



instrumentation cable series

LS2SJ / LS3SJ / LS4SJ

MIL-DTL-24643 LS2SJ / LS3SJ / LS4SJ

MIL-DTL-24643/42 low-smoke zero-halogen shipboard Type J thermocouple extension cable



MIL-DTL-24643/42

Type J (Fe / CuNi)

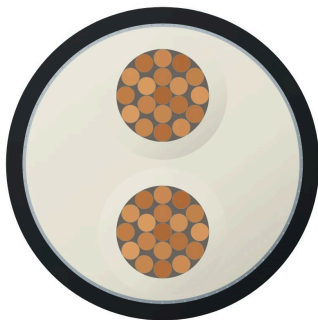
2, 3 & 4 Shielded Pairs

Application

MIL-DTL-24643/42 (LS2SJ, LS3SJ, LS4SJ) Naval Shipboard Thermocouple Extension Cable with 2, 3 or 4 shielded twisted pairs of Type JX Iron/Constantan conductors, cross-linked polyolefin insulation, tinned copper pair shields, and.

Typical uses: Naval Surface Vessels & Coast Guard Cutters, Marine Gas Turbine & Diesel Exhaust Monitoring, Propulsion Reduction Gear & Bearing Temp Loops, Shipboard Auxiliary Boiler & Steam Systems, Naval Damage Control & Machinery Automation

Construction



Cross-section, not to scale

- 1 Type J (Iron / Constantan) 20 AWG stranded pairs
- 2 Halogen-free cross-linked polyolefin (XLPO) insulation
- 3 Individual tinned copper braided pair shield
- 4 Low-Smoke Zero-Halogen (LS) cross-linked shipboard jacket

Technical data

Typical values

Thermocouple calibration	Type J / JX (Iron + / Constantan -) per ASTM E230	Loop resistance @ 20 °C	≈ 1.17 Ω/m per 20 AWG Type J pair
Voltage & dielectric test	300 V rms working · 1,500 V AC rms dielectric test	Insulation resistance	≥ 1,000 MΩ·1000 ft (≥ 305 MΩ·km) @ 500 V DC
Conductor temp. rating	-30 °C to +105 °C continuous shipboard ambient	EMF calibration range	0 °C to +200 °C (±2.2 °C Std / ±1.1 °C Special)
Cold bend test	-30 °C mandrel bend without cracking	Min. bend radius	6 × OD (-UN unarmoured) · 8 × OD (-AN armoured)
Pair shield coverage	≥ 85 % tinned copper wire braid on each pair	Armour braid (-AN)	Aluminum alloy 5056 wire braid over outer jacket
Flame propagation	IEEE 1202 / UL 1581 vertical tray flame test	Halogen & acid gas	Zero halogen (< 0.2 % halogens, acid gas < 2.0 %)
Fluid resistance	Resistant to naval distillate fuel, lube oil & salt spray	Standards	MIL-DTL-24643/42 (Part numbers M24643/42-01 to -03)

Sizes

6 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Type & military PIN	Pairs & armour	Max. OD mm	Weight ≈ kg/km	TC loop R Ω/m	Min. bend R mm
MIL-DTL-24643/42 Multi-Pair Type J Shipboard Cables 6 sizes					
☐ LS2SJ (M24643/42-01UN)	2 Pairs × 20 AWG Type J · Unarmoured	12.7	195	1.17	76
☐ LS2SJA (M24643/42-01AN)	2 Pairs × 20 AWG Type J · Al-Armoured	14.2	245	1.17	114
☐ LS3SJ (M24643/42-02UN)	3 Pairs × 20 AWG Type J · Unarmoured	13.7	240	1.17	82
☐ LS3SJA (M24643/42-02AN)	3 Pairs × 20 AWG Type J · Al-Armoured	15.2	298	1.17	122
☐ LS4SJ (M24643/42-03UN)	4 Pairs × 20 AWG Type J · Unarmoured	15.0	295	1.17	90
☐ LS4SJA (M24643/42-03AN)	4 Pairs × 20 AWG Type J · Al-Armoured	16.5	360	1.17	132

– All pairs are individually braided-shielded and jacketed prior to cabling under the overall LSZH sheath.

Standards and approvals

- ✓ MIL-DTL-24643/42 Compliant
- ✓ ASTM E230 / ANSI MC96.1 Type J
- ✓ IEEE 1202 Naval Low-Smoke

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

+86 185 9591 3361

Email

info@tebaoflex.com

Web

tebaoflex.com/cables/mil-dtl-24643-ls2sj-ls3sj-ls4sj-shipboard-thermocouple-extension-cable



Typical values for this cable type, based on MIL-DTL-24643/42 (M24643/42) / ASTM E230. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.