SHX4 Underwater Connectors, 10 MPa Mated, up to 115 A

1000 m water depth · 10 MPa mated · contacts up to 115 A



Depth	1000 m
Pressure rating	10 MPa mated
Contacts	1 to 41
Current rating	7.5–115 A
Temperature	–40 to +85 °C
Shell sizes	9M, 10M, 14M, 20M

Key features

- Radial and axial sealing; withstands 10 MPa hydrostatic pressure when mated
- Contacts from size 20 (7.5 A) to size 2 (115 A), plus 50 Ω / 75 Ω coax and high-voltage contacts
- Removable mechanical backshell for field assembly and service, or vulcanized backshell for maximum sealing
- Plugs, square-flange receptacles, bulkhead feed-through receptacles and cable receptacles
- Titanium, aluminum bronze or stainless-steel shells; protective caps
- Custom contact counts, cable types and lengths on request

Specifications

Pressure and depth

Parameter	Value	Condition
Water depth	1000 m	
Hydrostatic pressure, mated	10 MPa	

Electrical

Parameter	Value	Condition
Insulation resistance	≥ 5000 MΩ / ≥ 1000 MΩ	Room temperature / after environmental tests
Dielectric withstanding voltage	By insert arrangement	Tested to your requirements

Mechanical and environmental

Parameter	Value	Condition
Durability	500 mating cycles	
Vibration	10–500 Hz, 100 m/s²	
Shock	120 g, half-sine, 6 ms	
Operating temperature	–40 to +85 °C	
Mold resistance	Grade 2, 28 days	GJB 150A

Versions

Series code	Version	Notes
SHX4FED	Plug	Mechanical (A) or vulcanized (E) backshell
SHX4REC	Square-flange receptacle	
SHX4TEC	Bulkhead feed-through receptacle	Pin one side, socket the other
SHX4PCE	Cable receptacle	
SHX4TFG / ZFG	Protective caps for plug / receptacle	

Shell materials and finishes

Code	Shell material	Finish	Shell conductivity	EMI shielding	Temperature	Salt spray
Ti	Titanium alloy	None	—	—	−40 to +85 °C	1000 h
K	Stainless steel	Passivated	—	—	−40 to +85 °C	500 h
CA	Aluminum bronze	Nickel	—	—	−40 to +85 °C	1000 h

Contact sizes and current ratings

Contact size	Engaging diameter	Contact resistance	Current rating	Wire size
20	1.02 mm	≤ 7.3 mΩ	7.5 A	AWG 22, 24, 26
16	1.59 mm	≤ 3.7 mΩ	13 A	AWG 20, 22, 24
14	1.93 mm	≤ 2.5 mΩ	20 A	AWG 14, 16, 18
12	2.39 mm	≤ 1.83 mΩ	23 A	AWG 12, 14, 16
6	5 mm	≤ 1 mΩ	65 A	AWG 6, 8, 10
2	7 mm	≤ 0.6 mΩ	115 A	AWG 2, 4, 6
TX50 / TX75	Coax	—	50 Ω / 75 Ω	Contact us

Contact layouts

Standard layouts by shell size, viewed from the mating face of the pin insert.

Shell	Contacts
9M	4 × size 16
9M	7 × size 20
10M	2 × size 14
10M	3 × size 14
10M	4 × size 16
10M	5 × size 16
10M	7 × size 20
10M	1 × 75 Ω coax
10M	1 × high-voltage contact
14M	2 × size 20

Shell	Contacts
14M	3 × size 20
14M	4 × size 20
14M	3 × size 10 + 5 × size 20
14M	12 × size 20
14M	1 × size 6
14M	3 × size 12
14M	4 × size 12
14M	7 × size 14
14M	1 × high-voltage contact
14M	12 × size 16
14M	19 × size 20
14M	1 × 50 Ω coax
20M	1 × size 2
20M	3 × size 6
20M	4 × size 6
20M	7 × size 12
20M	16 × size 12
20M	21 × size 14
20M	27 × size 16
20M	32 × size 16
20M	41 × size 20
20M	4 × high-voltage contacts

Withstanding voltage depends on the layout. Size 10 and high-voltage contact ratings on request.

How to order

SHX4 [type] [contact] [shell] [contacts] -[size] [backshell] [cable] [shell material]

Example: **SHX4FEDF9M07-20A60CA** — Plug, socket contacts, shell 9M, 7 size-20 contacts, mechanical backshell, for 6 mm watertight cable, aluminum bronze

Code segment	Options
Type	**FED** Plug
Type	**REC** Square-flange receptacle
Type	**TEC** Bulkhead feed-through receptacle
Type	**PCE** Cable receptacle
Contact	**M** Pin
Contact	**F** Socket
Contact	**I** Pin/socket (feed-through only)
Shell	**9M 10M 14M 20M** Shell size
Contacts and size	**e.g. 07-20** 7 contacts, size 20 — see contact layouts

Code segment	Options
Backshell	**A** Mechanical, with rubber boot (plugs, cable receptacles)
Backshell	**E** Vulcanized
Cable	**60 / 100 / 115 / 190** Cable diameter in 0.1 mm for 9M / 10M / 14M / 20M
Shell material	**CA** Aluminum bronze
Shell material	**Ti** Titanium alloy
Shell material	**K** Stainless steel

Other cable diameters on request.

Standards

- **CB/T 3939-2000** — Chinese shipbuilding industry standard for watertight connectors.

Request a quote or drawing: https://sinoxh.com/request-a-quote/?product=SHX4