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ANHUI FEICHUN SPECIAL CABLE CO., LTD · FC®

Technical Datasheet & Quotation

(N)TSCGEWÖU 3×150 + 3×70/3 mm² · 0.6/1 kV · Spiral Drum Cable

Prepared for JSC UzAuto Motors, Uzbekistan — attention Mr Islomjon Ibroximov. One continuous reel of 170 m for high-speed continuous reeling on a single-spiral cable drum. Revision 01, issued against your specification sheet.

3×150 + 3×70/3 MM² | 0.6/1 KV | Ø 56.0 ± 1.5 MM | EPR / PCP + ARAMID

DIN VDE 0250-813 | REV 01 · FULL COMPLIANCE

Datasheet FC-TDS-TDB-2026-756A **Quotation** FC-QTN-UZ-2026-A101 **Revision** 01

Issued 14 August 2026 **Origin** Hefei, PR China

1 Summary

FeiChun offers the FC-FLX™ TROMMELFLEX-DB, type (N)TSCGEWÖU 3×150 + 3×70/3 mm², 0.6/1 kV. This is a purpose-built drum cable, not a stationary power cable adapted to reeling duty: the three power cores are laid up at a short lay length around a symmetrical split earth system, and the reeling tension is carried by an aramid-reinforced anti-torsion braid rather than by the copper alone. It is dimensioned for continuous dynamic service on a single-spiral drum.

> **Revision 01 — issued against your specification sheet.** This revision responds to the parameter table you sent. Two points of the original design were changed to meet it: the split earth is uprated from 70/3 to 3 × 25 mm² so that the auxiliary resistance limit is met with margin, and the sheath is supplied in FeiChun cold grade so that the cable reels at −40 °C rather than only surviving storage at that temperature. The clause-by-clause compliance table is in section 7. There are no deviations.

Still outstanding. The reference photo did not arrive with your message. To close the design we also need the drum barrel diameter and the number of layers, the cable travel length, and the reel drive motor rating — these decide whether the declared tensile figures are ever approached in service. Please send them to zihao.yang@feichuncables.com.



2 Product data

CHARACTERISTIC	FEICHUN SPECIFICATION
Type designation	(N)TSCGEWÖU 3×150+3×70/3 mm² — FC-FLX™ TROMMELFLEX-DB CG (cold grade)
Product family	Heavy-duty flexible drum cable for continuous dynamic reeling
Rated voltage U_0/U	0.6/1 kV (600/1000 V) a.c.
Test voltage	3.5 kV a.c., 5 min — applied to 100 % of the delivered length
Configuration	3 power cores 150 mm² + 3 split earth cores 25 mm² (75 mm² total — uprated from the specified 70/3 to meet the auxiliary resistance limit)
Conductor	Bare annealed copper, Class 5 fine-wire flexible, IEC 60228; tinned copper optional
Insulation	EPR, 3GI3 to DIN VDE 0207-20 / HD 22.1
Bedding / reinforcement	Elastomeric bedding with aramid-reinforced anti-torsion braid
Sheath	FeiChun cold-grade PCP 5GM5 (EM 2) to DIN VDE 0207-21, black RAL 9005; yellow on request
Design standard	DIN VDE 0250-813 — flexible cables for reeling and trailing service
Surface marking	FEICHUN · (N)TSCGEWÖU 3×150+3×70/3 · 0.6/1 kV · YEAR · sequential metre marks
Country of manufacture / origin	People’s Republic of China — Hefei, Anhui Province
HS code (China export)	8544.49.9000
TN VED code (import, Uzbekistan)	8544 49 910 0 — other conductors, > 80 V and ≤ 1 000 V, without connectors

3 Construction — cross-section

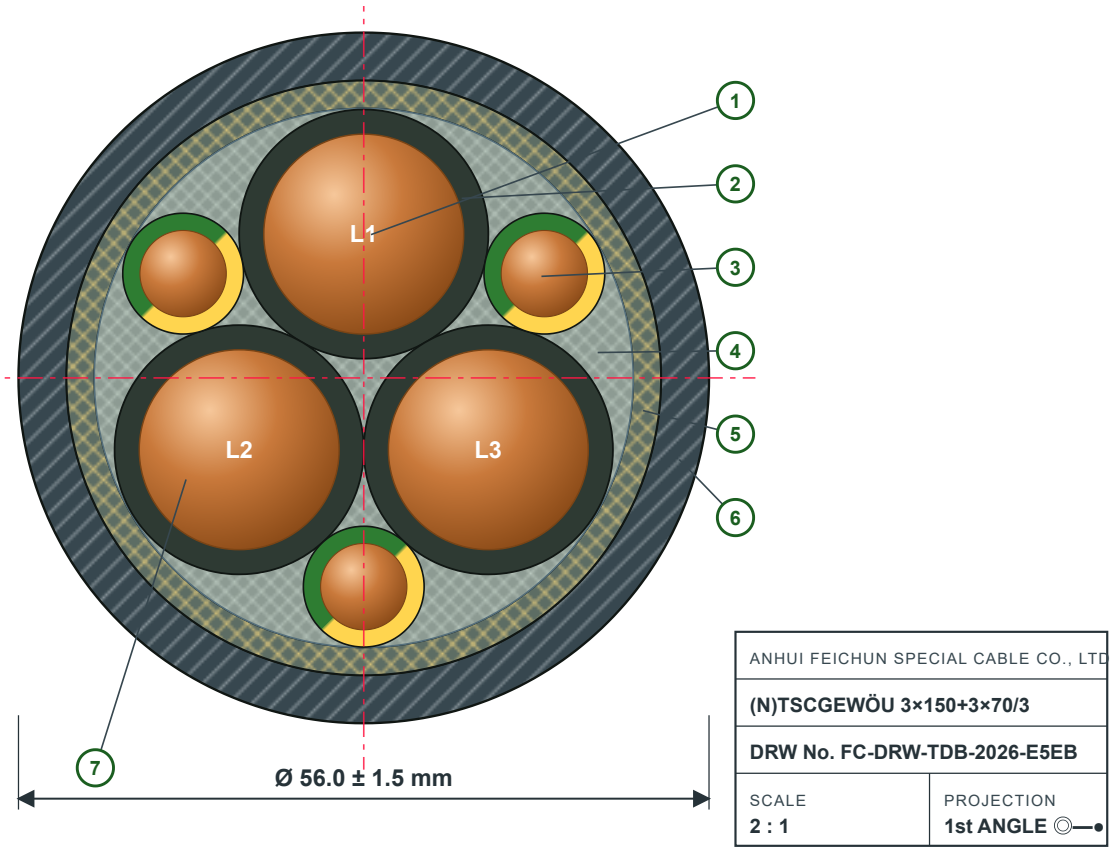


Figure 1 — Cross-section, (N)TSCGEWÖU 3×150+3×70/3 mm² 0.6/1 kV. Drawing FC-DRW-TDB-2026-E5EB, revision 01. Section hatching at 45° denotes the cut sheath; dashed red lines are the reference centrelines.

POS.	ELEMENT	MATERIAL AND CONSTRUCTION
1	**Power conductors**	3 × 150 mm² bare annealed copper, Class 5 fine-wire flexible to IEC 60228, wire Ø 0.21 mm, conductor Ø 16.2 mm
2	**Core insulation**	EPR compound 3GI3, wall 2.00 mm nominal, core Ø 20.2 mm, cores identified L1 / L2 / L3
3	**Split earth conductors**	3 × 25 mm² Class 5 copper (75 mm² total, uprated from 70/3), EPR insulated to Ø 9.8 mm, green/yellow, laid in the outer interstices to form a symmetrical earth system
4	**Interstitial fillers**	Profiled elastomeric fillers, cross-hatched, forming a true circular assembly Ø 43.7 mm; short lay length, alternate lay direction
5	**Anti-torsion braid + bedding**	High-density aramid anti-torsion braid embedded in an elastomeric bedding layer, Ø 48.2 mm — contributes ≥ 6 300 N of the declared tensile capacity and resists twist on the spiral drum
6	**Outer sheath**	FeiChun cold-grade PCP (polychloroprene) 5GM5, wall 3.90 mm nominal, abrasion-, oil-, ozone- and UV-resistant, cold bend and cold impact qualified at − 40 °C
7	**Reference axes**	Dashed centrelines — three-fold symmetry of the power cores and the split earth system

> The split earth — three conductors of 23.3 mm² spaced at 120° rather than one 70 mm² conductor — is what keeps the assembly circular and mechanically balanced through every reeling cycle. An asymmetric earth is the usual origin of core migration and sheath deformation on spiral drums.

4 Dimensions and mass

PROPERTY	VALUE
Power conductor diameter	16.2 mm
Insulation wall, power cores	2.00 mm nominal
Power core outer diameter	20.2 mm
Earth conductor diameter (each)	7.0 mm — 25 mm² Class 5
Earth core outer diameter	9.8 mm
Diameter over the laid-up assembly	43.7 mm
Diameter over bedding and anti-torsion braid	48.2 mm
Sheath wall thickness	3.90 mm nominal
Overall diameter	56.0 ± 1.5 mm — production range 54.5 – 57.5 mm
Calculated net weight	6 840 kg/km (6.84 kg/m)
Copper content	4 667 kg/km

5 Electrical data

PROPERTY	VALUE
Max. conductor resistance at 20 °C, power cores	0.124 Ω/km — specified limit 0.132 Ω/km
Max. resistance of the earth system at 20 °C	0.265 Ω/km (3 × 25 mm² in parallel) — specified limit 0.277 Ω/km
Insulation resistance at 20 °C	≥ 500 MΩ · km
Current rating, free air, 40 °C ambient, fully paid out	380 A
Current rating, fully wound on the drum, 40 °C ambient	215 A — see note 2
Max. conductor temperature, normal operation	+ 90 °C
Max. conductor temperature, short circuit (5 s max.)	+ 250 °C
Short-circuit withstand, power core, 1 s	21.5 kA (143 A/mm²)
Screening	Unscreened at 0.6/1 kV; conductive-tape screening available if the drive requires it

6 Mechanical and reeling data

These are the four figures you asked for, together with the conditions they are valid under.

PROPERTY	VALUE
Application	Continuous dynamic reeling on a single-spiral (monospiral) cable drum — not a stationary power cable
Max. reeling speed	150 m/min
Max. acceleration	1.5 m/s²
Max. permissible tensile load, dynamic reeling	14 200 N — 7 875 N from the copper (15 N/mm² on 525 mm²) plus ≥ 6 300 N from the aramid braid
Max. permissible tensile load, static	11 500 N — suspended self weight and stall condition
Min. bending radius, reeling and dynamic flexing	8 × OD = 450 mm
Min. bending radius, fixed installation	4 × OD = 225 mm
Torsional capability	± 25°/m, occasional, as induced by spiral drum geometry
Bending cycles, type-test at 8 × OD under rated tension	≥ 50 000 without electrical failure
Ambient temperature, mobile use	− 40 °C to + 80 °C with the cold-grade sheath compound
Ambient temperature, fixed installation	− 45 °C to + 80 °C
Abrasion, ozone, oil and UV resistance	Cold-grade PCP sheath — resistant to ozone (EN 50396), mineral oil, industrial coolants, UV and sunlight
Flame propagation	IEC 60332-1-2 — passed

7 Compliance with your specification

Every line of your parameter table is answered below, in the order you sent it. FeiChun's declared value is given against each requirement so that your engineering department can verify it directly. **There are no deviations.** Two parameters are met by design changes made specifically for this enquiry rather than by our standard build — they are flagged in the notes at the foot of the table.

PARAMETER	YOUR REQUIREMENT	FEICHUN DECLARED VALUE	STATUS
Cable type	Flexible reeling / crane cable	(N)TSCGEWÖU purpose-built drum cable — not a stationary cable adapted to reeling	Complies
Cable length	170 m	170 m, one continuous length on one reel	Complies
Application	High-speed continuous reeling on a single-spiral drum	Designed and rated for continuous monospiral drum service	Complies
Rated voltage	0.6/1 kV	0.6/1 kV, routine tested at 3.5 kV a.c. for 5 min	Complies
Configuration	3×150 + 3×70/3 mm²	3×150 mm² + 3×25 mm² split earth (75 mm² total)	Complies — earth uprated, see note 1
Conductor	Flexible copper, Class 5	Bare annealed copper, Class 5 fine-wire to IEC 60228, wire Ø 0.21 mm	Complies
Insulation	Flexible EPR or equivalent	EPR 3GI3 to DIN VDE 0207-20, wall 2.00 mm	Complies
Anti-torsion protection	Required	High-density aramid anti-torsion braid in an elastomeric bedding, ± 25°/m	Complies
Outer sheath	Flexible, abrasion / oil / UV resistant	FeiChun cold-grade PCP 5GM5, wall 3.90 mm, ozone tested to EN 50396	Complies
Max. conductor temperature	≥ 90 °C	90 °C continuous	Complies
Short-circuit temperature	≥ 250 °C	250 °C, 5 s maximum	Complies
Conductor resistance at 20 °C, 150 mm²	≤ 0.132 Ω/km	0.124 Ω/km	Complies — 6 % margin

PARAMETER	YOUR REQUIREMENT	FEICHUN DECLARED VALUE	STATUS
Auxiliary conductor resistance	≤ 0.277 Ω/km	0.265 Ω/km (3 × 25 mm² in parallel)	Complies — 4 % margin
Static tensile load	≥ 11 000 N	11 500 N	Complies
Dynamic tensile load	≥ 14 000 N	14 200 N (7 875 N copper + ≥ 6 300 N aramid)	Complies
Outer diameter	approx. 53.8 – 57.8 mm	56.0 ± 1.5 mm (54.5 – 57.5 mm)	Complies — centred in the band
Cable weight	approx. 6.95 kg/m	6.84 kg/m calculated	Complies — declared − 1.6 %, see note 2
Operating temperature	− 40 °C to + 60 °C	− 40 °C to + 80 °C mobile, with the cold-grade sheath compound	Complies — exceeds the upper limit
Dynamic service	Continuous winding / unwinding, movement and torsion	≥ 50 000 bending cycles at 8 × OD under rated tension; ± 25°/m torsion	Complies
Min. bending radius	To be specified by the manufacturer	8 × OD = 450 mm dynamic; 4 × OD = 225 mm fixed	Specified
Max. reeling speed	To be specified by the manufacturer	150 m/min, acceleration 1.5 m/s²	Specified

NO.	NOTE TO THE COMPLIANCE TABLE
1	The specified 70/3 split earth gives 3 × 23.3 mm², whose parallel resistance is 0.284 Ω/km — above your 0.277 Ω/km limit. We have therefore uprated each earth conductor to 25 mm², giving 0.265 Ω/km. The earth remains a three-part symmetrical system in the outer interstices, so the mechanical balance of the assembly is unchanged; only the copper content rises.
2	The calculated weight of 6.84 kg/m sits 1.6 % below your approximate figure of 6.95 kg/m. This is a consequence of the finished geometry, not of reduced material: conductor cross-sections, wall thicknesses and the copper content are all at or above specification. We declare the calculated figure rather than quoting yours back.
3	Your specification asks for operation down to − 40 °C. Standard PCP is qualified for mobile service to − 25 °C, so this cable is offered with the FeiChun cold-grade compound, cold bend tested to IEC 60811-504 and cold impact tested to IEC 60811-506 at − 40 °C. Please confirm this requirement in the order, as it fixes the compound at the production stage and cannot be added later.

On TRATOSMART-DB FDSA30B. That designation belongs to Tratos and is used here only to identify the cable you referenced; FeiChun makes no claim to their marks and does not reproduce their published data. The cable offered is an independent FeiChun design in the same product class, and the table above shows it meets or exceeds every parameter you set. A signed compliance statement on company letterhead is issued with the order confirmation if your procurement process requires one.

8 Standards and testing

STANDARD	APPLICATION TO THIS CABLE
DIN VDE 0250-813	Design basis — heavy-duty rubber cables for reeling and trailing service
IEC 60228 / EN 60228	Class 5 flexible copper conductors
DIN VDE 0207-20 and -21	EPR insulation (3GI3) and PCP sheath (5GM5) compound requirements
IEC 60502-1	Routine, sample and type tests for 0.6/1 kV cables
IEC 60332-1-2	Flame propagation on a single vertical wire — passed
EN 50396 / IEC 60811-403	Ozone resistance, 24 h — no cracking
IEC 60811 series	Ageing, hot set, tensile, elongation, cold bend and cold impact
EU Directive 2011/65/EU (RoHS 3), REACH (EC) 1907/2006	Compliant — declarations issued with the shipping documents

Every delivered length is routine-tested for conductor continuity, conductor resistance, insulation resistance and 3.5 kV a.c. withstand. A works test certificate to EN 10204 type 2.2 accompanies the shipment; type 3.1 certification is available on request at no additional cost.

9 Commercial offer

QUOTATION FC-QTN-UZ-2026-A101 · INCOTERMS® 2020	
Item	01
Description	(N)TSCGEWÖU 3×150 + 3×70/3 mm², 0.6/1 kV heavy-duty spiral drum cable, cold grade, OD 56.0 ± 1.5 mm, high-density aramid anti-torsion braid, split earth uprated to 3 × 25 mm² — new and original factory production
Quantity	170 m, one continuous length on one reel
Unit price	**USD 121.86 per metre** — FOB Shanghai
Total, 170 m	**USD 20 716.20 — FOB Shanghai**
Freight and insurance to Tashkent, indicative	USD 1 980.00 — rail / road, Shanghai → Tashkent, approx. 1.76 m³ / 1 405 kg gross, transit 25 – 35 days, including cargo insurance at 110 % of invoice value
Indicative total, CIP Tashkent	USD 22 696.20 — equivalent to USD 133.51 per metre
Payment terms	T/T 50 % with the order, balance 50 % against the copy transport document
Production lead time	3 – 4 weeks after receipt of the advance payment
Port / place of dispatch	Shanghai, China
Warranty	12 months from the date of the transport document, against defects in material and workmanship
Condition	New and original equipment — first-quality factory production, no reclaimed, surplus or re-reeled material
Currency basis	Converted at USD 1 = RMB 6.77

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Prices are subject to fluctuation of the LME copper market. This cable carries 4 667 kg of copper per kilometre, so the metal dominates the price and the figure moves with the market. The inland freight to Tashkent is indicative and is confirmed at the time of booking; a firm CIP Tashkent figure is issued once you confirm the despatch window. Import duty, VAT and customs clearance in Uzbekistan are for the buyer's account.

10 Packing and shipping data

DETAIL	VALUE
Delivery length	1 continuous length of 170 m
Packing	1 non-returnable wooden drum, ISPM 15 heat-treated and stamped
Drum dimensions (flange × overall width)	Ø 1 400 × 900 mm
Net weight	1 165 kg
Gross weight	1 405 kg
Volume	1.76 m³
End protection	Both ends heat-shrink capped and lashed to the flange; drum labelled with type, length, drum number and weights

Export documents provided: commercial invoice, packing list, transport document, certificate of origin, works test certificate, and RoHS and REACH declarations. Additional documents required for customs clearance in Uzbekistan are prepared on request.

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11 Notes

NO.	NOTE
1	The tensile and bending figures assume the drum diameter is at least 20 × the cable outer diameter, that is 1 120 mm at the barrel, and that the guide sheaves are not smaller than the stated dynamic bending radius. Confirm your drum geometry and we will verify it against the offer.
2	A cable wound on a drum dissipates heat poorly. The drum rating in section 5 assumes the cable is fully wound with three or more layers at 40 °C ambient. Where the cable runs largely paid out, the free-air rating applies.
3	Options available without change to the delivery time: tinned copper conductors for humid or saline conditions; a PUR sheath in place of PCP where abrasion rather than ozone dominates; a yellow or orange sheath for visibility; and an integral optical-fibre or control element where the drive requires feedback along the cable.
4	We hold the compound formulation, lay length and drawing under this document number, so repeat deliveries for the same drum will match the first length.
5	Recommended spare length: an additional 10 – 15 m allows for re-termination after the first year of service without replacing the whole length. Priced at the same unit rate if added before production starts.

Contact

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