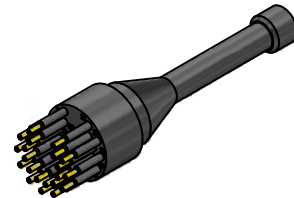
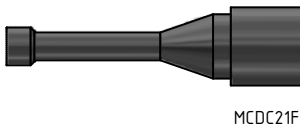
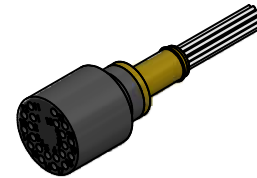
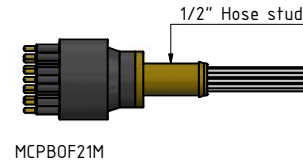
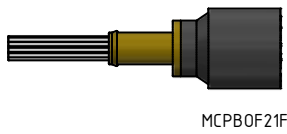
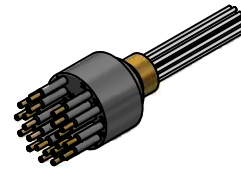
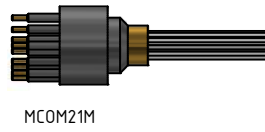
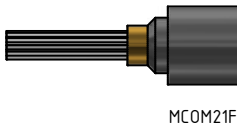
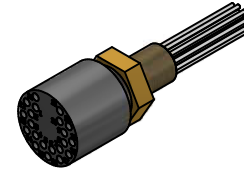
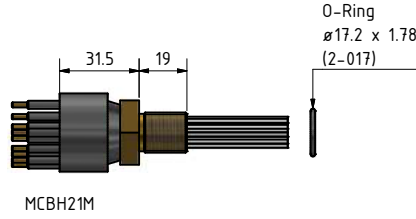
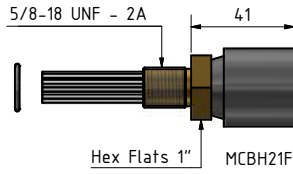
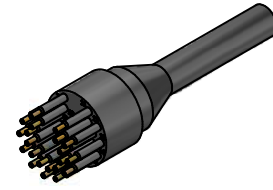
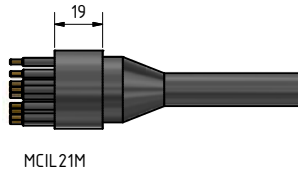
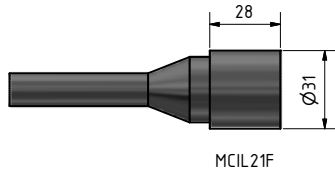


### Inline cable colour code

1 Grey	7 White/black	13 White/green	19 White/orange/black
2 Purple	8 White	14 White/blue	20 White/yellow/black
3 Blue	9 White/brown	15 White/purple	21 White/green/black
4 Green	10 White/red	16 White/grey	
5 Yellow	11 White/orange	17 White/brown/black	
6 Orange	12 White/yellow	18 White/red/black	

### Nominal cable outside diameter (OD)

21 conductor cable 0.578", 14.70 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



**Quote**

*"SubConn Inc. continues to be a reliable vendor for all of our connector needs."*

*Ellen Orlando  
EdgeTech*

# SubConn® Low Profile series



The SubConn® Low Profile series is designed to offer connectivity for underwater systems and equipment where space is restricted or a more compact solution is required. By means of the low profile layout users are able to assemble design optimised, streamlined and effective underwater systems with sensors, sonar heads and other types of equipment producing less drag.

SubConn® Low Profile connectors are manufactured from high-grade rubber with different types of body material available. They feature the same contact sizes as the Circular series and are available with 2 to 9 contacts rated at 600 V up to 10 A. The series includes bulkhead, inline and field installable overmould versions featuring a high depth rating.

For easy integration with systems and equipment SubConn® Low Profile series connectors are available with dedicated cables, rubber straps and pressure-proof dummy connectors. All SubConn® cables are manufactured from flexible and water-resistant chloroprene rubber.

## Applications

- Remotely Operated Vehicle (ROV) systems and instrumentation bottles
- Oceanographic systems, equipment and instrumentation solutions
- Defence systems and equipment
- Offshore oil and gas, renewable energy and subsea systems
- Underwater camera, video and lighting systems
- Diving systems and equipment

## Options

- Customised harness cables and direct moulding to selected polyurethane (PUR) cables
- Customer specified cable, wire leads and bulkhead thread lengths
- Customer specified connector body material
- Certified pressure testing to specific ocean depths

# SubConn® Low Profile

## 2 contacts

### Connector specifications

Single contact rating	600 V DC/AC rms
Current rating	10 A per contact (max 20 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Gold plated brass UNS - C36000
Location pin	Stainless steel AISI 303
O-rings	Nitrile
Locking strap	Chloroprene rubber
Inline cable (2 ft, 60 cm)	16 AWG, 1.31 mm <sup>2</sup> chloroprene rubber
Bulkhead leads (1 ft, 30 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE
OM leads (3", 7 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE

### Face view (male)

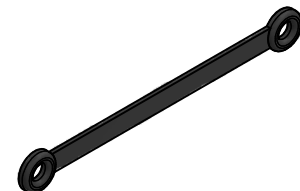
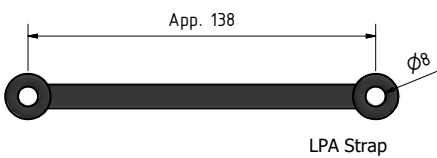
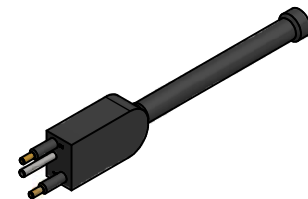
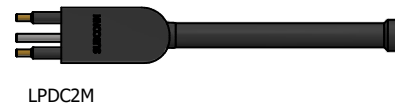
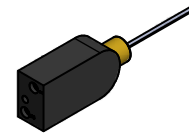
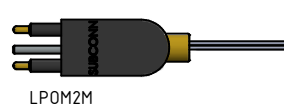
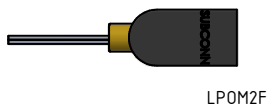
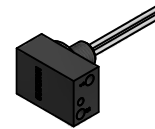
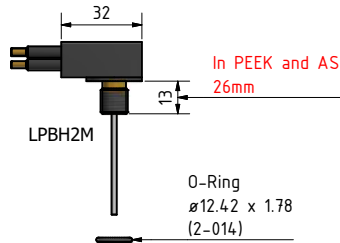
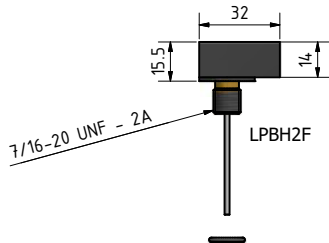
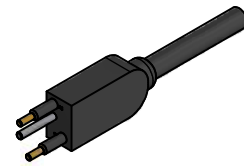
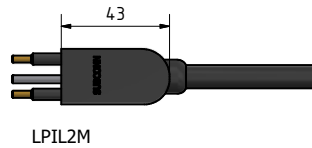
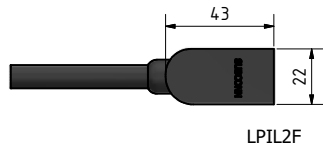


### Inline cable colour code

- 1 Black
- 2 White

### Nominal cable outside diameter (OD)

2 conductor cable 0.365", 9.3 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Low Profile

## 3 and 4 contacts

### Connector specifications

Single contact rating	600 V DC/AC rms
3 contacts current rating	10 A per contact (max 30 A per connector)
4 contacts current rating	10 A per contact (max 40 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Gold plated brass UNS - C36000
O-rings	Nitrile
Locking strap	Chloroprene rubber
Inline cable (2 ft, 60 cm)	16 AWG, 1.31 mm <sup>2</sup> chloroprene rubber
Bulkhead leads (1 ft, 30 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE
OM leads (3", 7 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE

### Face view (male)



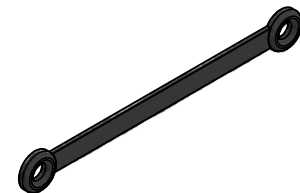
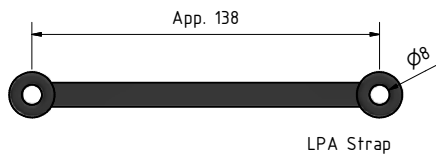
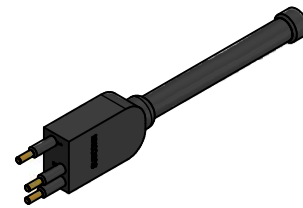
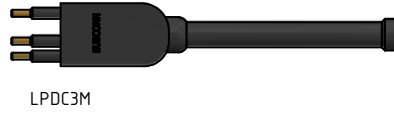
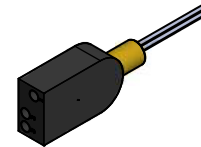
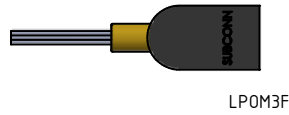
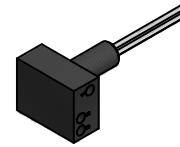
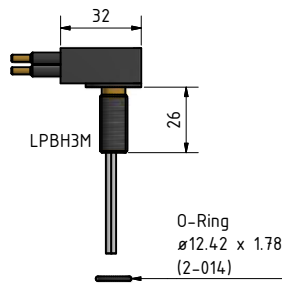
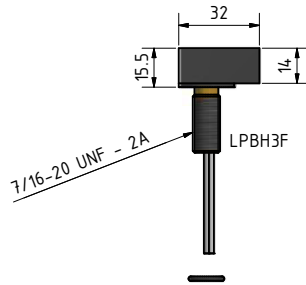
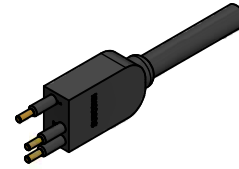
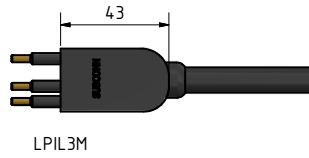
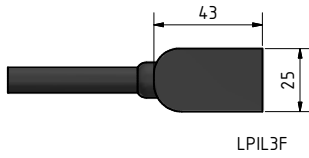
### Inline cable colour code

1 Black	2 White	3 Red	4 Green
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(3 conductor cable colour code: 1 black, 2 white, 3 green)

### Nominal cable outside diameter (OD)

3 conductor cable 0.385", 9.8 mm
4 conductor cable 0.410", 10.4 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Low Profile

## 5 contacts

### Connector specifications

Voltage rating	600 V DC/AC rms
Current rating	10 A per contact (max 40 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Gold plated brass UNS - C36000
O-rings	Nitrile
Locking strap	Chloroprene rubber
Inline cable (2 ft, 60 cm)	18 AWG, 0.82 mm <sup>2</sup> chloroprene rubber
Bulkhead leads (1 ft, 30 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE
OM leads (3", 7 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE

### Face view (male)

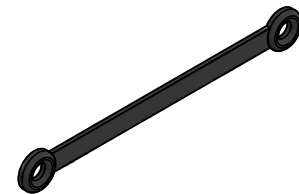
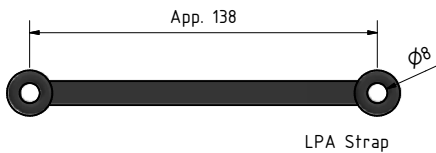
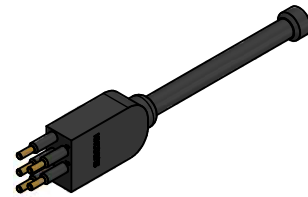
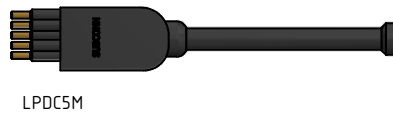
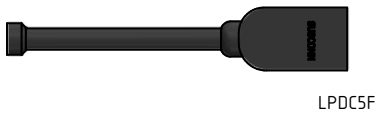
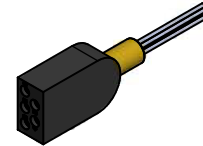
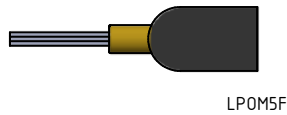
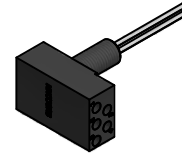
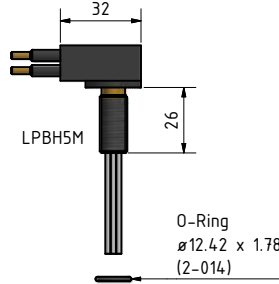
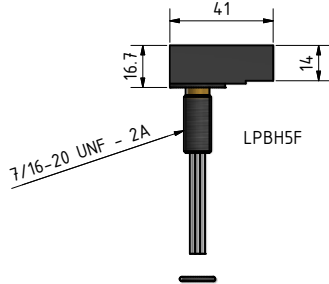
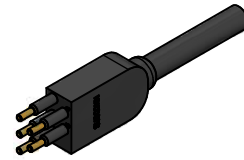
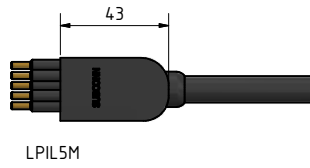
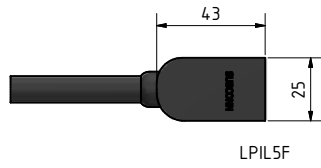


### Inline cable colour code

1 Black	4 Orange
2 Red	5 Yellow
3 Blue	

### Nominal cable outside diameter (OD)

5 conductor cable 0.465", 11.8 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Low Profile

## 7 contacts

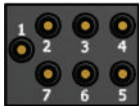
### Connector specifications

Voltage rating	600 V DC/AC rms
Current rating	10 A per contact (max 40 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Gold plated brass UNS - C36000
O-rings	Nitrile
Locking strap	Chloroprene rubber
Inline cable (2 ft, 60 cm)	16 AWG, 1.31 mm <sup>2</sup> chloroprene rubber
Bulkhead leads (1 ft, 30 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE
OM leads (3", 7 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE

### Face view (male)

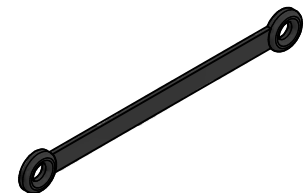
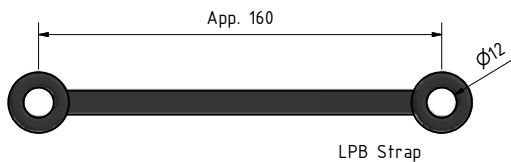
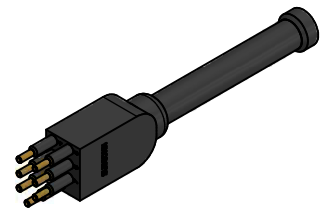
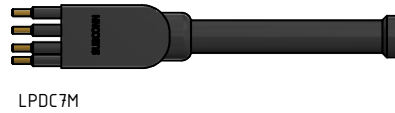
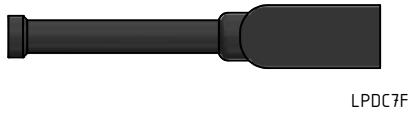
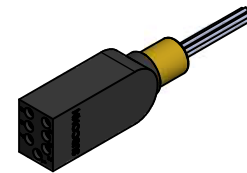
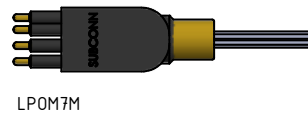
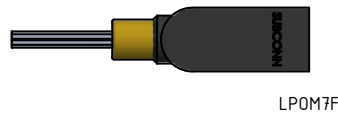
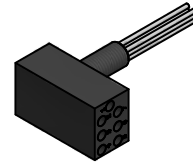
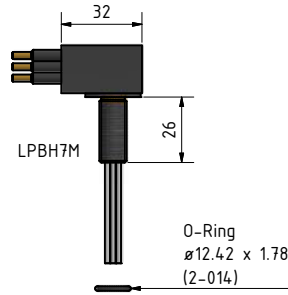
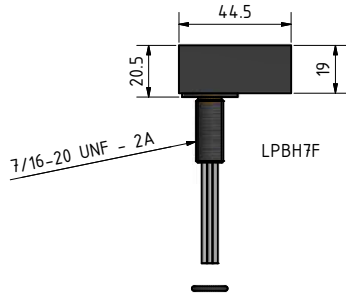
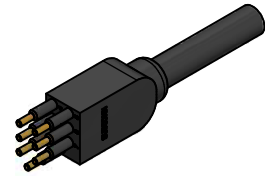
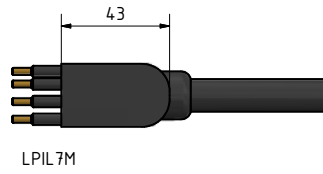
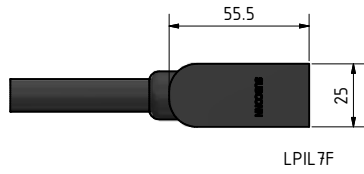


### Inline cable colour code

1 Black	3 Red	5 Orange	7 White/black
2 White	4 Green	6 Blue	

### Nominal cable outside diameter (OD)

7 conductor cable 0.520", 13.2 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Low Profile

## 9 contacts

### Connector specifications

Voltage rating	600 V DC/AC rms
Current rating	10 A per contact (max 40 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Gold plated brass UNS - C36000
O-rings	Nitrile
Locking strap	Chloroprene rubber
Inline cable (2 ft, 60 cm)	16 AWG, 1.31 mm <sup>2</sup> chloroprene rubber
Bulkhead leads (1 ft, 30 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE
OM leads (3", 7 cm)	18 AWG, 0.82 mm <sup>2</sup> coloured PTFE

### Face view (male)

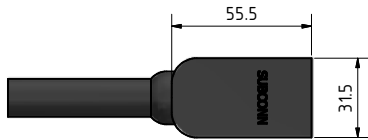


### Inline cable colour code

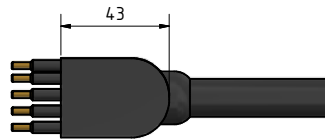
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2 White	5 Orange	8 Red/black
3 Red	6 Blue	9 Green/black

### Nominal cable outside diameter (OD)

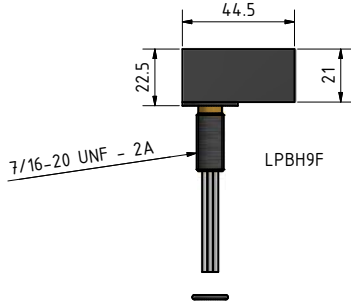
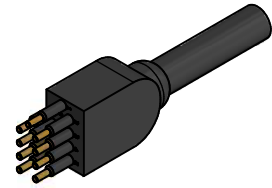
9 conductor cable 0.590", 15.0 mm



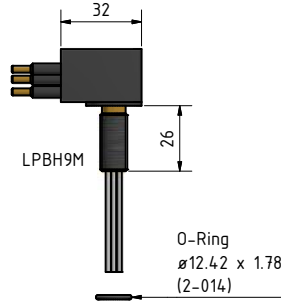
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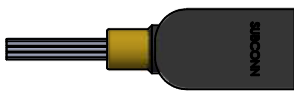
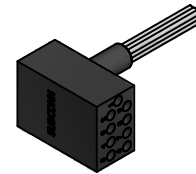
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LPBH9F



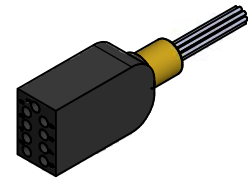
LPBH9M



LPOM9F



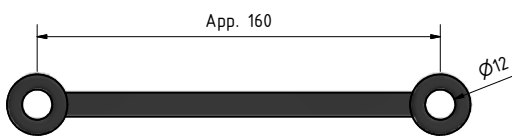
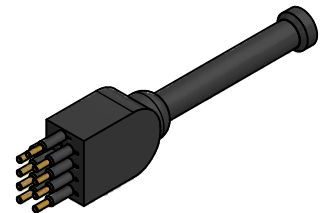
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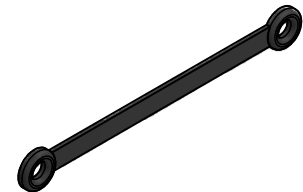
LPDC9F



LPDC9M



LPB Strap



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Low Profile Reed Switch

## 2 contacts

### Connector specifications

Reed switch glass body type	HE559-ND
Switch voltage rating	200 V DC
Contact rating	10 W max
Switch current rating	500 mA
Operation time	0.6 ms (maximum)
Release time	0.2 ms (maximum)
Capacitance	0.20 pF (typical)
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Depth rating	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass or stainless steel
Contacts	Gold plated brass UNS - C36000
O-rings	Nitrile
Locking strap	Chloroprene rubber
Inline cable (2 ft, 60 cm)	16 AWG, 1.31 mm <sup>2</sup> chloroprene rubber

### Face view (male)

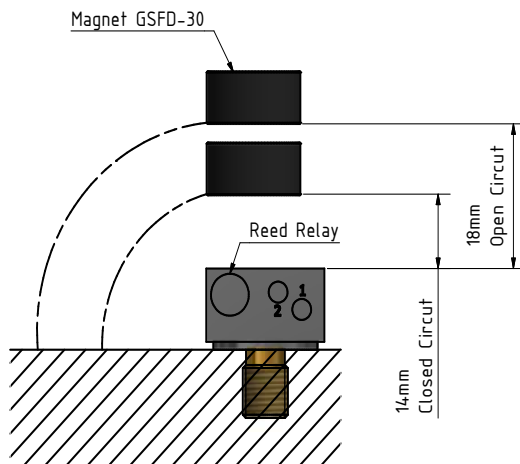
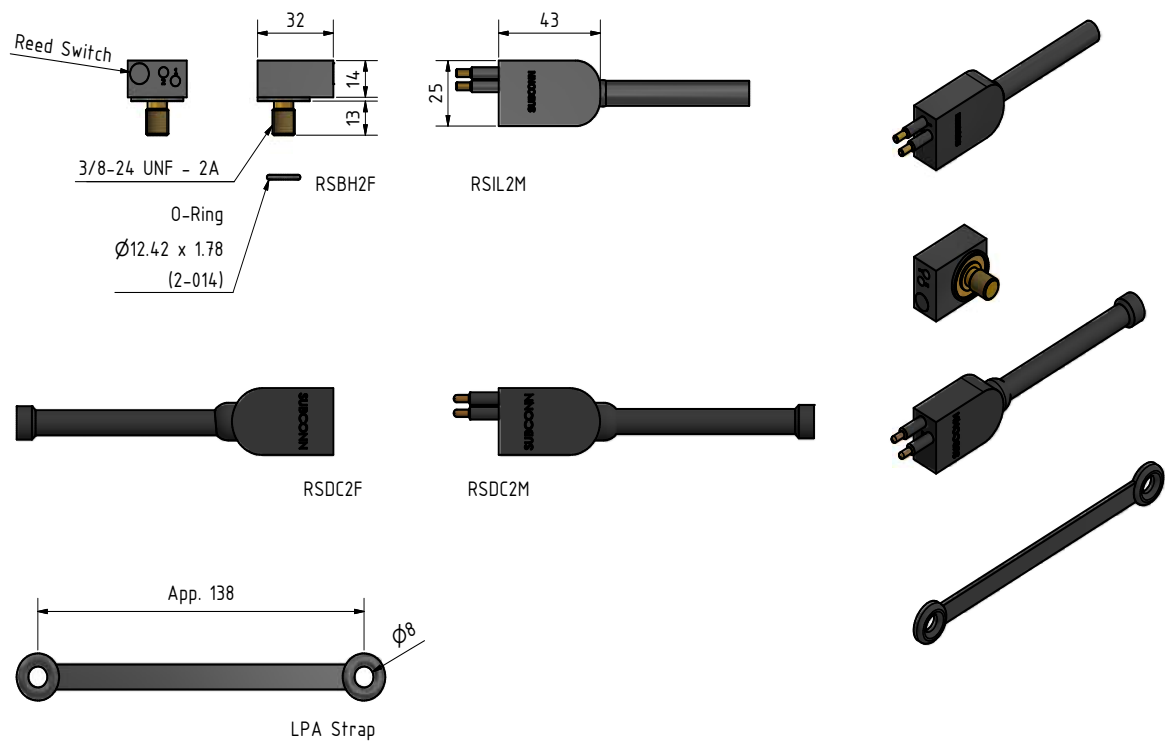


### Inline cable colour code

- 1 Black
- 2 White

### Nominal cable outside diameter (OD)

2 conductor cable 0.365", 9.3 mm



## Drawing information

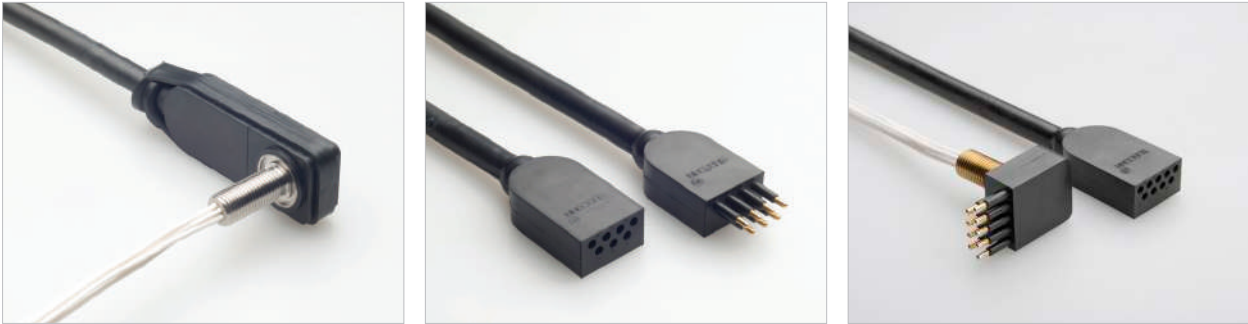
Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)

**Quote**

*"Cabled infrastructures offer unprecedented opportunity for ocean monitoring and innovative scientific experiments in the deep sea. High reliability and high availability of power and data distribution systems are the key for success"*

*Mario Sedita, Giuseppe Cannizzaro and Nunzio Randazzo  
INFN*

# SubConn® Micro Low Profile series



The SubConn® Micro Low Profile series was developed to suit the increasingly more compact design of underwater instruments, equipment and systems where space is restricted or a more compact solution is required.

By means of the low profile layout users are able to assemble design optimised, streamlined and effective underwater systems with sensors, sonar heads and other types of equipment producing less drag.

SubConn® Micro Low Profile connectors are manufactured from high-grade rubber with different types of body material available. They feature the same contact sizes as the Micro series and are available in 3, 7 and 9 contacts rated at 300 V up to 5 A. The series includes bulkhead, inline and some field installable overmould versions featuring a high depth rating.

For easy integration with systems and equipment SubConn® Micro Low Profile series connectors are available with dedicated cables, rubber straps and pressure-proof dummy connectors. All SubConn® cables are manufactured from flexible and water-resistant chloroprene rubber.

## Applications

- Offshore oil and gas, renewable energy and subsea systems
- Defence systems and equipment
- Oceanographic systems, equipment and instrumentation solutions
- Remotely Operated Vehicle (ROV) and Remotely Operated Towed Vehicle (ROTV) systems
- Underwater camera, video and lighting systems
- Ocean bottom seismic systems
- Diving systems and equipment

## Options

- Customised harness cables and direct moulding to selected polyurethane (PUR) cables
- Customer specified cable, wire leads and bulkhead thread lengths
- Customer specified connector body material
- Certified pressure testing to specific ocean depths

# SubConn® Micro Low Profile

## 3 contacts

### Connector specifications

Voltage rating	300 V DC/AC rms
Current rating	5 A per contact (max 10 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass or stainless steel
Contacts	Female sockets in gold plated brass UNS - C36000
	Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking strap	Chloroprene rubber
Inline cable (2 ft, 60 cm)	20 AWG, 0.52 mm <sup>2</sup> chloroprene rubber
Bulkhead leads (1 ft, 30 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE

### Face view (male)

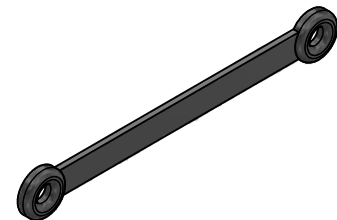
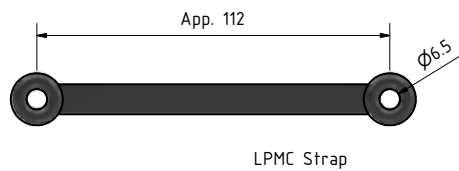
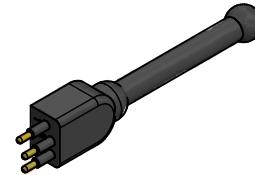
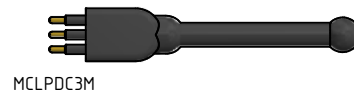
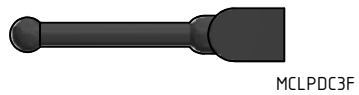
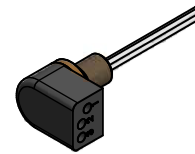
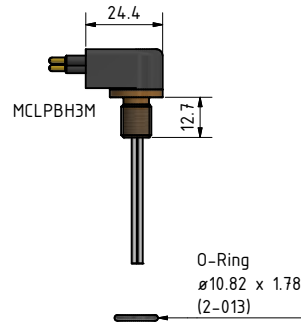
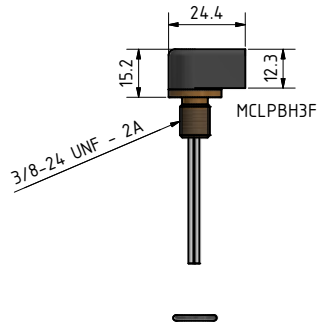
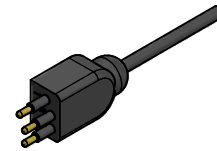
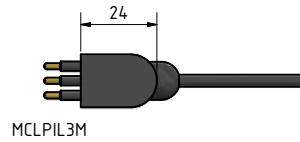
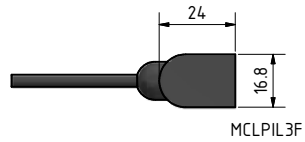


### Inline cable colour code

- 1 Black
- 2 White
- 3 Red

### Nominal cable outside diameter (OD)

3 conductor cable 0.250", 6.35 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Micro Low Profile

## 7 and 9 contacts

### Connector specifications

Voltage rating	300 V DC/AC rms
Current rating	5 A per contact (max 20 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Female sockets in gold plated brass UNS - C36000 Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking strap	Chloroprene rubber
Inline cable (2 ft, 60 cm)	20 AWG, 0.52 mm <sup>2</sup> chloroprene rubber
Bulkhead leads (1 ft, 30 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE
OM leads (3", 7 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE

### Face view (male)



### Inline cable colour code

1 Black	3 Red	5 Orange	7 White/black	9 Green/black
2 White	4 Green	6 Blue	8 Red/black*	10 Orange/black**

\* Micro 7 contacts connector uses an 8 conductor cable (only 7 conductors are used)

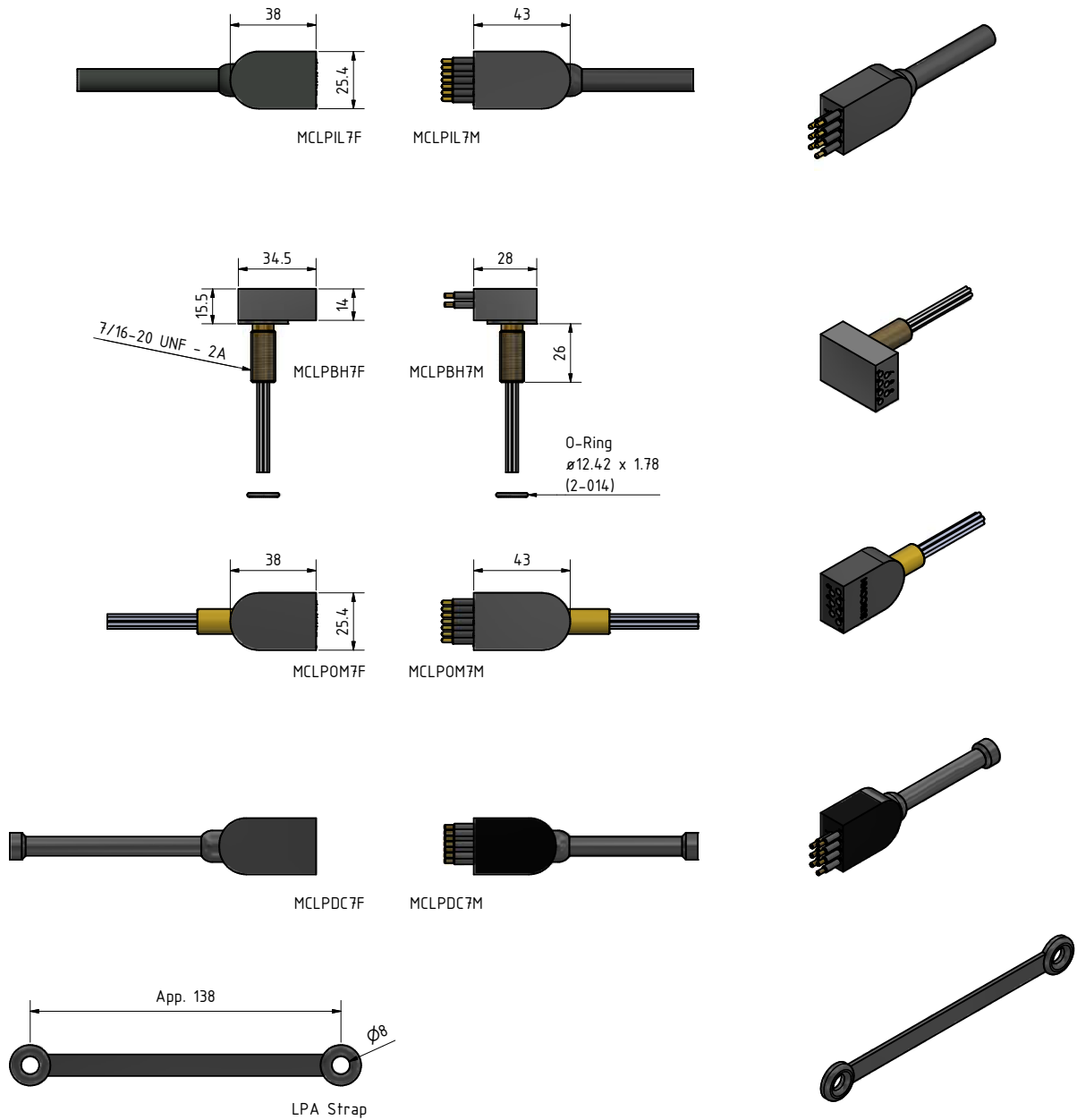
\*\* Micro 9 contacts connector uses a 10 conductor cable (only 9 conductors are used)

### Nominal cable outside diameter (OD)

8 conductor cable 0.363", 9.2 mm

10 conductor cable 0.406", 10.3 mm

7 and 9 conductor cables are not available, therefore 8 and 10 conductor cables are to be used



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



**Quote**

*"The SubConn® brand has been extensively used by Valeport for both shallow and deep water product applications. Knowing it is universally accepted worldwide within the industry is important to us."*

*Kevin Edwards, Sales & Marketing Manager  
Valeport Limited*

# SubConn® Metal Shell series



The SubConn® Metal Shell series represents an alternative to Circular series bulkhead connectors where an even more rugged, resilient and protected underwater connectivity solution is required.

SubConn® Metal Shell series connectors are manufactured from stainless steel and are available in three different shell sizes compatible with industry standards. Flange mountable and bulkhead (male and female) connectors are available as standard equipment and connector configuration ranges from 2 to 12 contacts rated at 300 to 600 V up to 5 to 10 A. SubConn® Metal Shell connectors are manufactured to mate with compatible standard inline and dummy connectors.

The connectors feature an integrated locking ring thread on the body and a special polyoxymethylene (POM) or stainless steel locking sleeve is used on all connectors. SubConn® Metal Shell connectors come with numbered teflon (PTFE) leads and feature a high depth rating.

## Applications

- Mating rugged flange mounted connectors with inline harness cables and connectors
- Defence systems and equipment
- Remotely Operated Vehicle (ROV) systems
- Oceanographic systems, equipment and instrumentation solutions
- Underwater camera, video and lighting systems
- Ocean bottom cable and seismic systems
- Slip ring assemblies

## Options

- Customer specified connector body material
- Customised mating harness cables
- Customer specified cable, wire leads and bulkhead thread lengths
- Electromechanical stress terminations
- Certified pressure testing to specific ocean depths

# SubConn® Metal Shell 1500

**2, 3, 4, 5, 6 and 8 contacts and G2 2, 3 and 4 contacts**

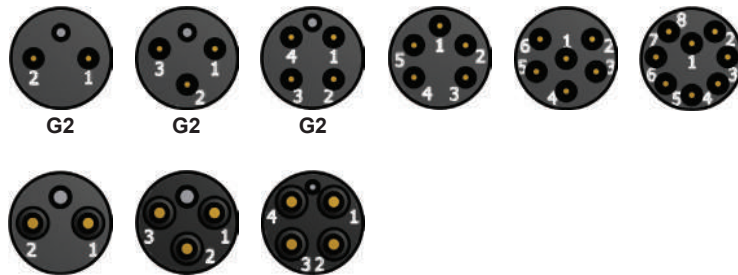
## Connector specifications

Voltage rating	300 V DC/AC rms
2, 3 and 4 contacts current rating	10 A per contact (max 20 A per connector)
5, 6 and 8 contacts current rating	5 A per contact (max 20 A per connector)
G2 2, 3 and 4 contacts current rating	5 A per contact (max 20 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi

## Material specifications

Connector body	Chloroprene rubber
Connector housing	Stainless steel AISI 316 (other materials on request)
Contacts	Female sockets in gold plated brass UNS - C36000 Male pins in gold plated beryllium copper
Location pin	Stainless steel AISI 303
Locking sleeves	ABS or stainless steel
Snap rings	Stainless steel AISI 302
2, 3 and 4 contact bulkhead leads (1 ft, 30 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE
5, 6 and 8 contact bulkhead leads (1 ft, 30 cm)	22 AWG, 0.33 mm <sup>2</sup> coloured PTFE
G2 2, 3 and 4 contact bulkhead leads (1 ft, 30 cm)	20 AWG, 0.52 mm <sup>2</sup> coloured PTFE

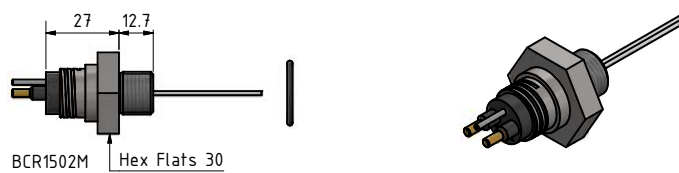
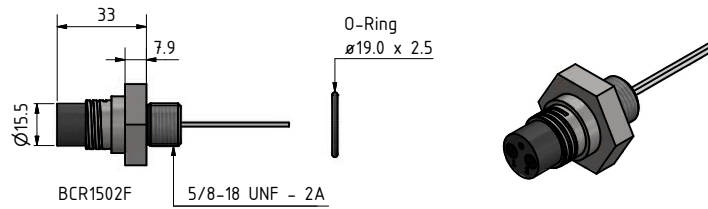
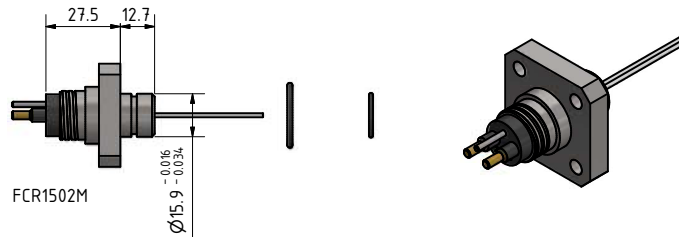
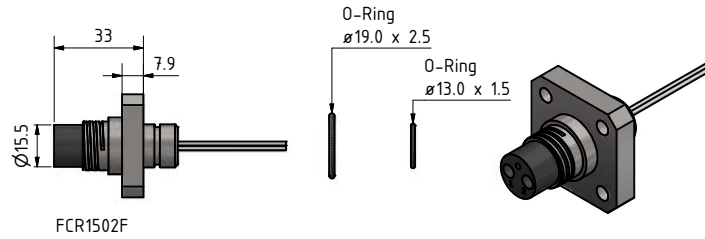
## Face view (male)





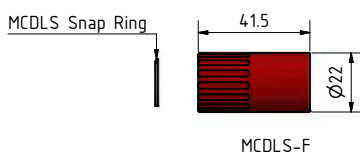
For more information  
see page 26/27

MCIL2F  
MCOM2F  
MCPB0F2F  
MCDC2F



For more information  
see page 26/27

MCIL2M  
MCOM2M  
MCPB0F2M  
MCDC2M



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Metal Shell 2000

## 2, 3, 4 contacts and Micro 10 and 12 contacts

### Connector specifications

2, 3 and 4 contacts voltage rating	600 V DC/AC rms
10 and 12 contacts voltage rating	300 V DC/AC rms
2, 3 and 4 contacts current rating	10 A per contact (max 30 A per connector)
10 and 12 contacts current rating	5 A per contact (max 30 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi

### Material specifications

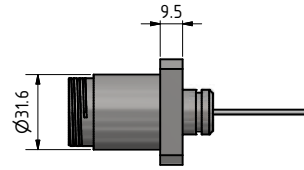
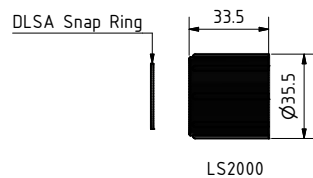
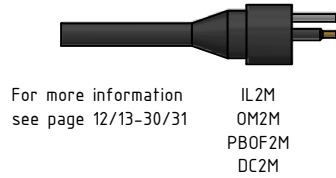
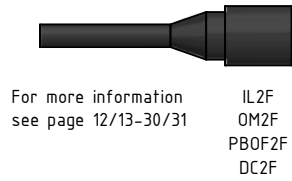
Connector body	Chloroprene rubber
Connector housing	Stainless steel AISI 316 (other materials on request)
2, 3 and 4 contacts	Brass UNS - C36000
10 and 12 contacts	Female sockets in gold plated brass UNS - C36000
	Male pins in gold plated beryllium copper
Location pin	Stainless steel AISI 303
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
2, 3 and 4 contact bulkhead leads (1 ft, 30 cm)	18 AWG, 0.82 mm² white tagged PTFE
10 and 12 contact bulkhead leads (1 ft, 30 cm)	20 AWG, 0.52 mm² white tagged PTFE

### Face view (male)

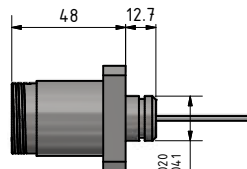


### Micro 10 contact

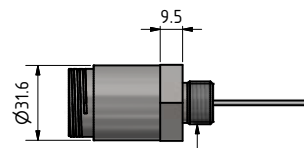
### Micro 12 contact



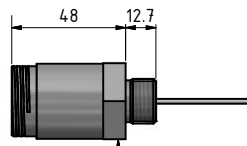
FCR2002F



FCR2002M



BCR2002F



BCR2002M

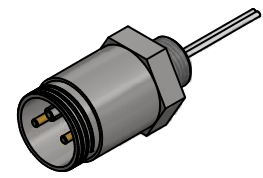
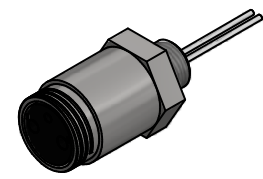
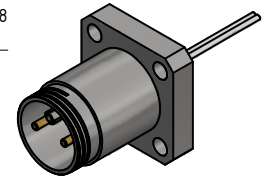
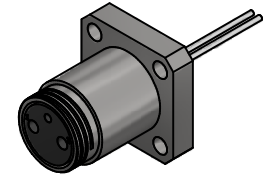
O-Ring  
Ø22.22 x 2.62

O-Ring  
Ø15.6 x 1.78  
(2-016)

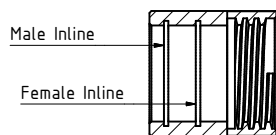
O-Ring  
Ø22.22 x 2.62

3/4-16 UNF - 2A

Hex Flats 32



## Snap ring placement



With male inline connector - snap ring in outer groove

With female inline connector - snap ring in inner groove

## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Metal Shell 2400

## 6, 8 and 10 contacts

### Connector specifications

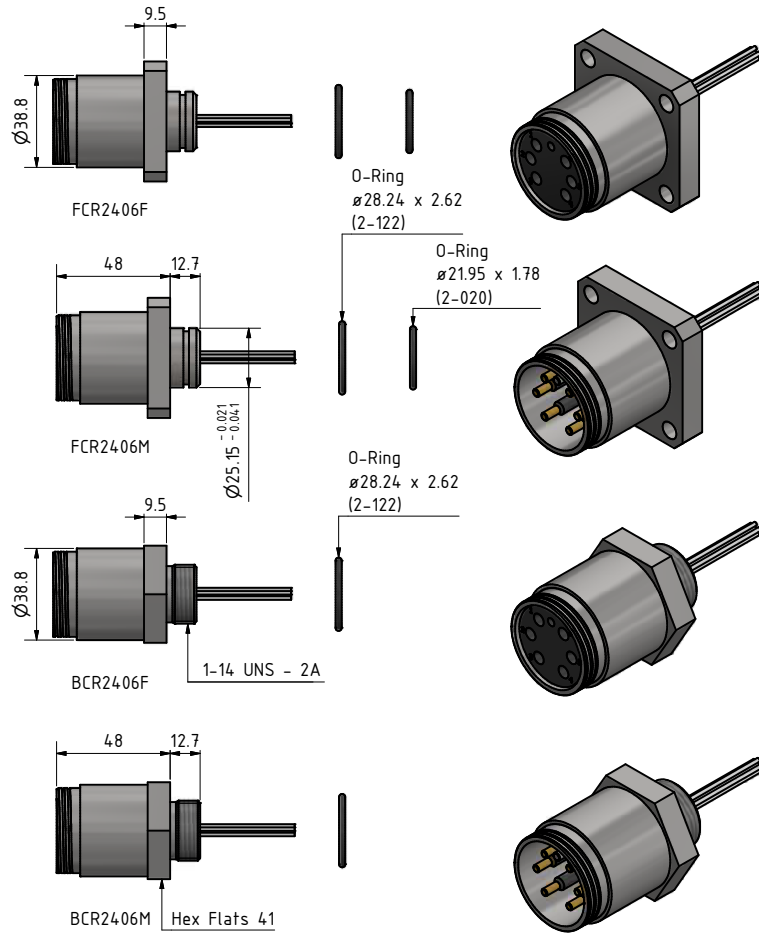
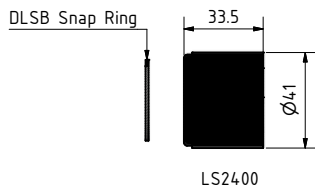
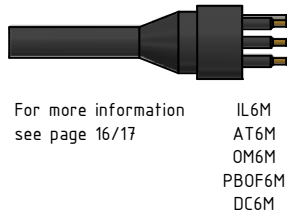
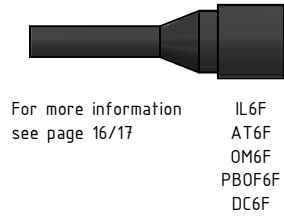
Voltage rating	600 V DC/AC rms
Current rating	10 A per contact (max 50 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi

### Material specifications

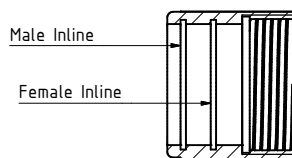
Connector body	Chloroprene rubber
Connector housing	Stainless steel AISI 316 (other materials on request)
Contacts	Brass UNS - C36000
Location pin	Stainless steel AISI 303
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Bulkhead leads (1 ft, 30 cm)	18 AWG, 0.82 mm <sup>2</sup> white tagged PTFE

### Face view (male)





## Snap ring placement



With male inline connector - snap ring in outer groove

With female inline connector - snap ring in inner groove

## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



**Quote**

*"At Baggerbedrijf de Boer - Dutch Dredging, we know that working with mother nature requires environmental concern and safety and we try to live up to the latest standards in this field. As part of this effort, we use SubConn® connectors to provide connectivity and optimal reliability for our dredging equipment operating in harsh marine environments."*

*Casper Schilder, Technical Purchase Manager  
Baggerbedrijf de Boer - Dutch Dredging*

# SubConn® Power series



The SubConn® Power series offers a high-performance, dependable connector solution to accommodate the ever growing power requirements of underwater system operators and industries. The series comprises five standard connectors, supported by a number of custom-made solutions.

All based on the proven SubConn® connector and contact design, the SubConn® Power series includes a single contact power connector, three battery charging connectors (2, 3 and 4 contacts) and a 4-contact high power connector. The single contact power connector is designed for use with a selection of cable sizes and can be operated at up to 3 kV and 250 A. The battery charging connectors are suitable for 600 V up to 25 A per contact. The 4-contact high power connector is suitable for 600 V at 50 A per contact and is supplied in standard SubConn® bulkhead, inline, Pressure Balanced Oil Filled (PBOF) (except 1 pin version) and field installable overmould versions.

For easy integration with systems and equipment, SubConn® Power series connectors are available with dedicated cables, polyoxymethylene (POM) or stainless steel locking sleeves and pressure-proof dummy connectors. All standard SubConn® cables for the SubConn® Power series are of the flexible and water-resistant chloroprene rubber.

## Applications

- Power supply for offshore oil and gas, renewable energy and subsea systems
- Power supply for remotely operated vehicles (ROV) and subsea trenching machines
- Marine battery pack charging
- Power supply for underwater pump units
- Hazardous environment power supply

## Options

- Customised harness cables and direct moulding to compatible polyurethane (PUR) cables
- Customer specified connector body material and cable lengths
- Field installable versions for all SubConn® Power series connectors
- Certified pressure testing to specific ocean depths

# SubConn® Power

## 1 contact

### Connector specifications

Voltage rating	
inline and bulkhead (1 KV version)	1 KV DC/AC rms
Current rating	
inline, overmould and bulkhead (1 KV version)	250 A
Voltage rating	
overmould and bulkhead (3 KV version)*	3 KV DC/AC rms
Current rating of OM and BH (3 KV version)	90 A
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	800 bar, 11,600 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel or titanium
Contacts	Brass UNS - C36000
Adapter	Brass UNS - C36000
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Inline cable (2 ft, 60 cm)	1/0 AWG, 53.46 mm <sup>2</sup> chloroprene rubber

### Inline cable colour code

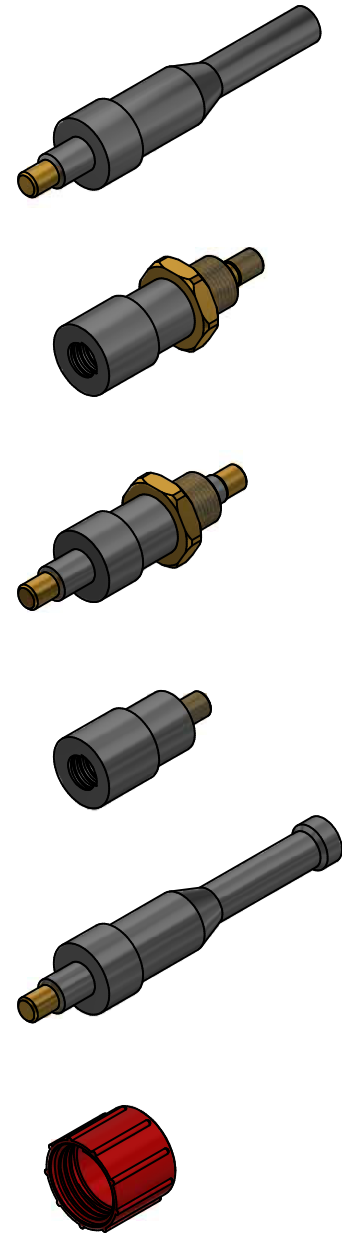
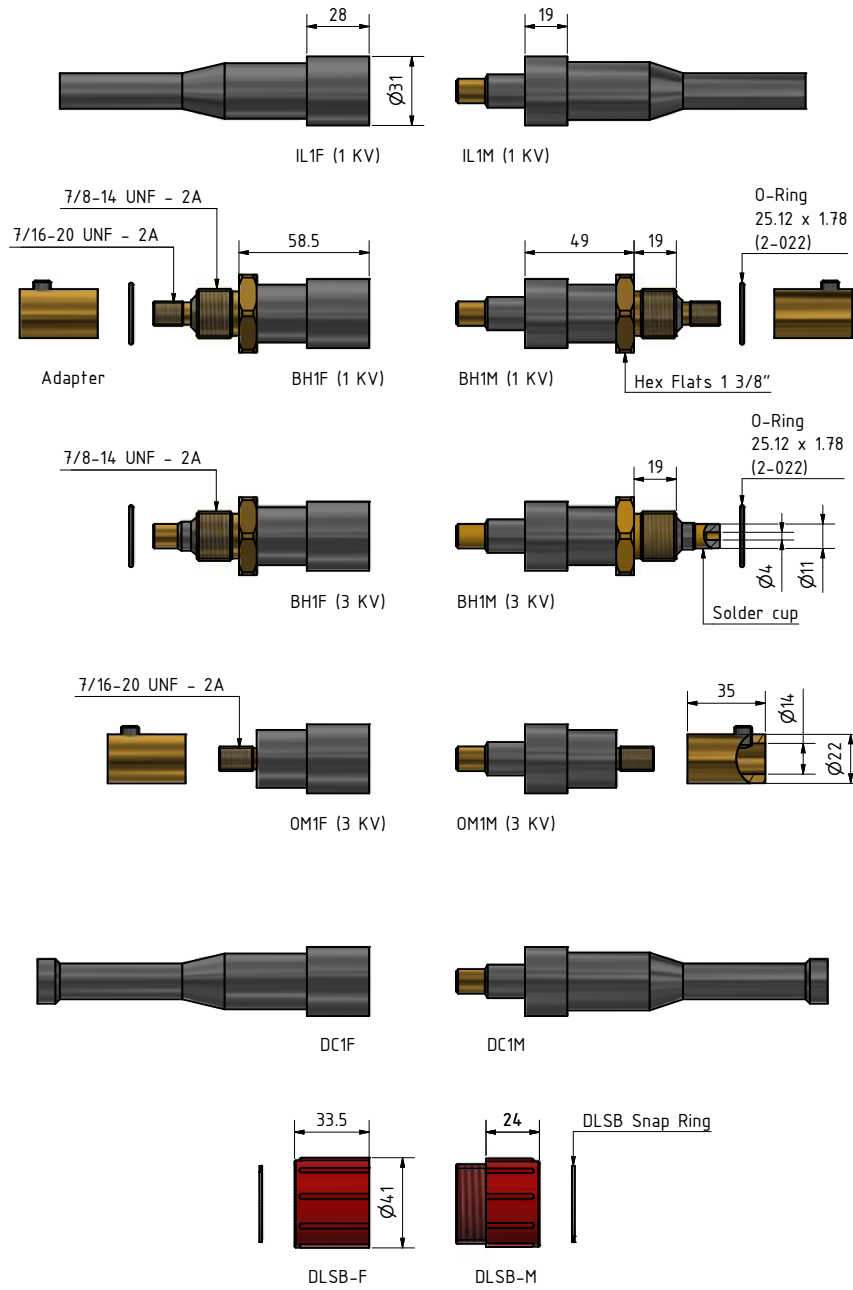
1 Black

### Nominal cable outside diameter (OD)

1 conductor cable 0.6" to 0.85", 15.0 mm to 22.0 mm

### Additional information

\* Only if the bulkhead is mounted in non-conducting oil



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Power Battery

## 2, 3 and 4 contacts

### Connector specifications

Voltage rating	600 V DC/AC rms
Current rating	25 A per contact (max 50 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0,01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Design depth rating	1,400 bar, 20,000 psi
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Gold plated brass UNS - C36000
Location pin	Stainless steel AISI 303
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
2 and 3 conductor inline cable (2 ft, 60 cm)	10 AWG, 5.26 mm <sup>2</sup> chloroprene rubber
4 conductor inline cable (2 ft, 60 cm)	12 AWG, 3.30 mm <sup>2</sup> chloroprene rubber
2 and 3 contact bulkhead and PBOF leads (1 ft, 30 cm)	10 AWG, 5.26 mm <sup>2</sup> white tagged PTFE
2 and 3 contact OM leads (3", 7 cm)	10 AWG, 5.26 mm <sup>2</sup> white tagged PTFE
4 contact bulkhead and PBOF leads (1 ft, 30 cm)	12 AWG, 3.31 mm <sup>2</sup> white tagged PTFE
4 contact OM leads (3", 7 cm)	12 AWG, 3.31 mm <sup>2</sup> white tagged PTFE

### Face view (male)



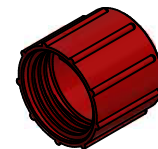
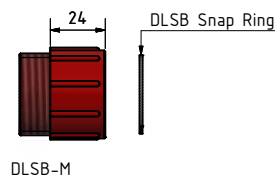
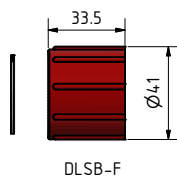
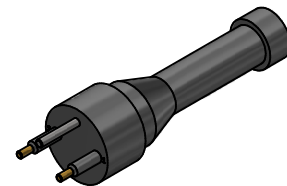
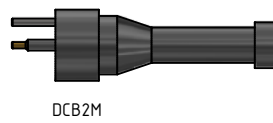
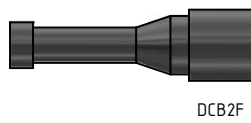
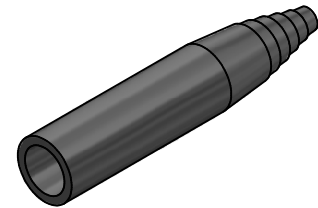
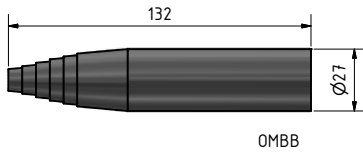
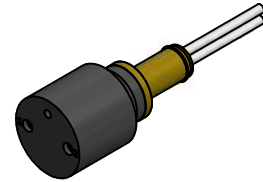
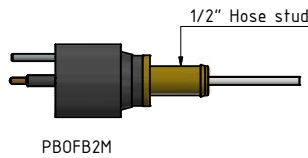
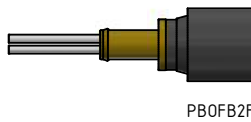
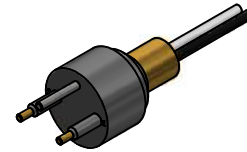
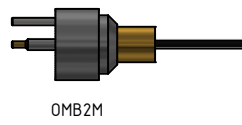
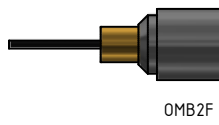
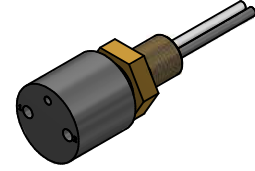
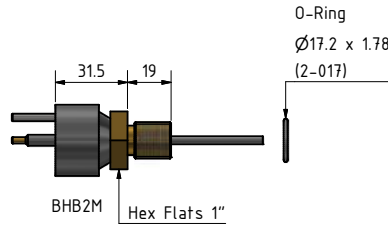
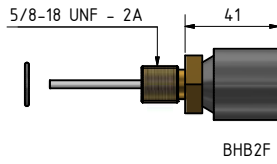
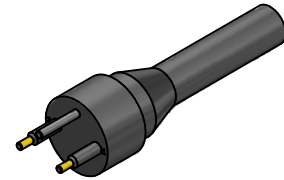
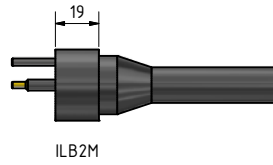
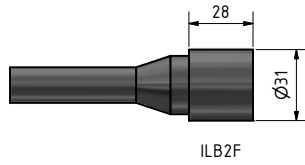
### Inline cable colour code

1 Black	2 White	3 Red	4 Green
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(3 conductor cable colour code: 1 black, 2 white, 3 green)

### Nominal cable outside diameter (OD)

2 conductor cable	0.640", 16.3 mm
3 conductor cable	0.671", 17.0 mm
4 conductor cable	0.660", 16.8 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® High Power

## 4 contacts

### Connector specifications

Voltage rating	600 V DC/AC rms
Current rating (water)	50 A per contact (max 200 A per connector)
Current rating (air)	28 A per contact (max 112 A per connector)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Design depth rating	1,400 bar, 20,000 psi
Qualified pressure tested	800 bar, 11,600 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium or anodised aluminium
Contacts	Brass UNS - C36000
Location pin	Stainless steel AISI 303
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Inline cable (2 ft, 60 cm)	8 AWG, 8.36 mm <sup>2</sup> chloroprene rubber
Bulkhead and PBOF leads (1 ft, 30 cm)	10 AWG, 5.26 mm <sup>2</sup> tagged PTFE
OM leads (3", 7 cm)	10 AWG, 5.26 mm <sup>2</sup> tagged PTFE

### Face view (male)

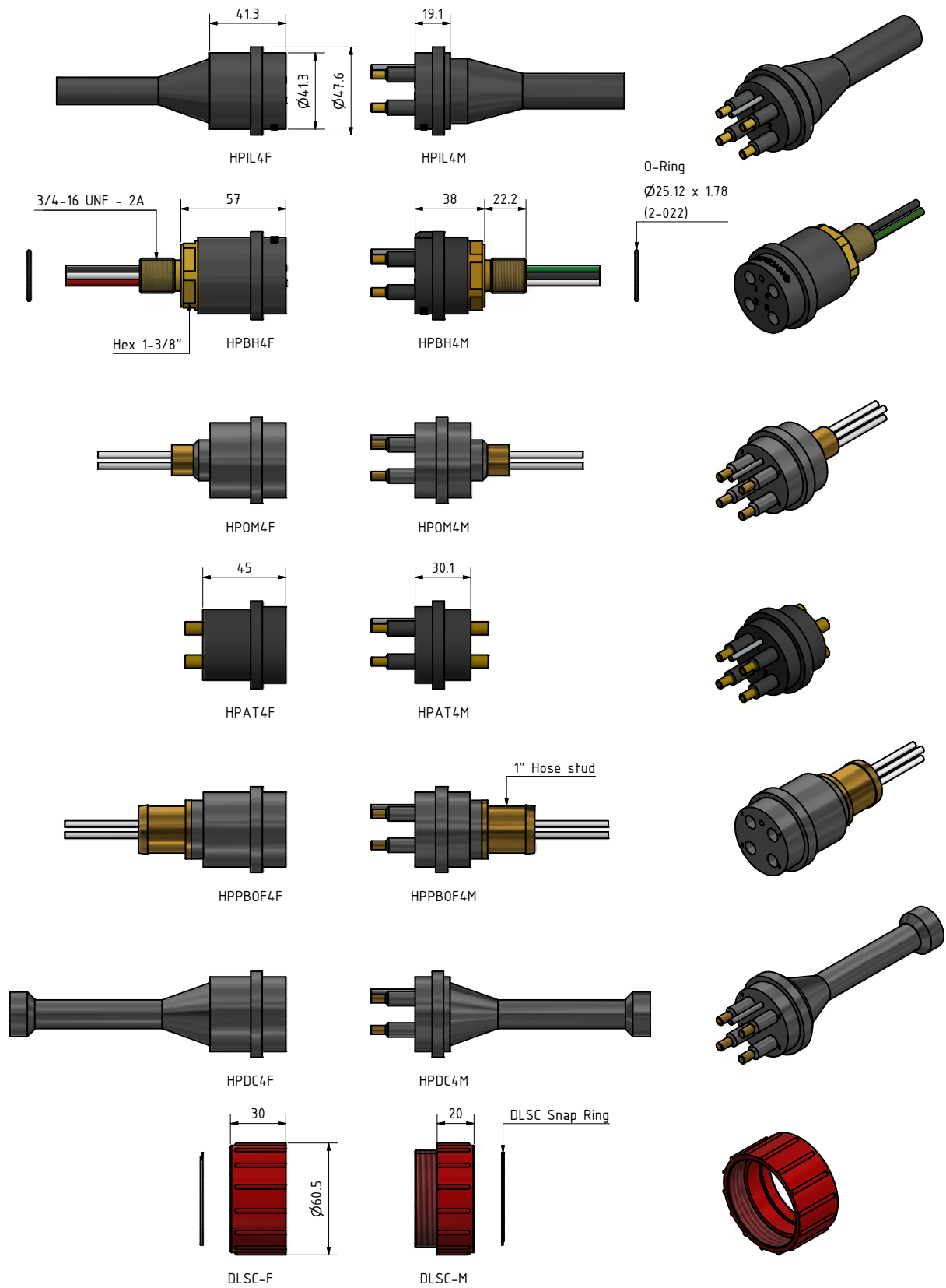


### Inline cable colour code

1 Black	2 White	3 Red	4 Green
---------	---------	-------	---------

### Nominal cable outside diameter (OD)

4 conductor cable 0.715", 18.2 mm



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)

**Quote**

*"Over the years, LH-Camera has, with great satisfaction, used more than a thousand SubConn® connectors in the production of underwater cameras and lights. It is vital for us that our products will operate in harsh environments."*

*Brian Hansen COO  
LH-Camera Denmark*

# SubConn® Ethernet series



The SubConn® Ethernet series marked the first high speed underwater communications system to offer true Ethernet type performance. The series is developed and manufactured to accommodate the demand for gigabit data speed, signal and power for increasingly capable and compact underwater systems. The series includes different types of Ethernet and combined power and Ethernet connector options in circular, metal shell and low profile configurations.

All SubConn® Ethernet connectors are capable of Gigabit speed performance and feature a high depth rating. Utilising a reconfigured version of the proven SubConn® contact and socket design, SubConn® Ethernet connectors are set to maximise data flow while eliminating cross talk and noise. With power contacts rated for 600 V at 4 A, SubConn® combined power and Ethernet connectors allow signal and power supply to be unified in one high performance solution.

SubConn® Ethernet connectors are available with specially designed SubConn® Ethernet or combined power and Ethernet cables capable of Gigabit speed data transfer up to a distance of 75 metres. This flexible and water-resistant cable is manufactured from polyurethane (PUR). SubConn® Ethernet connectors come with colour-coded leads and are available in bulkhead, inline, Pressure Balanced Oil Filled (PBOF) and field installable overmould versions, together with injection moulded polyoxymethylene (POM) or stainless steel locking sleeves.

## Applications

- Remotely Operated Vehicle (ROV) and Remotely Operated Towed Vehicle (ROTV) systems
- Oceanographic systems, equipment and instrumentation solutions
- Offshore oil and gas, renewable energy and subsea systems
- Defence systems and equipment
- Underwater camera and video systems
- Underwater control systems

## Options

- Customised harness cables and direct moulding to selected polyurethane (PUR) cables
- Customer specified cable, wire leads and bulkhead thread lengths
- Customer specified connector body material
- Certified pressure testing to specific ocean depths

# SubConn® Ethernet Circular

## 8 contacts

### Connector specifications

Voltage rating	250 V DC/AC rms
Data rate	1 Gbit/s (up to 75 m)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	600 bar, 8,700 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Female sockets in gold plated brass UNS - C36000
	Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Inline cable (3.3 ft, 100 cm)	4 pair 24 AWG, 0.20 mm <sup>2</sup> PUR
Bulkhead and PBOF leads (3.3 ft, 100 cm)	CAT 5E patch cable incl.
	RJ 45 connector incl. on bulkhead (not installed)
OM leads (3") , 7 cm	CAT 5E patch cable

### Face view (male)



### Inline cable colour code

1-2 Brown, Brown/white*	5-6 Orange, Orange/white*
3-4 Blue, Blue/white*	7-8 Green, Green/white*

\* Twisted pairs

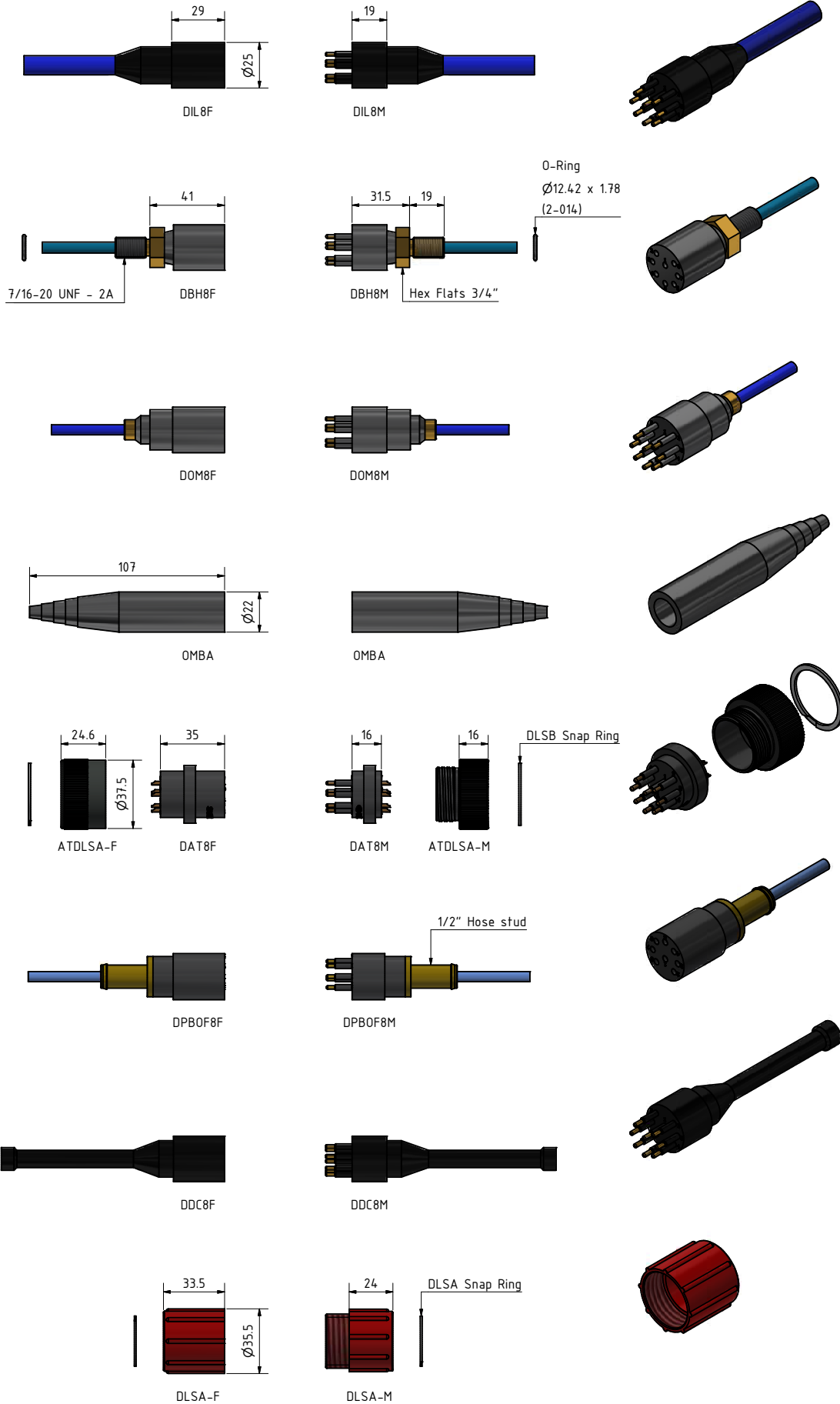
### Nominal cable outside diameter (OD)

PUR cable 0.410", 10.4 mm

### Additional information

Inline connector is available in shallow water version.

Standard RJ45 cannot be mounted on inline cable and will require a RJ45 Phoenix connector or equivalent.



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Power Ethernet Circular

## 13 contacts

### Connector specifications

Voltage rating	600 V DC/AC rms
Voltage rating on data wire	250 V DC/AC rms
Current rating on power wire	4 A per contact (max 16 A per connector)
Data rate	1 Gbit/s (up to 75 m)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	600 bar, 8,700 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Female sockets in gold plated brass UNS - C36000 Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Inline cable (3.3 ft, 100 cm)	4 pair 24 AWG, 0.20 mm <sup>2</sup> PUR Power conductors 4 x 18 AWG, 0.82 mm <sup>2</sup> Screen: Tinned copper braid CAT 5E patch cable, 5 x 20 AWG, 0.52 mm <sup>2</sup> coloured PTFE. RJ 45 connector incl. on bulkhead (not installed) CAT 5E patch cable, 5 x 20 AWG, 0.52 mm <sup>2</sup> coloured PTFE
Bulkhead and PBOF leads (3.3 ft, 100 cm)	
OM leads (3", 7 cm)	

### Face view (male)



### Inline cable colour code

1 Black	4-5 Brown, Brown/white*	10-11 Green, Green/white*
2 Screen (orange wire on bulkhead)	6-7 Blue, Blue/white*	12 Red
3 White	8-9 Orange, Orange/white*	13 Green

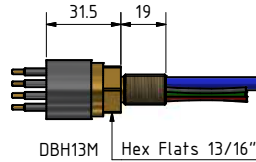
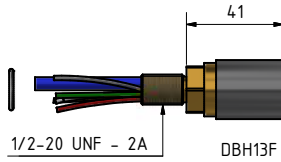
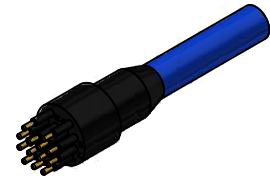
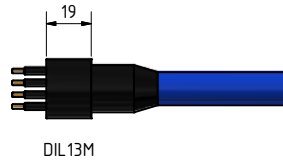
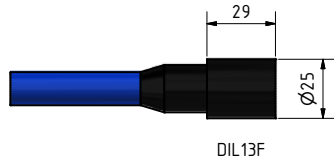
\* Twisted pairs

### Nominal cable outside diameter (OD)

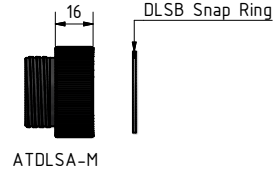
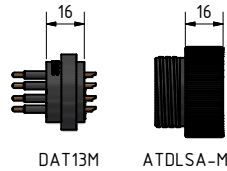
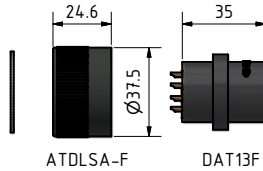
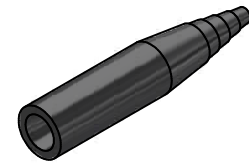
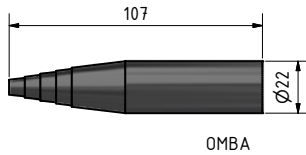
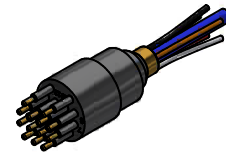
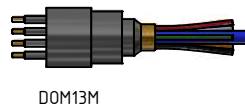
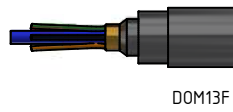
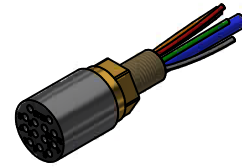
PUR cable 0.550", 13.97 mm

### Additional information

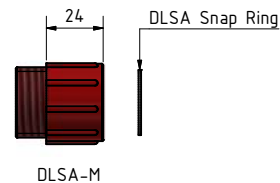
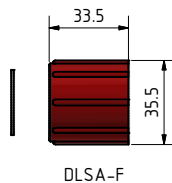
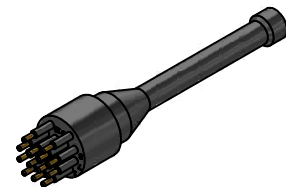
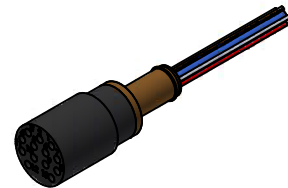
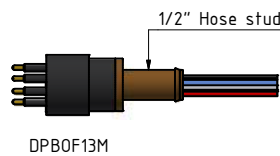
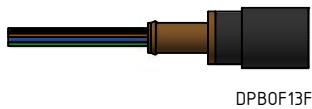
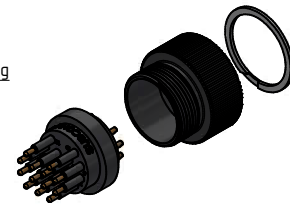
Standard RJ45 cannot be mounted on inline cable and will require a RJ45 Phoenix connector or equivalent.



O-Ring  
Ø14.0 x 1.78  
(2-015)



DLSB Snap Ring



DLSA Snap Ring



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Ethernet Circular

## Double O-ring, 8 and 13 contacts

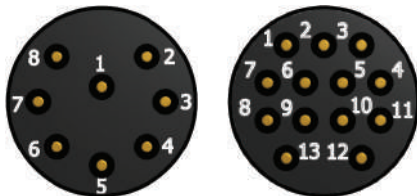
### Connector specifications

Voltage rating	600 V DC/AC rms (13 contacts only)
Voltage rating on data wire	250 V DC/AC rms
Current rating on power wire	4 A per contact (max 16 A per connector) (13 contacts only)
Data rate	1 Gbit/s
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	600 bar, 8,700 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium
Contacts	Female sockets in gold plated brass UNS - C36000
	Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Bulkhead leads (3.3 ft, 100 cm)	CAT 5E patch cable, 5 x 20 AWG, 0.52 mm <sup>2</sup> coloured PTFE (13 contacts only)
	incl. RJ 45 connector (not installed)

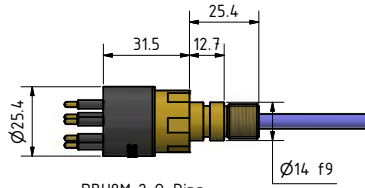
### Face view (male)



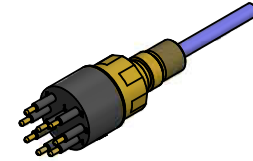


For more information  
see page 74/75

DIL8F  
DOM8F  
DPB0F8F  
DDC8F



DBH8M 2 O-Ring  
Hex Flats 22mm

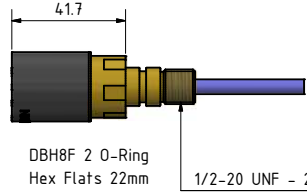


O-Ring  
Ø10.82 x 1.78  
(2-013)



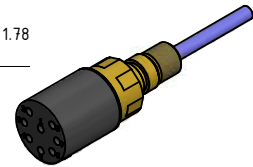
For more information  
see page 74/75

DIL8M  
DOM8M  
DPB0F8M  
DDC8M



DBH8F 2 O-Ring  
Hex Flats 22mm

O-Ring  
Ø15.6 x 1.78  
(2-016)

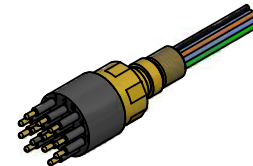


For more information  
see page 76/77

DIL13F  
DOM13F  
DPB0F13F  
DDC13F



DBH13M 2 O-Ring  
Hex Flats 22mm

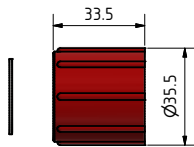
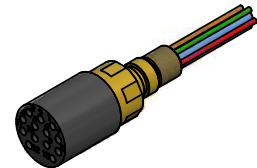


For more information  
see page 76/77

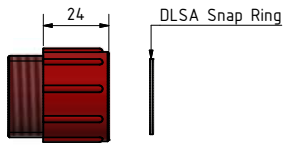
DIL13M  
DOM13M  
DPB0F13M  
DDC13M



DBH13F 2 O-Ring  
Hex Flats 22mm



DLSA-F



DLSA-M



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Ethernet Low Profile

## 9 contacts

### Connector specifications

Voltage rating	250 V DC/AC rms
Data rate	1 Gbit/s (up to 75 m)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	600 bar, 8,700 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium, anodised aluminium or PEEK
Contacts	Female sockets in gold plated brass UNS - C36000 Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking straps	Chloroprene rubber
Inline cable (3.3 ft, 100 cm)	4 pair 24 AWG, 0.20 mm <sup>2</sup> PUR Screen: Tinned copper braid
Bulkhead leads (3.3 ft, 100 cm)	CAT 5E patch cable incl. RJ 45 connector (not installed)

### Face view (male)



### Inline cable colour code

1-2 Brown, Brown/white*	7-8 Green, Green/white*
3-4 Blue, Blue/white*	9 Screen (orange wire on bulkhead)
5-6 Orange, Orange/white*	

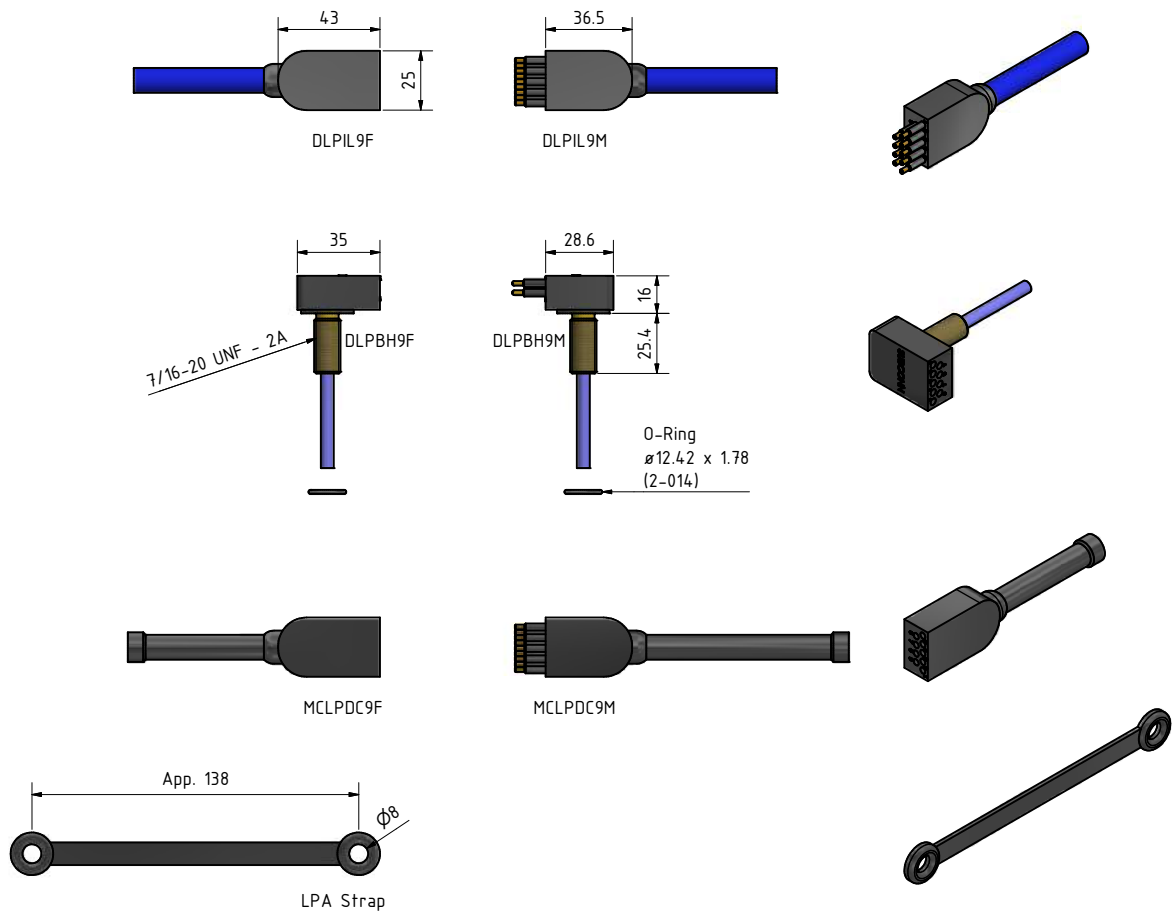
\* Twisted pairs

### Nominal cable outside diameter (OD)

PUR cable 0.410", 10.4 mm

### Additional information

Standard RJ45 cannot be mounted on inline cable and will require a RJ45 Phoenix connector or equivalent.



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Power Ethernet Low Profile

## 13 contacts

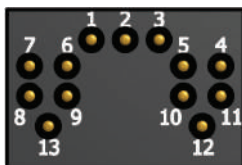
### Connector specifications

Voltage rating	600 V DC/AC rms
Voltage rating on data wire	250 V DC/AC rms
Current rating on power wire	4 A per contact (max 16 A per connector)
Data rate	1 Gbit/s (up to 75 m)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	600 bar, 8,700 psi
Depth rating PEEK	300 bar, 4,350 psi

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel or titanium
Contacts	Female sockets in gold plated brass UNS - C36000
	Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking straps	Chloroprene rubber
Inline cable (3.3 ft, 100 cm)	4 pair 24 AWG, 0.20 mm² PUR
	Power conductors 4 x 18 AWG, 0.82 mm²
	Screen: Tinned copper braid
Bulkhead leads (3.3 ft, 100 cm)	CAT 5E patch cable, 5 x 20 AWG, 0.52 mm² coloured PTFE incl. RJ 45 connector (not installed)

### Face view (male)



### Inline cable colour code

1 Black	4-5 Brown, Brown/white*	10-11 Green, Green/white*
2 Screen (orange wire on bulkhead)	6-7 Blue, Blue/white*	12 Red
3 White	8-9 Orange, Orange/white*	13 Green

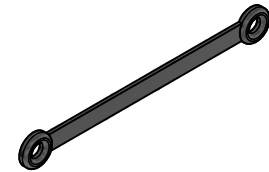
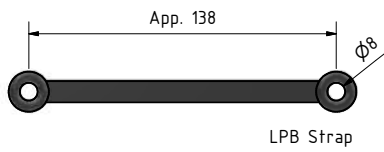
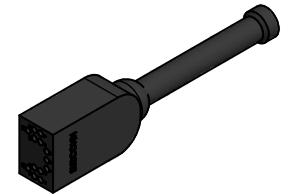
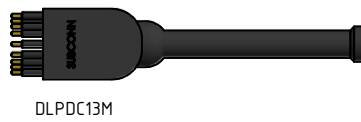
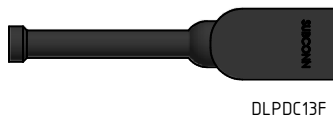
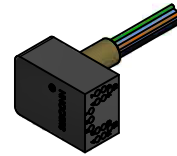
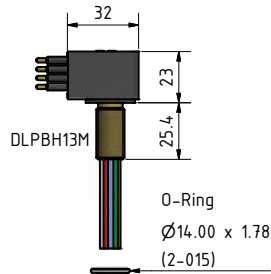
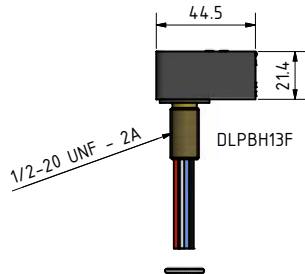
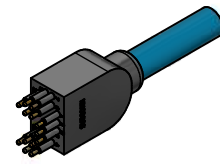
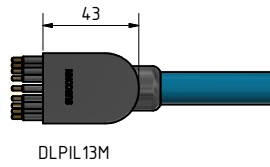
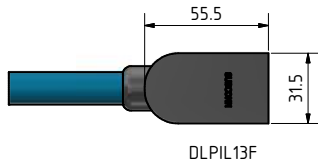
\* Twisted pairs

### Nominal cable outside diameter (OD)

PUR cable 0.550", 13.97 mm

### Additional information

Standard RJ45 cannot be mounted on inline cable and will require a RJ45 Phoenix connector or equivalent.



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Ethernet Metal Shell 2000

## 8 contacts

### Connector specifications

Voltage rating	250 V DC/AC rms
Data rate	1 Gbit/s (up to 75 m)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	600 bar, 8,700 psi

### Material specifications

Connector body	Chloroprene rubber
Connector housing	Stainless steel AISI 316 (other materials on request)
Contacts	Female sockets in gold plated brass UNS - C36000
	Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Bulkhead leads (3.3 ft, 100 cm)	CAT 5E patch cable incl. RJ 45 connector (not installed)

### Face view (male)



### Wire colour code

1-2 Brown, Brown/white*	5-6 Orange, Orange/white*
3-4 Blue, Blue/white*	7-8 Green, Green/white*

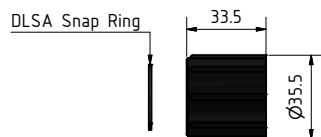
\* Twisted pairs



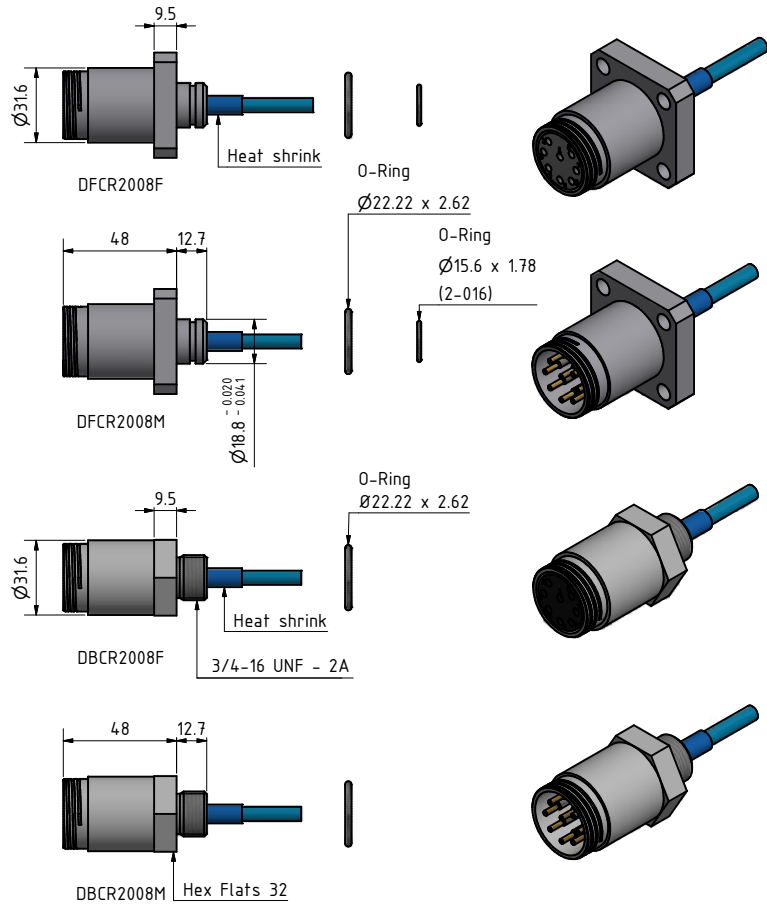
For more information see page 74/75 DIL8F



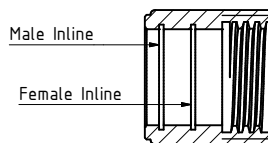
For more information see page 74/75 DIL8M



LS2000



## Snap ring placement



With male inline connector - snap ring in outer groove

With female inline connector - snap ring in inner groove

## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® Ethernet Metal Shell 2000

## 13 contacts

### Connector specifications

Voltage rating	600 V DC/AC rms
Voltage rating on data wire	250 V DC/AC rms
Current rating on power wire	4 A per contact (max 16 A per connector)
Data rate	1 Gbit/s (up to 75 m)
Insulation resistance	> 200 Mohm
Contact resistance	< 0.01 ohm
Wet matings	> 500 (open face rated)
Temperature rating (water)	- 4 to 60°C, 25 to 140°F
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F
Storage temperature rating	- 40 to 60°C, - 40 to 140°F
Qualified pressure tested	600 bar, 8,700 psi

### Material specifications

Connector body	Chloroprene rubber
Connector housing	Stainless steel AISI 316 (other materials on request)
Contacts	Female sockets in gold plated brass UNS - C36000
	Male pins in gold plated beryllium copper
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Bulkhead leads (3.3 ft, 100 cm)	CAT 5E patch cable, 4 x 20 AWG, 0.52 mm² coloured PTFE incl. RJ 45 connector (not installed)

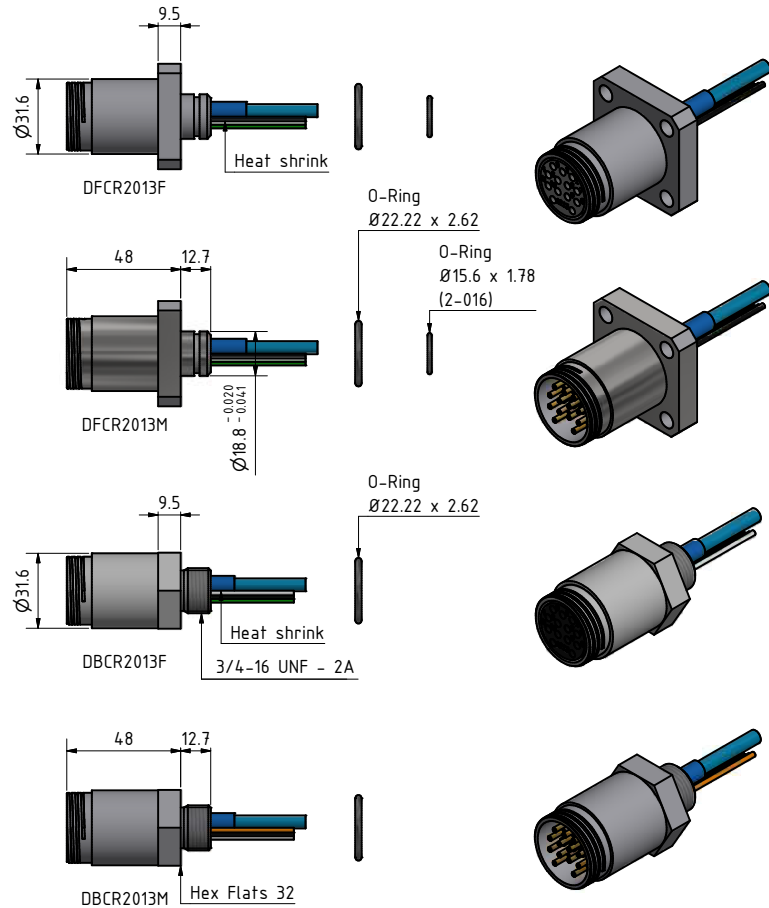
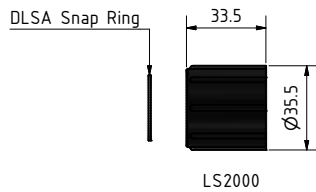
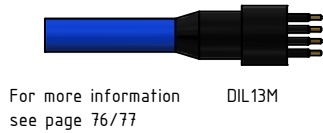
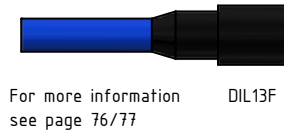
### Face view (male)



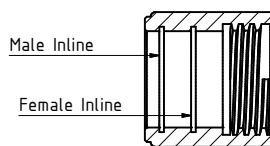
### Wire colour code

1 Black	4-5 Brown, Brown/white*	10-11 Green, Green/white*
2 Screen (orange wire on bulkhead)	6-7 Blue, Blue/white*	12 Red
3 White	8-9 Orange, Orange/white*	13 Green

\* Twisted pairs



## Snap ring placement



With male inline connector - snap ring in outer groove

With female inline connector - snap ring in inner groove

## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



**Quote**

*"I'm very happy to learn about the company's expansion and faster delivery times. I love the product and recommend your systems whenever I can to the people here at WHOI. Thank you very much."*

*Stephen Gagnon  
WHOI*

# SubConn® Coax series



The SubConn® Coax series is primarily used for facilitating the transmission of high-definition (HD) video signal within and between underwater systems and for interfacing HD video based equipment such as cameras and telemetry systems. The SubConn® Coax connectors feature a high depth rating and fully harness the rugged quality and basic SubConn® design that has been trusted by marine industry operators for decades.

The SubConn® Coax series embraces two primary connector models including a coax-only connector option and a combined coax and electric connector option with six electric contacts for handling power and signal on interfaced equipment. The latter option enables users to fully control and power equipment using only a single connector, hereby allowing for design optimisation of underwater systems. Both connector types are available with an impedance of 50 or 75 ohm.

SubConn® Coax connectors are dry mate only and cannot take open face pressure.

SubConn® Coax connectors come with colour-coded leads and are often supplied with dummy connectors and injection moulded polyoxymethylene (POM) or stainless steel locking sleeves (required). In addition, SubConn® Coax connectors are available with specially designed SubConn® coax- or combined power and coax cable manufactured from flexible and water-resistant polyurethane (PUR).

## Applications

- Offshore oil and gas, renewable energy and subsea systems
- Defence systems and equipment
- Oceanographic systems, equipment and instrumentation solutions
- Remotely Operated Vehicle (ROV) and Remotely Operated Towed Vehicle (ROTV) systems
- Underwater camera, video and lighting systems
- Underwater telemetry systems
- Antenna applications
- Diving systems and equipment

## Options

- Customised harness cables and direct moulding to selected polyurethane (PUR) cables
- Customer specified cable, wire leads and bulkhead thread lengths
- Customer specified connector body material
- Certified pressure testing to specific ocean depths

# SubConn® HF Coax

## 50 ohm Coax and Coax/Electric

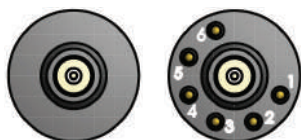
### Connector specifications

Voltage rating on electric contacts	300 V DC/AC rms									
Current rating on electric contacts	5 A per contact (max 20 A per connector)									
Voltage rating on coax insert only	800 V, max nominal voltage acc. to MIL									
Frequency*	0.3 GHz	0.6 GHz	0.9 GHz	1.2 GHz	1.5 GHz	1.8 GHz	2.1 GHz	2.4 GHz	2.7 GHz	3.0 GHz
Attenuation*	5.0 dB	7.7 dB	9.9 dB	11.6 dB	13.4 dB	15.3 dB	17.3 dB	19.3 dB	21 dB	22.5 dB
Recommended max frequency	3.0 GHz									
Insulation resistance	> 200 Mohm									
Contact resistance	< 0.01 ohm									
Wet matings	N/A (dry mating only)									
Temperature rating (water)	- 4 to 60°C, 25 to 140°F									
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F									
Storage temperature rating	- 40 to 60°C, - 40 to 140°F									
Qualified pressure tested	600 bar, 8,700 psi									

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium or anodised aluminium
Power contacts	Female sockets in gold plated brass UNS - C36000 Male pins in gold plated beryllium copper
Coax contacts	Gold plated contacts
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Inline cable (2 ft, 60 cm)	PUR jacket cable with RG58 coax or RG58 coax and 6 x 20 AWG, 0.52 mm <sup>2</sup> conductors RG316 coax RG316 coax and 6 x 20 AWG, 0.52 mm <sup>2</sup> coloured PTFE
Coax bulkhead leads (3.3 ft, 100 cm)	
Coax and 6-contact bulkhead leads (3.3 ft, 100 cm)	

### Face view (male)



### Inline cable colour code

1 Black	3 Red	5 Orange
2 White	4 Green	6 Blue

### Nominal cable outside diameter (OD)

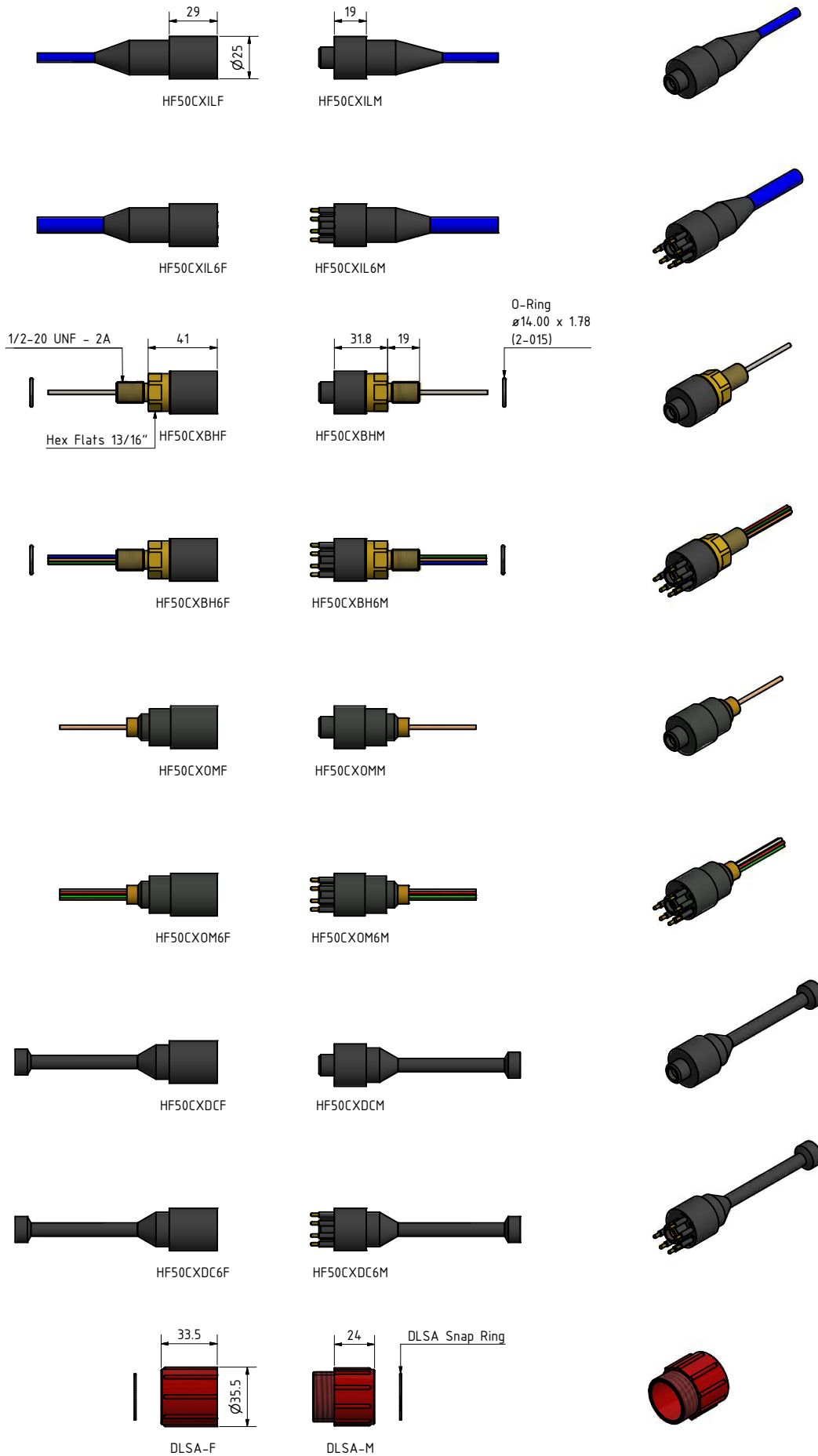
RG58 PUR cable 0.220", 5.59 mm  
RG58 and 6-conductor PUR cable 0.382", 9.70 mm

### Additional information

\*All frequency and attenuation values are based on a 10 meter cable assembly test including 2 bulkhead connectors (50 ohm).  
BNC connector for RG316 coax leads use Amphenol 031-315-RFX or equivalent.  
BNC connector for RG58 coax cable use Amphenol 112116 or equivalent.

SubConn® Coax connectors are dry mate only, and cannot take open face pressure.  
Locking sleeves are required. No greasing in the actual coax part.  
Minimum bending radius on inline cable is 100 mm.

Recommended SMB termination for Coax, see pages 120-121



## Drawing information

Dimensions in mm (1 mm = 0.03937 inch)  
Threads in inches (1 inch = 25.4 mm)



# SubConn® HF Coax

## 75 ohm Coax and Coax/Electric

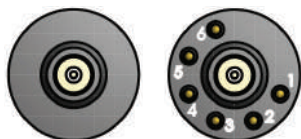
### Connector specifications

Voltage rating on electric contacts	300 V DC/AC rms							
Current rating on electric contacts	5 A per contact (max 20 A per connector)							
Voltage rating on coax insert only	930 V, max nominal voltage acc. to MIL							
Frequency*	0.9 GHz	1.2 GHz	1.5 GHz	1.8 GHz	2.1 GHz	2.4 GHz	2.7 GHz	3.0 GHz
Attenuation*	6.3 dB	7.4 dB	8.6 dB	9.9 dB	11.3 dB	12.8 dB	14.5 dB	15.7 dB
Recommended max frequency	3.0 GHz							
Insulation resistance	> 200 Mohm							
Contact resistance	< 0.01 ohm							
Wet matings	N/A (dry mating only)							
Temperature rating (water)	- 4 to 60°C, 25 to 140°F							
Temperature rating (air)	- 40 to 60°C, - 40 to 140°F							
Storage temperature rating	- 40 to 60°C, - 40 to 140°F							
Qualified pressure tested	600 bar, 8,700 psi							

### Material specifications

Connector body	Chloroprene rubber
Bulkhead body	Brass, stainless steel, titanium or anodised aluminium
Power contacts	Female sockets in gold plated brass UNS - C36000 Male pins in gold plated beryllium copper
Coax contacts	Gold plated contacts
O-rings	Nitrile
Locking sleeves	POM or stainless steel
Snap rings	Stainless steel AISI 302
Inline cable (2 ft, 60 cm)	PUR jacket cable with Mini-RG59 coax or Mini-RG59 coax and 6 x 20 AWG, 0.52 mm <sup>2</sup> conductors
Coax bulkhead leads (3.3 ft, 100 cm)	RG179 coax
Coax and 6-contact bulkhead leads (3.3 ft, 100 cm)	RG179 coax and 6 x 20 AWG, 0.52 mm <sup>2</sup> coloured PTFE

### Face view (male)



### Inline cable colour code

1 Black	3 Red	5 Orange
2 White	4 Green	6 Blue

### Nominal cable outside diameter (OD)

Mini-RG59 PUR cable 0.220", 5.59 mm  
Mini-RG59 and 6-conductor PUR cable 0.382", 9.70 mm

### Additional information

\*All frequency and attenuation values are based on a 10 meter cable assembly test including 2 bulkhead connectors (75 ohm).  
BNC connector for RG179 coax leads use Amphenol 112133 or equivalent.  
BNC connector for Mini-RG59 coax cable use Belden 1855ABHD3 or equivalent.

SubConn® Coax connectors are dry mate only, and cannot take open face pressure.

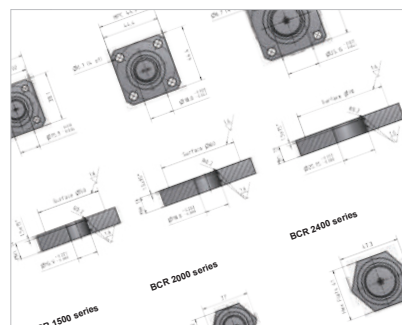
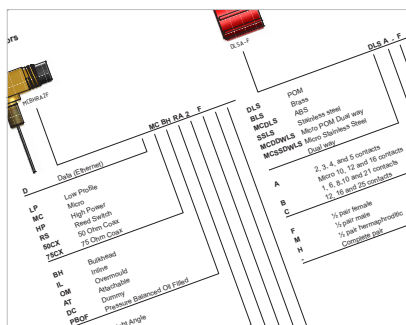
Locking sleeves are required. No greasing in the actual coax part.

Minimum bending radius on inline cable is 100 mm.

Recommended SMB termination for Coax, see pages 120-121



## Technical information



SubConn® connectors are designed, manufactured and tested for use in harsh marine environments. Operators are encouraged to read this section carefully and to follow the recommendations and instructions, in order to sustain the performance and extend the lifespan of their SubConn® connectors.

- Abbreviation list
- Recommended mounting hole
- Mounting specifications for Metal Shell
- Recommended torque on SubConn® connector thread sizes
- Mounting procedure for Low Profile strap
- SubConn® connector body material types
- Qualification test
- Test and acceptance criteria
- American wire gauge (AWG) to metric
- Conductor resistance of copper
- Formulas
- RoHs/Reach directive
- Rubber information
- Termination information
- Cable information
- Cable assembly information
- Hoses for pressure balanced oil filled connectors
- Recommended oil for pressure balanced systems
- Pressure PSI/BAR
- SubConn® handling instructions
- Galvanic series of metals in seawater
- Information on debonding and corrosion

## Introduction

Content .....	5
Contact information .....	6
About SubConn® .....	7
About MacArtney .....	7

## SubConn® Circular series

SubConn® Circular series .....	9
SubConn® Circular - Mini 1 contact .....	10
SubConn® Circular - 2, 3, 4 and 5 contacts .....	12
SubConn® Circular Splitconn - 2 contacts .....	14
SubConn® Circular - 6, 8 and 10 contacts .....	16
SubConn® Circular Right Angle - 6, 8 and 10 contacts .....	18
SubConn® Circular - 12, 16 and 25 contacts .....	20

## SubConn® Micro Circular series

SubConn® Micro Circular series .....	23
SubConn® Micro Circular - 1 contact .....	24
SubConn® Micro Circular - 2, 3, 4, 5, 6 and 8 contacts and G2 2, 3 and 4 contacts .....	26
SubConn® Micro Circular Double O-ring - 2, 3, 4, 5, 6 and 8 contacts and G2 2, 3 and 4 contacts .....	28
SubConn® Micro Circular - 10, 12 and 16 contacts .....	30
SubConn® Micro Circular Double O-ring - 10, 12 and 16 contacts .....	32
SubConn® Micro Circular - 21 contacts .....	34

## SubConn® Low Profile series

SubConn® Low Profile series .....	37
SubConn® Low Profile - 2 contacts .....	38
SubConn® Low Profile - 3 and 4 contacts .....	40
SubConn® Low Profile - 5 contacts .....	42
SubConn® Low Profile - 7 contacts .....	44
SubConn® Low Profile - 9 contacts .....	46
SubConn® Low Profile Reed Switch - 2 contacts .....	48

## SubConn® Micro Low Profile series

SubConn® Micro Low Profile series .....	51
SubConn® Micro Low Profile - 3 contacts .....	52
SubConn® Micro Low Profile - 7 and 9 contacts .....	54

## SubConn® Metal Shell series

SubConn® Metal Shell series .....	57
SubConn® Metal Shell 1500 - 2, 3, 4, 5, 6 and 8 contacts and G2 2, 3 and 4 contacts .....	58
SubConn® Metal Shell 2000 - 2, 3, 4 contacts and Micro 10 and 12 contacts .....	60
SubConn® Metal Shell 2400 - 6, 8 and 10 contacts .....	62

## SubConn® Power series

SubConn® Power series .....	65
SubConn® Power - 1 contact .....	66
SubConn® Power Battery - 2, 3 and 4 contacts .....	68
SubConn® High Power - 4 contacts .....	70

## SubConn® Ethernet series

SubConn® Ethernet series .....	73
SubConn® Ethernet Circular - 8 contacts .....	74
SubConn® Power Ethernet Circular - 13 contacts .....	76
SubConn® Ethernet Circular - Double O-ring, 8 and 13 contacts .....	78
SubConn® Ethernet Low Profile - 9 contacts .....	80
SubConn® Power Ethernet Low Profile - 13 contacts .....	82
SubConn® Ethernet Metal Shell 2000 - 8 contacts .....	84
SubConn® Ethernet Metal Shell 2000 - 13 contacts .....	86

## SubConn® Coax series

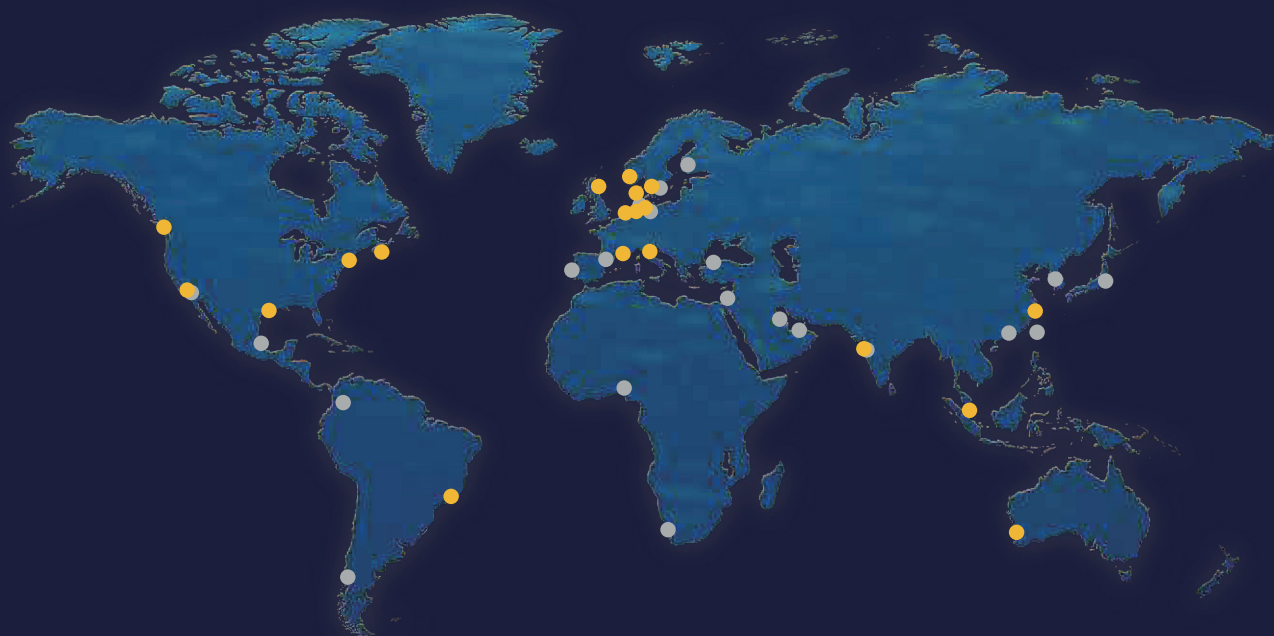
SubConn® Coax series .....	89
SubConn® HF Coax - 50 ohm Coax and Coax/Electric .....	90
SubConn® HF Coax - 75 ohm Coax and Coax/Electric .....	92

## SubConn® Specials

SubConn® Specials .....	94
-------------------------	----

## SubConn® Penetrator series

SubConn® Penetrator series .....	97
SubConn® Penetrator - Water Blocked Straight .....	98
SubConn® Penetrator - Water Blocked Right Angle .....	100



**丸紅エレクトロニクス株式会社**

**Marubeni**  
**Ele-Next**



〒530-0003 大阪市北区堂島1丁目6番20号 TEL : 06-6344-2111 FAX : 06-6346-6611  
URL : <https://www.m-ele-next.co.jp>