



IEC 60584-3 Type NX thermocouple cable

NX**Type N Thermocouple Extension Cable**True NiCrSi / NiSi (Type N) Class 1 (± 1.5 °C) thermocouple extension cable

IEC 60584-3 / ANSI MC96.1

NiCrSi (+) / NiSi (–) True NX

Class 1 (± 1.5 °C) · –25...+200 °C**Application**

Precision Type NX thermocouple extension cable built to IEC 60584-3 and ANSI MC96.1 with true Nicrosil (+ NiCrSi) and Nisil (– NiSi) non-magnetic conductors, eliminating cold-junction drift across –25...+200 °C in aerospace and petrochemical furnaces.

Typical uses: AMS 2750 Aerospace Heat-Treatment Furnaces, Ethylene Steam Crackers & Reformer Tubes, Gas Turbines & Combined-Cycle Power Plants, Metallurgical Reheat & Annealing Lines, Nuclear & High-Temperature Research Reactors

Construction

Cross-section, not to scale

- 1 True Type NX thermocouple alloy conductors
- 2 Colour-coded core insulation
- 3 Individual & collective Al/PET screens
- 4 Optional SWA or tinned copper braid
- 5 Outer jacket (IEC Pink RAL 3015, ANSI Orange or Ex-i Blue)

IEC 60332-1-2 / IEC 60332-3-24 flame retardant

Technical data

Typical values

Positive conductor (+)	Nicrosil (NiCrSi ~14.2 % Cr / 1.4 % Si / bal. Ni, non-magnetic, ~98 µΩ·cm)	Negative conductor (-)	Nisil (NiSi ~4.4 % Si / 0.1 % Mg / bal. Ni, non-magnetic, ~37 µΩ·cm)
Tolerance Class 1 (IEC 60584-3)	±1.5 °C (±39 µV) over -25 °C to +200 °C junction range	Tolerance Class 2 (IEC 60584-3)	±2.5 °C (±65 µV) over -25 °C to +200 °C junction range
Nominal Seebeck coefficient	≈ 27.7 µV/°C (0 to +100 °C) · loop R ≈ 1.35 Ω/m at 1.0 mm ²	Thermoelectric calibration range	-25 °C to +200 °C (true extension grade NX)
Insulation rating (by jacket type)	-25...+105 °C (HR-PVC) · -40...+90 °C (XLPE/LSZH) · -60...+200 °C (FEP)	Conductor stranding	0.5 mm ² (7/0.30) · 1.0 mm ² (7/0.43) · 1.5 mm ² (7/0.53) or solid
Min. bending radius	7.5 × OD (unarmoured) · 10 × OD (SWA armoured)	Flame retardance	IEC 60332-1-2 & IEC 60332-3-24 Cat C
Magnetic & oxidation stability	Both legs non-ferromagnetic; immune to Type K short-range ordering	Standards	IEC 60584-3, ANSI/ISA MC96.1 (ASTM E230) & AMS 2750

Sizes

14 standard constructions

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

Order designation	Configuration	Insulation / Sheath	Temp. range	Outer Ø ≈ mm	Weight ≈ kg/km	Min. bend R fixed mm
NX Heat-Resistant PVC / PVC Screened (-25...+105 °C) 9 sizes						
☐ NX-PVC-OS 1×2×0.5	1×2×0.5 mm ² (7/0.30)	PVC / PVC (OS)	-25...+105 °C	5.6	44	42
☐ NX-PVC-PIMF 2×2×0.5	2×2×0.5 mm ² (7/0.30)	PVC / PVC (PIMF+OS)	-25...+105 °C	8.6	84	64
☐ NX-PVC-PIMF 4×2×0.5	4×2×0.5 mm ² (7/0.30)	PVC / PVC (PIMF+OS)	-25...+105 °C	10.8	142	81
☐ NX-PVC-PIMF 8×2×0.5	8×2×0.5 mm ² (7/0.30)	PVC / PVC (PIMF+OS)	-25...+105 °C	14.1	246	106
☐ NX-PVC-PIMF 12×2×0.5	12×2×0.5 mm ² (7/0.30)	PVC / PVC (PIMF+OS)	-25...+105 °C	16.9	348	127
☐ NX-PVC-OS 1×2×1.0	1×2×1.0 mm ² (7/0.43)	PVC / PVC (OS)	-25...+105 °C	6.7	68	50
☐ NX-PVC-PIMF 4×2×1.0	4×2×1.0 mm ² (7/0.43)	PVC / PVC (PIMF+OS)	-25...+105 °C	12.8	212	96
☐ NX-PVC-OS 1×2×1.5	1×2×1.5 mm ² (7/0.53)	PVC / PVC (OS)	-25...+105 °C	7.5	92	56
☐ NX-PVC-PIMF 4×2×1.5	4×2×1.5 mm ² (7/0.53)	PVC / PVC (PIMF+OS)	-25...+105 °C	14.3	286	107
NX High-Temperature FEP / FEP Screened (-60...+200 °C) 3 sizes						
☐ NX-FEP-OS 1×2×0.5	1×2×0.5 mm ² (7/0.30)	FEP / FEP (OS)	-60...+200 °C	4.6	38	34
☐ NX-FEP-PIMF 4×2×0.5	4×2×0.5 mm ² (7/0.30)	FEP / FEP (PIMF+OS)	-60...+200 °C	9.2	128	69
☐ NX-FEP-OS 1×2×1.0	1×2×1.0 mm ² (7/0.43)	FEP / FEP (OS)	-60...+200 °C	5.6	58	42
NX XLPE / LSZH / SWA Armoured Direct-Burial (-40...+90 °C) 2 sizes						
☐ NX-XLPE-SWA 1×2×1.5	1×2×1.5 mm ² (7/0.53)	XLPE / SWA / LSZH	-40...+90 °C	12.1	298	121
☐ NX-XLPE-SWA 4×2×1.5	4×2×1.5 mm ² (7/0.53)	XLPE / SWA / LSZH	-40...+90 °C	19.8	745	198

- Specify 'IEC' (+ Pink / - White) or 'ANSI' (+ Orange / - Red) colour coding and Class 1 (±1.5 °C) tolerance when ordering.

Loop resistance & EMF parameters by conductor size

4 sizes

Conductor size	(+) NiCrSi R ₂₀ Ω/m ≈	(-) NiSi R ₂₀ Ω/m ≈	Loop R ₂₀ / pair Ω/m ≈	Class 1 tol. (-25...+200 °C)
0.50 mm ² (7/0.30 mm · AWG 20)	1.96	0.74	2.70	±1.5 °C (±39 µV)
0.75 mm ² (7/0.37 mm · AWG 18)	1.31	0.49	1.80	±1.5 °C (±39 µV)
1.00 mm ² (7/0.43 mm · AWG 17)	0.98	0.37	1.35	±1.5 °C (±39 µV)
1.50 mm ² (7/0.53 mm · AWG 16)	0.65	0.25	0.90	±1.5 °C (±39 µV)

- For long multi-pair cable tray runs where junction-box temperature stays below +100 °C or +200 °C, see NC Type N compensating cable.

Standards and approvals

- ✓ IEC 60584-3 Class 1 & Class 2 Certified
- ✓ ANSI/ISA MC96.1 & AMS 2750 Pyrometry Ready
- ✓ CE, RoHS 2 (2011/65/EU) & REACH

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

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Email

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Typical values for this cable type, based on IEC 60584-3 / ANSI MC96.1 / 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.