XC Bayonet Circular Connectors with Hyperboloid Contacts

GJB 2889 bayonet · hyperboloid sockets · 1–62 contacts · 5–40 A



Coupling	Bayonet, five keys
Contacts	1 to 62
Current	5 / 10 / 20 / 40 A
Rated voltage	500 V (1500 V test)
Temperature	−55 to +150 °C
Mating cycles	500

Key features

- Hyperboloid wire-spring sockets for low insertion force and low contact resistance
- Bayonet coupling with five key positions (N, W, X, Y, Z) and blind-mating guidance
- 32 standard layouts in shell sizes 14 to 39 with Ø1, Ø1.5, Ø2 and Ø3 mm contacts
- Crimp (XC), solder (XCH, CXCH) and PCB (XCB) terminations
- Glass-sealed square-flange receptacles and through-bulkhead receptacles
- CXCH-01 heavy-wall version for ships, telecom equipment and machine tools
- XCG waterproof version, sealed against 0.35 atm (35.5 kPa), mates with XC
- Straight and 90° cable clamps and shielded backshells
- Marine-environment version: see XCA

Specifications

Electrical

Parameter	Value	Condition
Rated voltage / withstanding voltage	500 V / 1500 V	Normal atmosphere
Rated voltage / withstanding voltage, damp heat	500 V / 750 V (sealed), 500 V / 1125 V (unsealed)	
Rated voltage / withstanding voltage, 1 kPa	150 V / 300 V (sealed), 250 V / 300 V (unsealed)	
Insulation resistance	≥ 5000 MΩ / ≥ 100 MΩ	Normal / damp heat
Shell-to-shell conductivity	≤ 0.012 Ω (nickel, zinc iridescent), ≤ 0.15 Ω (zinc olive-drab)	

Mechanical

Parameter	Value	Condition
Coupling	Bayonet	
Durability	500 mating cycles	
Vibration	10–2000 Hz, 20 g	
Shock	100 g peak	

Mechanical		
Parameter	**Value**	**Condition**
Acceleration	100 g	

Environmental		
Parameter	**Value**	**Condition**
Operating temperature	–55 to +150 °C	
Relative humidity	Up to 95 % at 40 °C	
Altitude	30,000 m	
Leak rate, through-bulkhead receptacle	≤ 46 Pa·cm³/s	50.7 kPa differential
Leak rate, glass-sealed receptacle	≤ 0.1 Pa·cm³/s	152 kPa differential
XCG water sealing	0.35 atm (35.5 kPa)	

Materials		
Parameter	**Value**	**Condition**
Shell	High-strength aluminum alloy; steel for glass-sealed receptacles	
Insulator	Thermoset plastic; glass for glass-sealed receptacles	
Grommet and seals	Silicone rubber	
Contacts	Copper alloy, silver or gold plated; crimp contacts rear-release	

Versions

Series code	Version	Notes
XC	Crimp contacts	
XCH	Solder contacts	
XCB	PCB solder receptacles	
XC-F-M	Glass-sealed square-flange receptacle	
XC-S0, S, S1, S2-M	Through-bulkhead sealed receptacles	Pins on one side, sockets on the other
CXCH	Solder version derived from XC	Same performance as XCH
CXCH-01	Heavy-wall solder version	Shells 18 to 42; for ships, telecom and machine tools
XCG	Waterproof solder version	Sealed to 0.35 atm; mates with XC; Ø4.5 mm 65 A contact available

Contact sizes and current ratings

Contact size	Engaging diameter	Contact resistance	Contact resistance (hermetic)	Current rating	Wire size
Ø1	1.0 mm	≤ 4.5 mΩ	≤ 9 mΩ (potted) / ≤ 13.5 mΩ (glass-sealed)	5 A	0.20–0.75 mm² (AWG 22–18)

Contact size	Engaging diameter	Contact resistance	Contact resistance (hermetic)	Current rating	Wire size
Ø1.5	1.5 mm	≤ 2.5 mΩ	≤ 5 mΩ / ≤ 7.5 mΩ	10 A	0.75–1.50 mm² (AWG 18–14)
Ø2	2.0 mm	≤ 1.25 mΩ	≤ 2.5 mΩ / ≤ 3.75 mΩ	20 A	2.00–3.00 mm² (AWG 14–12)
Ø3	3.0 mm	≤ 0.75 mΩ	≤ 1.5 mΩ / ≤ 2.25 mΩ	40 A	4.00–5.00 mm² (AWG 12–10)

Crimp contacts and wire sizes

Contact	Crimp type	Color band	Crimp barrel ID (mm)	Wire (mm²)	AWG
Ø1	A	Red	1.0	0.20 / 0.35 / 0.50	22–20
Ø1	B	Blue	1.3	0.75	20–18
Ø1.5	A	Red	1.4	0.75 / 1.00	18
Ø1.5	B	Blue	1.8	1.20 / 1.50	16–14
Ø2	A	Red	2.1	2.00	14
Ø2	B	Blue	2.5	2.50 / 3.00	12
Ø3	A	Red	3.2	4.00	12
Ø3	B	Blue	3.4	5.00	10

How to order

XC [shell][type][contacts][contact type][finish and backshell][key]

Example: **XC14F4KD** — XC square-flange receptacle, shell 14, 4 socket contacts, shielded, zinc iridescent, key N

Code segment	Options
Series	**XC** Crimp
Series	**XCH** Solder
Series	**XCB** PCB solder
Shell	**14–39** 14, 18, 22, 24, 27, 30, 33, 36, 39
Type	**T** Plug
Type	**Y** Round-flange receptacle
Type	**F** Square-flange receptacle
Type	**S0, S, S1, S2** Through-bulkhead receptacle
Contacts	**1–62** See insert arrangements
Contact type	**Z / Z1** Pin, silver / gold
Contact type	**K / K1** Socket, silver / gold
Contact type	**M / M1** Sealed-receptacle contact, nickel / gold
Finish and backshell	**(none)** Anodized black, no rear thread, no backshell
Finish and backshell	**D / D1 / D2 / D3 / D4 / D40** No rear thread: zinc iridescent, electroless nickel, iridescent cadmium, zinc olive-drab, olive-drab cadmium, stainless steel
Finish and backshell	**P / P1 / P2 / P3 / P4 / P40** Rear thread for backshell, same finish order as D

Code segment	Options
Finish and backshell	**E** Rear thread, anodized
Finish and backshell	**H / HQ ...** Straight cable clamp fitted
Finish and backshell	**HP ...** Straight shielded backshell fitted
Finish and backshell	**W / WP ...** 90° cable clamp or shielded 90° backshell fitted
Key	**(none)** N
Key	**W, X, Y, Z** Alternate keys

A mated pair is written as receptacle/plug, for example XC14F4KD/P.

Add (B) for B-type crimp contacts for larger wire, for example XC30F30ZD(B).

Cadmium finishes are not RoHS compliant and are supplied on request.

Insert arrangements

Arrangement	Contacts	Contact sizes
14-1	1	1 × Ø3
14-2	2	2 × Ø1.5
14-3	3	2 × Ø1, 1 × Ø1.5
14-4	4	4 × Ø1
18-4	4	2 × Ø1, 2 × Ø3
18-5	5	5 × Ø1.5
18-7	7	7 × Ø1
22-10	10	6 × Ø1, 4 × Ø1.5
22-14	14	14 × Ø1
24-5	5	5 × Ø3
24-12	12	12 × Ø1.5
24-19	19	19 × Ø1
27-12	12	4 × Ø1, 8 × Ø2
27-19	19	14 × Ø1, 5 × Ø1.5
27-24	24	24 × Ø1
30-15	15	13 × Ø1.5, 2 × Ø2
30-19	19	10 × Ø1, 4 × Ø1.5, 3 × Ø2, 2 × Ø3
30-22	22	10 × Ø1, 6 × Ø1.5, 6 × Ø2
30-30	30	30 × Ø1
33-22	22	18 × Ø1.5, 4 × Ø2
33-27	27	17 × Ø1, 4 × Ø1.5, 2 × Ø2, 4 × Ø3
33-41	41	41 × Ø1
36-40	40	34 × Ø1, 4 × Ø1.5, 2 × Ø2
36-41	41	31 × Ø1, 10 × Ø1.5
36-55	55	55 × Ø1

Arrangement	Contacts	Contact sizes
39-16	16	16 × Ø3
39-35	35	16 × Ø1, 13 × Ø1.5, 2 × Ø2, 4 × Ø3
39-36	36	18 × Ø1, 6 × Ø1.5, 12 × Ø2
39-46	46	30 × Ø1, 12 × Ø1.5, 4 × Ø2
39-47	47	39 × Ø1, 4 × Ø1.5, 2 × Ø2, 2 × Ø3
39-51	51	43 × Ø1, 8 × Ø1.5
39-62	62	62 × Ø1

Standards

- **GJB 2889** — Chinese specification to which the XC family is built.

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