FEICHUN SPECIAL CABLES · 飞纯特种电缆

TDS · HALOGEN-FREE POWER CABLE | N2XH-J · 3G / 5G · 2,5–25 mm² | Cu / XLPE / HFFR | 0.6/1 kV · DIN VDE 0276-604

Halogen-free Power Cables N2XH-J 0.6/1 kV

Technical specification for copper conductor, XLPE insulated, halogen-free flame-retardant sheathed power cables with green/yellow protective conductor, in 8 sizes, offered to ST SERVICE PLUS, s. r. o. (Bratislava) as an equivalent to the KENEX articles in its enquiry.

Document code: **FC-TDS-N2XHJ-2026-SK4743** Revision: **00** Date: **25.11.2026** Quantity: **4,743 m**

Destination: **Slovakia**

01 Scope and Application

This specification covers the design, materials, construction, testing, marking and packing of **FeiChun N2XH-J 0.6/1 kV** halogen-free power cables to DIN VDE 0276-604 / HD 604 S1. The cables are used for power distribution in fixed installations indoors, in cable trays, ducts, conduits and on walls, where people and equipment must be protected in case of fire: public buildings, hospitals, schools, airports, shopping centres, data centres, tunnels and industrial plants.

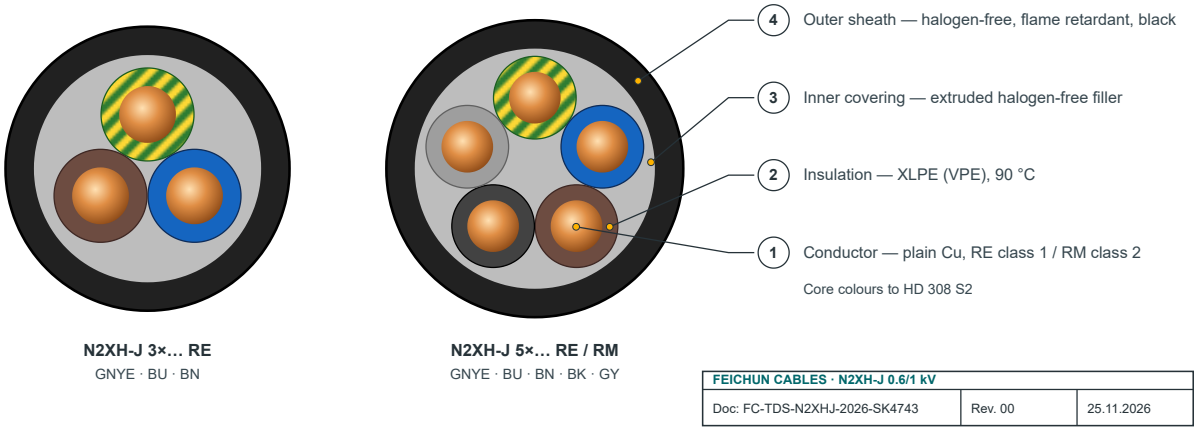
- N = standard type · 2X = XLPE insulation · H = halogen-free sheath · -J = with green/yellow protective conductor.
- RE = round solid conductor (class 1) · RM = round stranded conductor (class 2).
- Flame retardant, low smoke, zero halogen, no corrosive gases in case of fire.

RATED VOLTAGE UO/U (UM)	SIZES
0.6/1 (1.2) kV	**3×2,5 – 5×25 mm²**

CONDUCTOR TEMP.	HALOGEN CONTENT
90 °C	**0 % (IEC 60754)**

02 Cable Construction — Cross-Section

Fig. 1 · Cross-sections · N2XH-J 3G and 5G, 0.6/1 kV (schematic, not to scale)



Pos.	Component	Material / requirement
1	Conductor	Plain annealed copper, IEC 60228: **RE** = class 1 round solid (2,5 / 4 / 6 / 10 mm²); **RM** = class 2 round stranded (25 mm²)
2	Insulation	XLPE (cross-linked polyethylene, VPE), 90 °C; nominal 0.7 mm (2,5–10 mm²), 0.9 mm (25 mm²)
—	Core identification (HD 308 S2)	**3G:** green/yellow, blue, brown · **5G:** green/yellow, blue, brown, black, grey
3	Laying-up / inner covering	Cores laid up together; extruded halogen-free filling compound forming a round core assembly
4	Outer sheath	Halogen-free, flame-retardant thermoplastic compound (HM4 to DIN VDE 0276-604 / ST8 to IEC 60502-1), colour **black**

Designation. N2XH-J n×A RE/RM 0,6/1 kV. FeiChun part no. **FC-N2XH-J-0.6/1-[n]X[A]**, e.g. FC-N2XH-J-0.6/1-5X25RM (Chinese GB equivalent: WDZ-YJE-0.6/1 kV). The cross-section figure is schematic; final dimensions are confirmed by the manufacturer's production drawing.

03 Applicable Standards

Standard	Subject
DIN VDE 0276-604 / HD 604 S1	0.6/1 kV power cables with special fire performance for use in power stations — cable type N2XH

Standard	Subject
IEC 60502-1	Power cables with extruded insulation, rated voltage 1 kV (Um = 1.2 kV) — design and tests
IEC 60228 / EN 60228	Conductors of insulated cables (class 1 and class 2)
HD 308 S2	Identification of cores
IEC 60332-1-2 / EN 60332-1-2	Flame propagation — single vertical cable
IEC 60332-3-24 (Cat. C)	Flame propagation — bunched cables
IEC 60754-1 / -2 · EN 60754	Halogen acid gas content; acidity (pH) and conductivity of evolved gases
IEC 61034-1 / -2 · EN 61034	Smoke density of cables burning under defined conditions

04 Dimensions and Weights (Approximate)

Type / size	Conductor	Conductor Ø ≈ (mm)	Insulation nom. (mm)	Overall Ø ≈ (mm)	Weight ≈ (kg/km)	Cu index (kg/km)	Min. bending radius ≈ (mm)
N2XH-J 3×2,5 RE	class 1	1.8	0.7	12.0	190	72	145
N2XH-J 3×4 RE	class 1	2.3	0.7	13.0	250	115	155
N2XH-J 3×6 RE	class 1	2.8	0.7	14.0	320	173	170
N2XH-J 5×2,5 RE	class 1	1.8	0.7	14.0	270	120	170
N2XH-J 5×4 RE	class 1	2.3	0.7	15.0	370	192	180
N2XH-J 5×6 RE	class 1	2.8	0.7	16.5	480	288	200
N2XH-J 5×10 RE	class 1	3.6	0.7	18.5	720	480	220
N2XH-J 5×25 RM	class 2	6.0	0.9	27.5	1,600	1,200	330

Values are approximate and are confirmed by the manufacturer's final design data and routine test report. Overall diameter tolerance approx. ±1.0 mm. Minimum bending radius = 12 × overall diameter (fixed installation).

05 Electrical and Thermal Characteristics

Parameter	Value
Rated voltage Uo/U (Um)	**0.6/1 (1.2) kV AC**
Routine test voltage	**3.5 kV AC, 5 min**
Max. conductor temp., normal operation	**90 °C**
Max. conductor temp., short circuit (≤ 5 s)	**250 °C**

Parameter	Value
Operating temperature (fixed)	**−20 °C … +90 °C**
Min. installation temperature	**−5 °C**
Insulation material	**XLPE (VPE)**
Sheath material	**Halogen-free compound, black**

Cross-section	Max. DC resistance at 20 °C (Ω/km)	Current rating, in free air ≈ (A)	Current rating, clipped direct ≈ (A)	Short-circuit current, 1 s ≈ (kA)
2,5 mm² RE	7.41	32	30	0.36
4 mm² RE	4.61	42	40	0.57
6 mm² RE	3.08	54	51	0.86
10 mm² RE	1.83	75	70	1.43
25 mm² RM	0.727	127	119	3.58

Current ratings are indicative for 3 loaded conductors at 30 °C ambient (ref. IEC 60364-5-52, XLPE, methods E and C) and must be derated for the actual ambient temperature, grouping and installation method. Short-circuit current based on k = 143 (Cu/XLPE, 90 → 250 °C).

06 Fire Performance (Halogen-free)

Property	Standard	Requirement
Flame retardancy, single cable	IEC / EN 60332-1-2	**Pass**

Property	Standard	Requirement
Flame retardancy, bunched cables	IEC 60332-3-24	**Category C**
Halogen acid gas content	IEC / EN 60754-1	**≤ 0.5 %**
Acidity / conductivity of gases	IEC / EN 60754-2	**pH ≥ 4.3; conductivity ≤ 10 µS/mm**
Smoke density	IEC / EN 61034-2	**Light transmittance ≥ 60 %**

CPR (EU 305/2011). If a specific reaction-to-fire class to EN 50575 / EN 13501-6 is required for the installation, please state the class with the order; it will be confirmed together with the CE marking and Declaration of Performance.

07 Tests

Routine tests (every length)

- Conductor DC resistance measurement
- Voltage test, 3.5 kV AC, 5 min
- Insulation resistance check
- Visual inspection, dimensions, core colours and marking

Sample tests

- Conductor examination; thickness of insulation and sheath; overall diameter
- Hot-set test for XLPE insulation
- Tensile strength and elongation before and after ageing
- Flame test IEC 60332-1-2

Type tests. Per DIN VDE 0276-604 / IEC 60502-1 and the fire-performance standards in Section 06. A factory routine test certificate and a Certificate of Conformity are supplied with the goods; type test reports on request.

08 Cross-reference to Your Enquiry

Your ref. (KENEX)	Requested type	FeiChun offer	Qty (m)	Status
92030060	N2XH-J 3×6 RE	FC-N2XH-J-0.6/1-3X6RE	310	**Equivalent**
92050100	N2XH-J 5×10 RE	FC-N2XH-J-0.6/1-5X10RE	44	**Equivalent**
92050250	N2XH-J 5×25 RM	FC-N2XH-J-0.6/1-5X25RM	210	**Equivalent**
92050060	N2XH-J 5×6 RE	FC-N2XH-J-0.6/1-5X6RE	150	**Equivalent**

Your ref. (KENEX)	Requested type	FeiChun offer	Qty (m)	Status
92030025	N2XH-J 3×2,5 RE	FC-N2XH-J-0.6/1-3X2.5RE	2,513	**Equivalent**
92030040	N2XH-J 3×4 RE	FC-N2XH-J-0.6/1-3X4RE	752	**Equivalent**
92050025	N2XH-J 5×2,5 RE	FC-N2XH-J-0.6/1-5X2.5RE	306	**Equivalent**
92050040	N2XH-J 5×4 RE	FC-N2XH-J-0.6/1-5X4RE	458	**Equivalent**

Technical deviations: none. Same type designation, conductor class, core identification and standards as requested. Brand: FeiChun (own manufacture) instead of KENEX. KENEX is a trademark of its respective owner and is mentioned for reference only.

09 Marking, Packing and Delivery

Item	Requirement
Required quantity	**4,743 m in 24 cut lengths (see quotation FC-QT-N2XHJ-2026-SK4743)**
Marking on outer sheath	**Printed at intervals ≤ 1 m, e.g.: FEICHUN CABLE N2XH-J 5x25 RM 0,6/1 kV – DIN VDE 0276-604 – [YEAR] – [METRE MARK]**
Packing	**Lengths ≥ 100 m on heat-treated wooden drums (ISPM 15); shorter lengths as film-wrapped coils, palletised**
Length label	**Each length tagged: item no., type, size, length, your line reference**
Drum marking	**Manufacturer, cable type, size, voltage, lengths, gross/net weight, drum number, order no., rolling-direction arrow**
Cable ends	**Sealed with heat-shrink end caps against moisture ingress**
Net / gross weight (approx.)	**≈ 1.5 t net / ≈ 2.0 t gross (final figures on the packing list)**

10 Documents to be Supplied

- Cable data sheet and cross-section drawing (this document)
- Factory routine test certificate
- Certificate of Conformity; type test reports on request
- Packing list, Commercial Invoice, Certificate of Origin (China)

Prepared by: design engineer	Checked by: technical dept. / QA	Approved by: technical director

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