
Hybrid Electrical / Coax Connectors

Originally designed as a twin coax with 4 electrical contact connector set for a specific requirement, the full Subsea Hybrid Coaxial / Electrical range has been developed to meet the harsh requirements of underwater communications and control while providing high quality interconnections.

The connectors comprise commercially available 50Ω coax and electrical contacts within in-house designed and manufactured housings.

STS Subsea's unique approach to connector design utilising COTS interconnects in adaptations of proven housings, allow us to produce cost effective, customer specific products in compressed timescales without incurring large development costs.



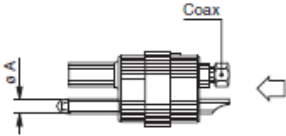













The standard range comprise 13 options with up to 3 coax and up to 22 electrical contacts. The scaleable housing designs can accommodate a smaller size with up to 3 coax and 10 electrical contacts (7 options) with a larger size offering up to 6 coax and 22 electrical contacts (14 options).

Available as flange or through hole mounted bulkheads, the inline connectors can be supplied terminated to a variety of cables with straight or right angled mouldings.

Key Features and Benefits

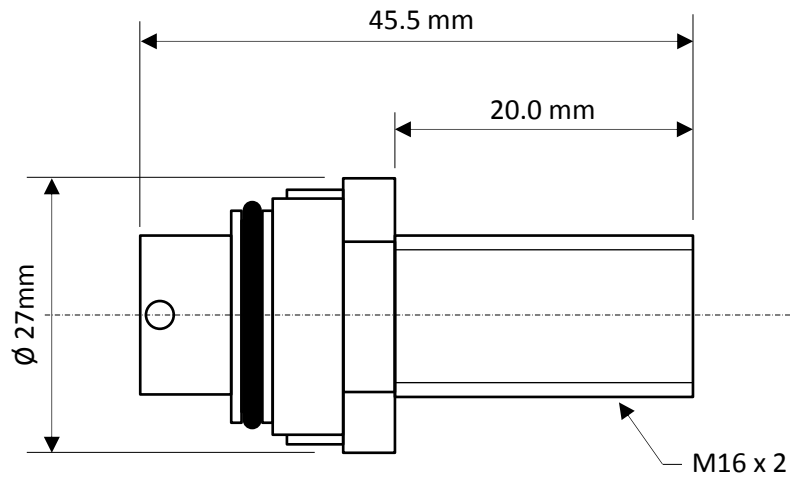
- Available in 316 Stainless Steel as standard, titanium, aluminium, naval brass, non-metallic or other options available on request
- Standard and reverse gender configurations for connectors or bulkheads
- COTS inserts and in-house manufactured housings for cost effective, short lead time supply
- Scaleable housing designs to accommodate smaller / larger designs with an additional 21 contact options.
- Options include electrical screening, strain member termination, fully waterblocked, oil filled
- Bulkhead mounting variants and conductor tails to suit individual requirements
- Right angled and multiway breakout moulding options
- Currently rated to 3,000m – contact STS Subsea Sales for greater ratings

Standard Contact Configurations

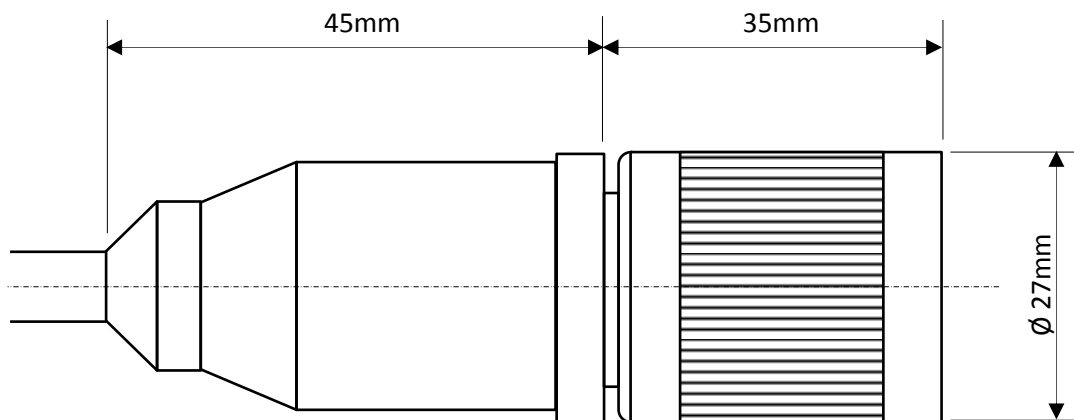
	Coax				Low voltage (LV)						
	Number of contacts	Impedance (Ω)	Type (see page 10)	Cable group	Number of contacts	ø A (mm)	Contacts type		Test voltage (kV rms)	Test voltage (kV dc)	Rated current (A)
							Solder	Crimp			
	1	50	A0	6	3	0.9	●	-	1.10	1.55	8
	1	50	A1	1-2-3	6	0.7	●	●	1.00	1.50	7
	1	50	A1	1-2-3	9	0.7	●	●	1.00	1.50	7
	1	50	A1	1-2-3	12	0.9	●	●	0.90	1.30	9
	1	50	A1	1-2-3	13	0.7	●	●	0.90	1.30	7
	1	50	C	1-2-3	22	0.7	●	●	0.70	1.00	5
	2	50	C	1-2-3	4	0.9	●	●	0.90	1.30	10
	2	50	C	1-2-3	6	0.9	●	●	0.90	1.30	10
	2	50	C	1-2-3	10	0.7	●	●	0.75	1.05	8
	2	50	C	1-2-3	16	0.7	●	●	0.70	1.00	7
	2	50	C	1-2-3	-	-	-	-	-	-	-
	3	50	C	1-2-3	-	-	-	-	-	-	-
	3	50	C	1-2-3	2	0.9	●	●	1.10	1.60	9

Type	Impedance (Ω)	ø A (mm)	Cond. fixing	Screen fixing	Cable group	Mini Cond. ø maxi	Maxi	Dielectric ø maxi	Sheath ø		VSWR (f=GHz)	Test voltage (kV rms)	Rated current (A)
									Mini	Maxi			
A0	50	1.3	solder	collet	6	0.95	-	-	3.3	4.10	1.02 +0.3f ²)	3.0	12
A1	50	0.7	solder	collet	1 2 3	0.60 0.60 0.60	1.90 1.90 1.90	-	2.5 1.7 2.2	3.00 2.10 2.60	1.01 +0.127f	0.9	5
C ¹⁾	50	0.6	crimp	crimp	1 2 3	0.50 0.58 0.28 0.35 0.28 0.35	1.65 1.05 1.65	-	-	3.00 2.35 3.00	1.04 +0.1f	1.6	2

Threaded Bulkhead (BCR) Dimensions



Moulded Connector (CCP) Dimensions



STSubsea products are being used in a wide variety of marine and harsh environments, including :-

- Subsea instrumentation, sensors, and control systems
- Autonomous and remotely operated surface and underwater vehicles
- Downhole instrumentation and logging systems
- Military Communication and Control systems
- Meteorological Buoy systems
- Military Sonar systems
- Land and Marine Seismic equipment
- Offshore renewable energy projects

These products are derived from a range of key strengths, capabilities and industry experience :-

- Specialised, bespoke connectors and cables for underwater or harsh environments
- Complete prototyping service, from design to manufacture to electrical and pressure testing
- Design of electrical, optical, coax /RF, Ethernet or hybrid connectors from unique one-offs to volume applications
- Cost effective, shallow water products
- Incorporating proven, commercially available interconnects into subsea capable solutions
- On-site moulding service and an over-moulding material capability for Polyurethane, Neoprene and Polyethylene components
- Through-hull penetrators, glass-to-metal seals and epoxy waterblocks
- Ceramic transducers and hydrophones
- Potting and encapsulation of switches, sensors, strain gauges and PCBs
- Long established, MetOcean range of metal shell, drymate connectors

STSubsea is a Division of STS Defence, providers of electronic manufacturing and through-life system engineering services; engaging with our customers through experience, expertise and a commitment to quality.

An SME based in Gosport, Hampshire, STS Defence focuses on customer value and satisfaction, working in partnership with customers to develop initial concepts into reality with divisions to match the needs of our customers:

Engineering Services delivers innovative solutions in the integration and support of maritime communication, multimedia and sensors for the UK defence market.

Manufacturing Services has an extensive aerospace, maritime, defence and commercial portfolio of capabilities in box build, PCB assembly, cable and harness manufacture and fabrication.

STSubsea Nuclear provides specialist support and training to civil and defence nuclear sectors.

Recently launched, IntelliMon focuses on intelligent monitoring systems for industrial, maritime and public safety applications.

Along with Primetake, producers of specialist ammunition, STS Defence is part of the Key Technologies group.