



RS-485 / RS-422 & JIS Shipboard Communication Cables

TTPY / TTPYC / TTPYCY

Shipboard Communication Cable

JIS C 3410 250 V low-capacitance PE-insulated 1P to 30P × 0.75 / 1.25 mm² TTPY, TTPYC &



JIS C 3410 · 250 V PE Dielectric

≤ 55 pF/m · ≥ 1000 MΩ·km

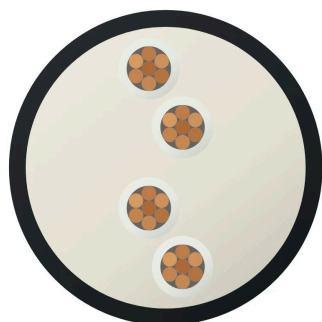
TTPY / Braided TTPYC / TTPYCY

Application

TTPY / TTPYC / TTPYCY Shipboard Communication Cable is the JIS C 3410 250 V marine telephone, intercom, and NMEA/serial data cable utilizing low-permittivity polyethylene ('P') core insulation to achieve ≤ 55 pF/m mutual capacitance and ≥ 1,000 MΩ·km

Typical uses: LNG carriers, container ships & tankers, Sound-powered & PABX marine telephones, Bridge NMEA 0183 & gyrocompass trunks, Offshore support & naval auxiliary vessels

Construction



Cross-section, not to scale

1	Stranded tinned copper conductors	JIS C 3410
2	Low-loss polyethylene (PE) insulation	JIS C 3410
3	Flame-retardant PVC inner sheath (TTPY)	JIS C 3410
4	Wire braid armour (TTPYC / TTPYCY)	JIS C 3410
5	Protective PVC oversheath (TTPYCY)	JIS C 3410 / IEC 60332-3-22

Technical data

Typical values

Rated voltage U0/U	250 V AC	Characteristic impedance Z0	105 Ω ± 15 Ω (100 kHz to 1 MHz)
Max. DC conductor resistance @ 20 °C	≤ 26.3 Ω/km (0.75 mm ²) · ≤ 15.6 Ω/km (1.25)	Mutual capacitance @ 1 kHz	≈ 50 pF/m (≤ 55 nF/km)
Velocity of propagation (VoP)	≈ 66 % (0.66 c)	Insulation resistance & test V	≥ 1,000 MΩ·km @ 20 °C · 1,500 V AC / 1 min
Max. conductor operating temp.	+75 °C (Polyethylene dielectric per JIS C	Ambient installation temperature	-20 °C to +60 °C
Min. bending radius	6 × D fixed installation	Wire braid armour	0.30 mm galvanized steel or tinned copper
Bunched flame retardancy	IEC 60332-3-22 Category A & IEC 60332-1-2	Oil & salt-mist resistance	JIS C 3410 marine fluid resistance
Standards	JIS C 3410 (TTPY / TTPYC / TTPYCY)		

Sizes

6 standard constructions

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

Order designation	Configuration	Conductor size	Outer Ø ≈ mm	Copper kg/km	Weight ≈ kg/km	Min. bend R fixed mm
Standard TTPY / TTPYC / TTPYCY configurations 6 sizes						
☐ TTPYCY 1P×0.75 mm ² (2 cores) JIS C 3410	1P×0.75 mm ² (TTPYCY)	0.75 mm ² (7/0.37)	10.8	14	175	65
☐ TTPYCY 2P×0.75 mm ² (1Q / 4 cores) JIS C 3410	2P (1Q)×0.75 mm ² (TTPYCY)	0.75 mm ² (7/0.37)	11.6	28	210	70
☐ TTPYCY 4P×0.75 mm ² (2Q / 8 cores) JIS C 3410	4P (2Q)×0.75 mm ² (TTPYCY)	0.75 mm ² (7/0.37)	14.8	56	335	89
☐ TTPYCY 7P×0.75 mm ² (14 cores) JIS C 3410	7P×0.75 mm ² (TTPYCY)	0.75 mm ² (7/0.37)	17.2	98	455	103
☐ TTPYCY 10P×0.75 mm ² (20 cores) JIS C 3410	10P×0.75 mm ² (TTPYCY)	0.75 mm ² (7/0.37)	20.6	140	615	124
☐ TTPYCY 2P×1.25 mm ² (1Q / 4 cores) JIS C 3410	2P (1Q)×1.25 mm ² (TTPYCY)	1.25 mm ² (7/0.48)	12.8	47	255	77

– Outer diameters and weights are nominal factory values subject to ±5 % manufacturing tolerance per JIS C 3410 (TTPY / TTPYC / TTPYCY Low-Loss PE Shipboard).

Impedance, capacitance & attenuation

6 sizes

Configuration	Impedance Z0	Max. DC R @ 20 °C Ω/km	Mutual C pF/m ≈	VoP %	Attenuation @ 20 °C dB/100m	Dielectric test V
1P×0.75 mm ² (TTPYCY)	105 Ω	52.6	50.0	66	0.52 dB/100m @ 100 kHz	1,500
2P (1Q)×0.75 mm ² (TTPYCY)	105 Ω	52.6	50.0	66	0.52 dB/100m @ 100 kHz	1,500
4P (2Q)×0.75 mm ² (TTPYCY)	105 Ω	52.6	50.0	66	0.52 dB/100m @ 100 kHz	1,500
7P×0.75 mm ² (TTPYCY)	105 Ω	52.6	50.0	66	0.52 dB/100m @ 100 kHz	1,500
10P×0.75 mm ² (TTPYCY)	105 Ω	52.6	50.0	66	0.52 dB/100m @ 100 kHz	1,500
2P (1Q)×1.25 mm ² (TTPYCY)	100 Ω	31.2	52.0	66	0.42 dB/100m @ 100 kHz	1,500

– Transmission values (characteristic impedance Z0, mutual capacitance, VoP, and attenuation) are measured at +20 °C per JIS C 3410 (TTPY / TTPYC / TTPYCY Low-Loss PE Shipboard).

Standards and approvals

- ✓ JIS C 3410
- ✓ ClassNK / DNV / ABS / LR
- ✓ IEC 60332-3-22 Cat A

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/tpy-shipboard-communication-cable



Typical values for this cable type, based on JIS C 3410 (TPPY / TTPYC / TTPYCY Low-Loss PE Shipboard). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.