REPLACEMENT FOR TF KABLE (N)TMH3S | 0.6/1 kV | (N)TMH3S portable | TPU | article datasheet

FC-(N)TMH3S 3×35+3G6 0.6/1 kV

Heavy-Duty Mining Flexible Cable – thermoplastic polyurethane (TPU) jacket, black. FeiChun replacement for TF Kable (N)TMH3S: construction, dimensions, weight, current rating, standards and installation guidance.

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01 Application and Product Overview

FC-(N)TMH3S 3×35+3G6 is a heavy-Duty Mining Flexible Cable rated 0.6/1 kV and the FeiChun replacement for TF Kable (N)TMH3S 3×35+3G6. It has an outer diameter of 28.0 – 30.0 mm, weighs about 1,650 kg/km and carries 162 A in free air at 30 °C. The series covers 25 – 300 mm².

Design

Three power cores and three split protective-earth conductors in the interstices give a round, balanced cross-section that winds evenly on a reel.

Typical applications

- Mobile machines and equipment in mines, quarries and tunnels
- Power supply alongside conveyor belts and to portable pumps
- Dynamic or static use with high mechanical stress and abrasion
- Wet, oily and abrasive environments; temporary immersion

3×35+3G6	0.6/1 kV	162 A	Ø 30.0 mm
Cross-section	Rated voltage U_0/U	Current at 30 °C	Outer dimension, max

Key features

- Fine-wire class 5 tinned or bare copper conductors to IEC 60228
- EPR rubber compound 3GI3 to DIN VDE 0207-20 insulation
- Halogen-free sheath; no halogen acid gas when burned (IEC 60754-1/-2)

Replacement reference

REFERENCE PRODUCT
TF Kable (N)TMH3S 3×35+3G6
(N)TMH3S portable

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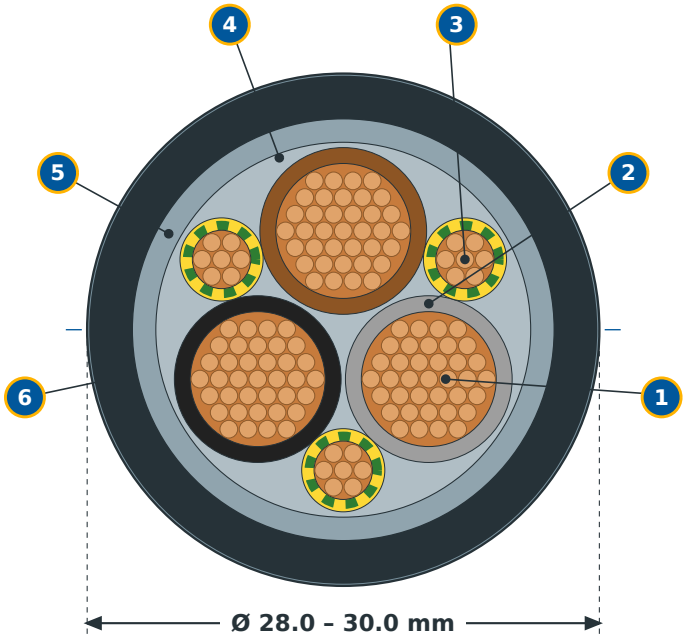
FEICHUN REPLACEMENT
FC-(N)TMH3S 3×35+3G6 0.6/1 kV
Heavy-Duty Mining Flexible Cable

The FeiChun cable has the same core configuration, voltage rating and field of application as the reference product. Dimensions and weights are FeiChun design values; compare them with reels, guides and glands before direct replacement.

02 Construction

FEICHUN · CROSS-SECTION A-A · 0.6/1 kV

FC-(N)TMH3S
Sample size 3×35+3G6 · Rev 0 · Illustrative, not to scale



No.	Component	Material
1	Conductor	Fine-wire copper, class 5 to IEC 60228
2	Insulation	EPR rubber compound 3GI3 to DIN VDE 0207-20
3	Protective conductor	Green-yellow insulated copper
4	Filler and anti-twist braid	Rubber compound, polyester braid
5	Inner sheath	Rubber or elastomer compound
6	Outer sheath	Thermoplastic polyurethane (TPU) jacket, black

The drawing shows 3×35+3G6. Other sizes have the same construction with scaled dimensions.

Construction details

Conductor	Fine-wire tinned or bare copper, class 5 to IEC 60228 / DIN VDE 0295
Insulation	EPR rubber compound 3GI3 to DIN VDE 0207-20
Protective conductor	Split into three parts in the interstices, green-yellow
Core identification	Colour coded to HD 308 / DIN VDE 0293
Inner sheath	Rubber or elastomer compound
Outer sheath	Thermoplastic polyurethane (TPU) jacket, black

Sheath material

The thermoplastic polyurethane (TPU) jacket gives very high abrasion, cut and tear resistance for trailing cables pulled over rough ground.

03 Electrical, Thermal and Mechanical Data

Electrical data

Rated voltage U_0/U	0.6/1 kV AC
Test voltage	3.5 kV AC, 5 min
Current-carrying capacity	DIN VDE 0298-4, 30 °C ambient; see table
Conductor resistance	Maximum at 20 °C, class 5 to IEC 60228

Thermal and mechanical data

Maximum conductor temperature	+90 °C
Short-circuit temperature	+250 °C
Ambient temperature, fixed	-40 … +80 °C
Ambient temperature, moving	-30 … +80 °C
Minimum bending radius, moving	See table (10 × D)
Maximum tensile load	15 N/mm² of copper cross-section of the power cores
Flame propagation	IEC 60332-1-2
Halogen-free sheath	Yes
Oil, ozone and UV resistance	Resistant

04 Dimensions, Weights and Ratings

The highlighted row is 3×35+3G6; the adjacent sizes of the series are shown for comparison.

Type designation	Article no.	Conductor Ø max mm	Outer Ø min mm	Outer Ø max mm	Min. bend radius mm	Weight approx. kg/km	Max. pull N	R_{20} max Ω/km	Rated current A	I_k (1 s) kA
3×25+3G6	FC-TF0981-3253G6	6.5	26.5	28.0	280	1,340	1,120	0.780	131	3.58
3×35+3G6	**FC-TF0981-3353G6**	**7.7**	**28.0**	**30.0**	**300**	**1,650**	**1,580**	**0.554**	**162**	**5.00**
3×50+3G10	FC-TF0981-3503G10	9.2	32.0	34.0	340	2,300	2,250	0.386	202	7.15

Current-carrying capacity: design values to DIN VDE 0298-4, free air, 30 °C ambient. Pull force = 15 N/mm² × copper cross-section of the power cores. Dimensions and weights are nominal design values within manufacturing tolerances.

Ambient temperature factors

°C	20	25	30	35	40	45	50
Factor	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Short-circuit rating

I_k = 0.143 kA/mm² × conductor cross-section for 1 s; for duration t: $I_{k,t} = I_{k,1s} / \sqrt{t}$.

05 Selection Guide

Typical use: At 3×35+3G6 this size is common for gantry and trolley travel drives, medium pumps and sub-distribution feeders up to about 88 kW.

At 400 V and cos φ 0.85, 3×35+3G6 supplies a three-phase load of about 88 kW at 30 °C in free air.

At 690 V and cos φ 0.85, 3×35+3G6 supplies a three-phase load of about 151 kW at 30 °C in free air.

For comparison: 3×25+3G6 has 28.0 mm, 1,340 kg/km and 131 A; 3×50+3G10 has 34.0 mm, 2,300 kg/km and 202 A. Choose the smallest size whose current, after the temperature factors, covers the load.

Example. A circuit carries 129 A at 40 °C ambient. Required table current = 129 / 0.91 = 142 A, so 3×35+3G6 (162 A) is suitable.

06 Standards and Testing

Standard	Scope
IEC 60228 / DIN VDE 0295	Conductors, class 5
DIN VDE 0298-3	Bending radii and tensile loads
DIN VDE 0298-4	Current-carrying capacity
IEC 60332-1-2	Flame propagation, single cable
IEC 60754-1 / -2	Halogen acid gas emission
IEC 60811-404	Mineral oil resistance

Routine and type tests

- AC voltage test on every delivery length: 3.5 kV, 5 min
- Conductor resistance, dimensions and insulation thickness
- Continuity of all conductors
- Flame propagation, IEC 60332-1-2 (type test)

Test documentation: every delivery comes with a test certificate from FeiChun’s own laboratory; third-party witnessed tests can be arranged at the buyer’s cost.

07 Installation, Marking and Delivery

Installation guidance

- Unwind the cable tangentially from the drum; avoid loops, kinks and pulling over the drum flange.
- Keep the bending radius and tensile load within the values in this datasheet.
- Protect trailing cables from being run over; use cable bridges or hangers where vehicles cross.
- Connect the protective conductor at both ends before the other cores.

Sheath marking

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FEICHUN FC-(N)TMH3S 3×35+3G6 0.6/1 kV [year] [metre mark]
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Packing and delivery

Packing	Steel or fumigated wooden drums; cable ends sealed
Delivery length	As ordered, in one continuous length
Lead time	2–3 weeks after technical approval
Warranty	1 year, covering failures not caused by human factors
Terms	FCA buyer's nominated forwarder's warehouse in China (Incoterms 2020); prices subject to LME copper

Order example: FC-(N)TMH3S 3×35+3G6 0.6/1 kV – replacement for TF Kable (N)TMH3S 3×35+3G6, 500 m on one drum. State type, cross-section, voltage, length per piece and installation conditions when requesting a quotation.

08 Certification and Quality

FeiChun holds CE (Low Voltage Directive), EAC and UKCA certificates and an ATEX documentation verification for defined product groups. Whether a certificate scope covers this construction is confirmed per project. All cable is routine-tested over 100 % of the delivered length.

09 Related Datasheets

This datasheet in Russian: FC-(N)TMH3S 3×35+3G6 0.6/1 kV

- FC-(N)TMH3S 3×25+3G6 0.6/1 kV – replacement for TF Kable (N)TMH3S
- FC-(N)TMH3S 3×50+3G10 0.6/1 kV – replacement for TF Kable (N)TMH3S
- FC-(N)TMH3S 3×70+3G16 0.6/1 kV – replacement for TF Kable (N)TMH3S
- FC-(N)TMH3S 3×95+3G16 0.6/1 kV – replacement for TF Kable (N)TMH3S
- FC-NSSHÖU-E 3×1.5+3×1.5/3E 0.6/1 kV – replacement for TF Kable NSSHÖU 3+3E
- FC-NSSHÖU-EP 3×2.5+3×2.5/3E+3×1.5ST 0.6/1 kV – replacement for TF Kable NSSHÖU 3+3E+3ST

Library overview: FeiChun replacements for TF Kable

Frequently asked questions

Can FC-(N)TMH3S replace TF Kable (N)TMH3S 3×35+3G6?
Yes. It is designed with the same core configuration, voltage rating and field of application. Compare the outer diameter, bending radius and weight with your reel, guides or glands before ordering; FeiChun confirms suitability on request.

What are the outer diameter and minimum bending radius of 3×35+3G6?
Outer diameter 28.0 – 30.0 mm; minimum bending radius in moving operation 300 mm (10 × D).

What current can 3×35+3G6 carry?
162 A in free air at 30 °C ambient. Apply the temperature factors in section 04.

Is the cable halogen-free?
Yes, the sheath is halogen-free.

10 Trademark Notice and Intellectual Property

TF Kable is a trademark of Grupa TF Kable. Type designations such as (N)TSCGEWÖU or NSHTÖU are standard designations. They are named only to identify the reference product for technical comparison. FeiChun Cables is not affiliated with or endorsed by the trademark owners.

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Document control

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