TYPE · LV REELING · SPECIAL DESIGNS | 0.6/1 kV | 11 Variants

CORDAFLEX SPCL Equivalent

FC-CFX-SP (N)SHTÖU 0,6/1 kV

Special low voltage reeling cables combining control cores with screened data elements or integrated fibre optics — for crane automation, bus systems and CCTV.

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01 Application & Product Overview

FC-CFX-SP covers the special (N)SHTÖU designs that combine control cores with screened bus elements or integrated optical fibres, so that control, communication and data run in a single reeling cable.

Screened elements (tinned copper braid, transfer impedance optimised at 30 MHz) support CAN-Bus, Profibus, ASI and Industrial Ethernet; fibre-optic versions carry G50, G62.5 or E9 fibres for long-distance, EMI-immune data links.

Typical applications

- Crane automation and remote operation — spreader, trolley and gantry control
- Bus systems: CAN-Bus, Profibus, ASI, Industrial Ethernet
- CCTV and high-bandwidth data via integrated fibre optics
- Motor-driven reels and festoon systems on STS, RMG and RTG cranes
- Outdoor and indoor use — resistant to ozone, UV, moisture and oil

11 variants
combined control and FO designs

240 m/min
Travel speed, reeling and festoon

30 N/mm²
Max. tensile load on conductor

G50 · G62.5 · E9
Fibre types available

Cross-reference

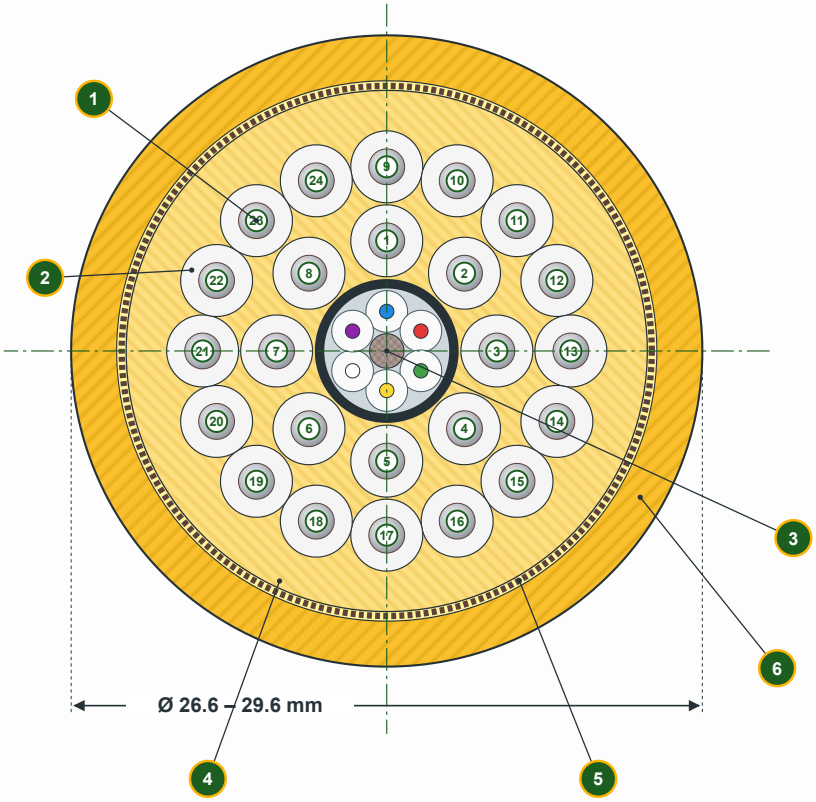
REFERENCE TYPE	FEICHUN EQUIVALENT

CORDAFLEX SPCL (N)SHTÖU 0,6/1 kV

FC-CFX-SP (N)SHTÖU 0,6/1 kV

Further combinations of control cores, screened pairs and fibres are designed to order.

02 Construction



FEICHUN · SECTION A–A · 0.6/1 kV
FC-CFX-SP (N)SHTÖU-J + FO
Doc. No. FC-TDS-CFP-2026-011E Ref. 24G1.5+6×(2G62.5) Rev. 0 · 2026-10-10 · 1st-angle · NTS

Drawing representative of the 24G1.5+6×(2G62.5) size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Tinned electrolytic Cu, very finely stranded, class FS / class 5
2	Insulation	Special EPR-based compound, light-coloured cores with black printed numbers; green-yellow earth
3	Centre element	Fibre-optic element (gel-filled ETFE tubes around an FRP support) or screened data elements
4	Inner sheath	PCP-based rubber compound, yellow
5	Anti-torsion braid	Polyester yarn braid, vulcanised between the sheaths
6	Outer sheath	PCP-based compound, min. 5GM5, abrasion- and tear-resistant, yellow

Design features

Item	Description
Core arrangement	Control cores laid up in up to 3 layers around a central data / FO element
Screened elements (C)	Tinned copper braid, transfer impedance optimised at 30 MHz; coverage ≥ 60 % (cores) / ≥ 80 % (pairs)
Optical element	6–12 fibres G50, G62.5 or E9 in gel-filled loose tubes
Sheath system	Double sheath with vulcanised polyester anti-torsion braid
Sheath colour	Yellow (standard); black on request

FEICHUN CABLE

03 Electrical, Thermal & Mechanical Data

Electrical parameters

Parameter	Value
Rated voltage U_0/U	0.6/1 kV
Max. operating voltage AC	0.7/1.2 kV
Max. operating voltage DC	0.9/1.8 kV
AC test voltage	3.5 kV, 5 min (power and control cores)
Current rating basis	DIN VDE 0298-4; laid on a surface, 30 °C ambient — apply reeling factors (§05)
Data transmission	CAN-Bus, Profibus, ASI, Industrial Ethernet via screened elements; FO for all protocols

Thermal & mechanical parameters

Parameter	Value
Max. conductor temperature	+90 °C
Short-circuit temperature	+250 °C (max. 5 s)
Ambient — fixed installation	−50 °C to +80 °C
Ambient — fully flexible operation	−35 °C to +80 °C
Max. tensile load	30 N/mm² of total conductor cross-section
Torsional stress	± 50 °/m
Min. bending radius	Per DIN VDE 0298-3 — see type tables
S-type direction changes	Min. spacing 20 × D
Travel speed	Reeling: up to 240 m/min (higher on request); festoon: up to 240 m/min
Resistance	Oil (DIN EN 60811-404), ozone, UV and moisture — unrestricted outdoor use

04 Optical Fibre Data

Characteristic	G50/125 µm Multimode OM2/OM3	G62.5/125 µm Multimode OM1	E9/125 µm Single-mode OS2
Fibre type	Graded-index	Graded-index	Monomode
Core / cladding / coating Ø	50 / 125 / 250 µm	62.5 / 125 / 250 µm	9 / 125 / 250 µm
Attenuation at 850 / 1310 nm	≤ 2.8 / ≤ 0.8 dB/km	≤ 3.3 / ≤ 0.9 dB/km	— / ≤ 0.4 dB/km
Attenuation at 1550 nm	—	—	≤ 0.3 dB/km
Bandwidth at 850 / 1300 nm	≥ 400 / ≥ 1,200 MHz·km	≥ 200 / ≥ 500 MHz·km	—
Numerical aperture	0.20 ± 0.02	0.275 ± 0.02	0.14 ± 0.02
Chromatic dispersion 1310 / 1550 nm	—	—	≤ 3.5 / ≤ 18 ps/(nm·km)

Fibre counts and types per variant as stated in the type designation; other configurations on request.

05 Dimensions, Weights & Ratings — 0.6/1 kV (11 variants)

Cores × cross-section mm²	FeiChun part no.	Conductor Ø max. mm	Outer diameter min. mm	Outer diameter max. mm	Min. bending radius mm	Weight approx. kg/km	Max. tensile force N	R_{20} max. Ω/km	Current rating A	Short-circuit current kA (1 s)
Combined control cables with screened elements										
12G2.5+12×1(C)	FC-CFX-SP-001	2.0	27.2	30.2	151	1,280	900	8.21	30	0.36
19G2.5+5×1(C)	FC-CFX-SP-002	2.0	26.2	29.2	146	1,310	1,420	8.21	30	0.36
19G2.5+5×1.5(C)	FC-CFX-SP-003	2.0	31.0	34.0	170	1,580	1,420	8.21	30	0.36
25G2.5+5×1(C)	FC-CFX-SP-004	2.0	29.4	32.4	162	1,640	1,870	8.21	30	0.36
Control cables with integrated fibre optics										
24G1.5 +6×(2G62.5)	FC-CFX-SP-005	1.6	26.6	29.6	148	1,180	1,080	13.7	23	0.21
24G1.5 +12×(2E9)	FC-CFX-SP-006	1.6	26.5	29.5	148	1,200	1,080	13.7	23	0.21
20G2.5 +6×(3G62.5)	FC-CFX-SP-007	2.0	28.4	31.4	157	1,280	1,500	8.21	30	0.36
20G2.5 +6×(3E9)	FC-CFX-SP-008	2.0	28.4	31.4	157	1,290	1,500	8.21	30	0.36
24G2.5 +6×(2E9)	FC-CFX-SP-009	2.0	29.4	32.4	162	1,520	1,800	8.21	30	0.36
28G2.5 +2×(3G50)	FC-CFX-SP-010	2.0	29.4	32.4	162	1,590	2,100	8.21	30	0.36
30G2.5 +6×(3E9)	FC-CFX-SP-011	2.0	30.2	33.3	167	1,640	2,250	8.21	30	0.36

Current rating: nominal value for rubber / PUR cables laid on a surface at 30 °C ambient (DIN VDE 0298-4) — multiply by the factors below for reeled operation and other ambient temperatures. Special designs are manufactured to order.

Reeling factors — cylindrical drum

Layers on drum	1	2	3	4	5
Factor	0.80	0.61	0.49	0.42	0.38

Ambient temperature factors (90 °C

conductor)

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

06 Standards & Tests

Standard	Scope
DIN VDE 0250-814	Basis of design (LV reeling / trailing cable)
DIN VDE 0295 / IEC 60228	Conductors, class FS / 5
DIN VDE 0207-20 / -21	Insulation (EPR) and sheath (PCP) compounds
DIN VDE 0298-3 / -4	Bending radii, current ratings
DIN EN 60811-404	Oil resistance of sheath
HD 22.16 / EN 50525-1	Water resistance; general requirements
IEC 60793 / IEC 60794	Optical fibres and FO cable tests

Routine & type tests

- AC voltage test 3.5 kV on every drum
- Conductor resistance and dimensional checks
- OTDR attenuation test of every fibre, report supplied with drum
- Transfer impedance and continuity of screened elements
- Reeling, reversed bending, roller bending and torsion tests (type test)
- Ozone, UV and oil resistance — unrestricted outdoor use

Test documentation: each delivery is accompanied by a FeiChun in-house laboratory inspection certificate. Third-party witnessed testing can be arranged at the buyer's cost.

07 Installation, Marking & Delivery

Installation notes

- Drum core diameter ≥ 2 × minimum bending radius; use guide rollers sized to the same radius.
- Unwind tangentially from the delivery drum — never pull off over the flange; avoid loops and kinks.
- Keep torsion within ± 50 °/m; maintain at least 20 × D between S-type direction changes.
- Keep tensile force within the tabulated limit, including acceleration and braking peaks.
- Lay out and relax the cable before the first reeling; check tension-control settings at commissioning.

Sheath marking

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FEICHUN FC-CFX-SP (N)SHTÖU-J [cores × cross-section + elements] 0,6/1 kV [year] [serial no.] [metre mark]
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- Connect all earth conductor parts and any screens at both ends.
- Earth screens of data elements at both ends via 360° EMC glands; factory FO pre-assembly recommended.

Packing & delivery

Item	Standard
Drum	Steel or fumigated wooden drums, ends sealed with heat-shrink caps
Lengths	To order, single continuous length (no joints)
Production lead time	2–3 weeks after technical confirmation
Warranty	Min. 3 years against manufacturing defects
Drum label	Type, size, length, gross/net weight, batch no., drum no.

08 Certifications & Quality

CE — LVD 2014/35/EU
Attestation No. M.2025.206.C116598 · EN 50525-1:2011+A1:2022 · UDEM International Certification · valid to 01.04.2030

EAC — TR CU 004/2011
Certificate No. ЕАЭС KG417/052.CN.02.15390 · GOST 31996-2012, GOST 31565-2012 · valid 24.10.2025–23.10.2030

UKCA — Verification
No. ICR/VC/HS2508110 · BS EN 50525-1:2011+A1:2022 · ICR Polska · valid to 17.08.2030

FeiChun also holds ATEX (Directive 2014/34/EU) documentation verification and IECEx / VDE related approvals for designated product families. Certificate copies are available on request.

09 Trademark Notice & Intellectual Property

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