TYPE · FESTOON CABLE · CRANES & HOISTS | 0.6/1 kV | 13 TYPES | FLAT PUR

FC-FPU-F Flat PUR

Flat PUR Festoon Cable

Flat halogen-free PUR festoon cable with parallel cores for single-plane bending — 5 × H loop radius, low-profile stacking and 13 variants for STS boom festoons and RMG / ASC trolley supply.

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01 Application and product overview

FC-FPU-F is a flat, halogen-free PUR festoon cable with parallel cores in one row. It bends in a single plane only, which gives the tightest loop radius (5 × H), the lowest profile and the neatest stacking on a festoon track — the first choice for STS boom festoons and RMG / ASC trolley supply.

Thirteen variants: nine four-core power cables from 4×4 to 4×95 mm² and four control cables from 7×1.5 to 12×2.5 mm²; aramid support elements for long unsupported spans are available on request. Consider the round FC-FPU-R when the cable sees torsion, needs screening or has many control cores.

Typical applications

- STS boom and trolley festoons
- RMG / ASC trolley power and control supply
- Tracks where space for cable loops is limited
- High-cycle bending in one plane at up to 180 m/min

13 variants
4×4 – 4×95 power · 7×1.5 – 12×2.5 control

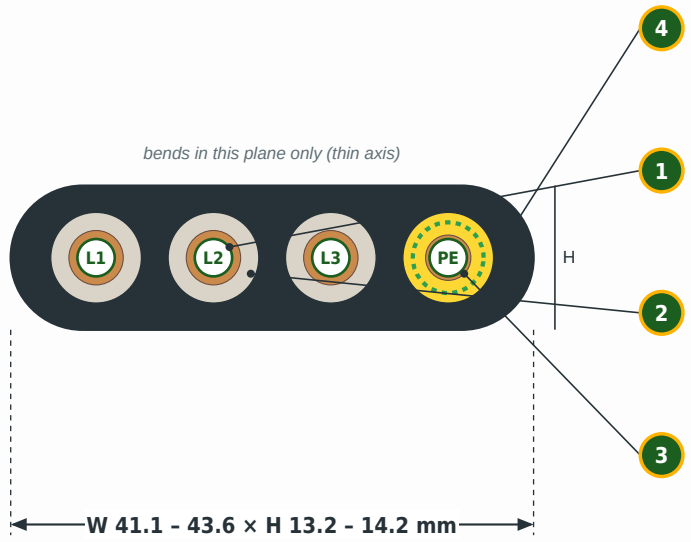
0.6/1 kV
AC rated voltage · 90 °C

180 m/min
Festoon guidance speed

5 × H
Min. bending radius in the flat plane

Festoon or reeling? A festoon cable hangs in loops from carriers on a track and bends repeatedly in one plane as the trolley moves; a reeling cable is wound onto a reel and must cope with multi-layer winding, S-bends and torsion. For cables that wind on a reel choose a reeling series instead (FC-TPU, FC-CFX, FC-TMV).

02 Construction



Section A–A · FC-FPU-F 0.6/1 kV · reference size 4×25 mm²
Schematic, 1st-angle, not to scale; other sizes scale proportionally.

No.	Element	Material
1	Conductor	Bare copper, fine-wire, class 5 (IEC 60228)
2	Core insulation	XLPE, 90 °C — flexible, abrasion-resistant
3	Earth core	Green-yellow, at the end of the row
4	Outer sheath	Halogen-free PUR, flat profile, black

Core arrangement and identification: Parallel cores in one row; the cable bends in the flat plane only. Aramid support elements for long unsupported spans are available on request.

03 Electrical, thermal and mechanical characteristics

Rated voltage U_0/U	0.6/1 kV AC (U_m 1.2 kV); DC 0.9/1.8 kV
Test voltage	2.5 kV
Conductor	Bare copper, fine-wire class 5 (IEC 60228)
Insulation	XLPE, 90 °C; short-circuit temperature +250 °C
Outer sheath	Halogen-free PUR, flame-retardant (IEC 60332-1-2), abrasion-resistant, black
Core identification	Up to 5 cores coloured to DIN VDE 0293-308; from 6 cores natural colour with black numbers

Ambient, fixed installation	−40 °C to +80 °C
Ambient, moving	−30 °C to +80 °C
Min. bending radius	5 × H in the flat plane (H = cable height)
Max. tensile load on conductors	15 N/mm²
Torsion	Not permitted
Max. travel speed in festoon systems	180 m/min guidance value; consult FeiChun for higher speeds or long travel

04 Dimensions, weights and ratings — 0.6/1 kV (13 types)

Type cores × mm²	FeiChun art. no.	Cond. Ø max. mm	Height H min. mm	Height H max. mm	Width W min. mm	Width W max. mm	Min. bend radius mm	Weight kg/km	Max. tensile force N	R_{20} max. Ω/km	Current A	Short-circ. kA (1 s)
Power cables, four parallel cores (3 phases + earth)												
4×4	FC-FPF-001	2.6	7.9	8.4	23.1	24.5	42	355	240	4.95	43	0.57
4×6	FC-FPF-002	3.2	8.8	9.4	26.2	27.8	47	480	360	3.30	56	0.86
4×10	FC-FPF-003	4.0	10.0	10.7	30.1	32.0	54	690	600	1.91	78	1.43
4×16	FC-FPF-004	5.0	11.6	12.4	35.6	37.8	62	1,020	960	1.21	104	2.29
4×25	FC-FPF-005	6.2	13.2	14.2	41.1	43.6	71	1,460	1,500	0.780	138	3.57
4×35	FC-FPF-006	7.8	15.3	16.4	48.2	51.1	82	2,010	2,100	0.554	170	5.00
4×50	FC-FPF-007	9.6	17.8	19.1	56.8	60.3	96	2,830	3,000	0.386	212	7.15
4×70	FC-FPF-008	11.1	19.8	21.2	63.4	67.4	106	3,750	4,200	0.272	263	10.01
4×95	FC-FPF-009	12.6	22.0	23.6	70.9	75.3	118	4,900	5,700	0.206	316	13.58
Control cables, parallel cores (numbered)												
7×1.5	FC-FPF-010	1.5	5.9	6.3	25.4	27.0	32	275	160	13.3	24*	0.21
12×1.5	FC-FPF-011	1.5	5.9	6.3	40.5	43.0	32	445	270	13.3	24*	0.21
7×2.5	FC-FPF-012	2.0	6.7	7.2	30.2	32.1	36	395	260	7.98	32*	0.36
12×2.5	FC-FPF-013	2.0	6.7	7.2	48.6	51.7	36	650	450	7.98	32*	0.36

* Control cables: current shown for three loaded cores; with more loaded cores apply the multicore factors. Current: free air, 30 °C ambient, DIN VDE 0298-4. Bending radius = 5 × H_{max} in the flat plane. Tensile force 15 N/mm² × total copper cross-section. Short-circuit (1 s, 90 °C → 250 °C): $I_{k,1s}$ = 0.143 kA/mm² × S; $I_{k,t} = I_{k,1s} / \sqrt{t}$ (0.1 s ≤ t ≤ 5 s).

Ambient temperature factors (conductor 90 °C, reference 30 °C)

°C	20	25	30	35	40	45	50	55	60
Factor	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71

Reduction factors for multicore cables (loaded cores)

Loaded cores	5	7	10	14	19	24	40	61
Factor	0.75	0.65	0.55	0.50	0.45	0.40	0.35	0.30

05 Standards and testing

Standard	Scope
DIN EN 60228 / IEC 60228 / VDE 0295	Conductors, class 5 (flexible)
IEC 60502-1	Power cables up to 1 kV — insulation basis
DIN VDE 0250-809	Flat festoon cables — construction basis
DIN VDE 0298-3	Bending radii, tensile loads, torsion
DIN VDE 0298-4	Current-carrying capacity and reduction factors
DIN VDE 0293-308 (HD 308)	Identification of cable cores
DIN EN 60332-1-2 / IEC 60332-1-2	Flame propagation, single vertical cable

Routine and type tests

- AC voltage test on every drum length
- Conductor resistance and dimension check
- Continuity of earth and control cores
- Reeling, bending and torsion tests (type test)
- Flame propagation (IEC 60332-1-2) and confirmation of halogen-free materials

Test documentation: each delivery is accompanied by an in-house test certificate from FeiChun. Third-party witnessed tests can be arranged at the buyer's expense.

06 Installation, marking and delivery

Installation guidelines

- Loop and carrier geometry: hang diameter ≥ 2 × minimum bending radius; neighbouring loops must not touch; carriers must not crush or kink the sheath.
- Matched cables: hang cables of similar weight and stiffness on the same carriers; separate power and control where EMC requires.
- Strain relief at the fixed end and at the towing carrier; leave a length reserve for thermal movement and wear.
- Speed and acceleration: stay within the 180 m/min guidance value; long strokes or high accelerations need support elements — ask FeiChun.
- Heat: loops stacked in the sun or in a dense bundle carry less current — use the ambient and grouping factors.
- One plane: mount flat cables with the flat face vertical so that they bend only about the width axis; never twist a flat cable.

Packaging and delivery

Drum	Steel or fumigated wooden drums; ends sealed with heat-shrink caps
Lengths	Continuous length as ordered, no joints
Lead time	2–3 weeks after technical agreement
Warranty	At least 3 years against manufacturing defects
Drum label	Type, size, length, gross/net weight, batch no., drum no.

07 Certification and quality

CE — LVD 2014/35/EU

Certificate No. M.2025.206.C116598 · EN 50525-1:2011+A1:2022 · UDEM International Certification · valid until 01.04.2030

EAC — TR CU 004/2011

Certificate No. EAEU 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 until 17.08.2030

Certificate scope and product coverage are confirmed per project. Certificate copies are available on request.

08 Notice and intellectual property

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