CATALOGUE · MOTOR CABLES FOR ENERGY CHAINS | 0.6/1 kV | 71 variants · 7 series | igus chainflex® equivalents

FC-ECM
Motor cables for energy chains — product catalogue

Highly flexible 600/1000 V motor (power) cables for energy chains — PVC and TPE jackets, unshielded and shielded versions for frequency converters, cross-sections from 0.5 to 70 mm² — direct equivalents of the igus chainflex® motor cable range.

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01 Programme overview

FeiChun FC-ECM motor cables supply motors and drives in continuous motion inside cable carriers (energy chains). Each series is a functional equivalent of an igus chainflex® motor cable with the same number of cores, cross-sections and maximum outer diameters, so it replaces the original cable in existing energy chains without changing separators or strain reliefs.

Low-capacitance core insulation (TPE or XLPE) and short-pitch stranding around a centre element keep capacitive leakage currents low on converter-fed drives. The pressure-extruded jacket fills the gussets and holds the core geometry; shielded versions carry a tinned copper braid with up to 90 % optical coverage. Core identification: black cores with white numbers 1/2/3 (U/V/W) and one green-yellow PE core.

Typical applications

- Machine tools and machining centres
- Storage and retrieval units, automated warehouses
- Indoor and outdoor cranes and gantries
- Packaging, woodworking and stone processing machinery
- Converter-fed drives on moving axes

71
variants in 7 cable series

PVC · TPE
Outer jacket materials

0.5 – 70 mm²
Conductor cross-sections

600/1000 V
Nominal voltage, test voltage 4000 V

Range overview

FeiChun type	igus equivalent	Outer jacket	Shield	Duty	Cross-sections mm²	Sizes	Bend radius in e-chain	Travel distance	Section
FC-ECM885	CF885	PVC	No	Light (class 3)	1.5 – 16	6	15 × d	≤ 10 m unsupported	§03
FC-ECM886	CF886	PVC	Yes (C)	Light (class 3)	1.5 – 16	6	15 × d	≤ 10 m unsupported	§04
FC-ECM30	CF30	PVC	No	Heavy (class 5)	1.5 – 50	14	7.5 × d	≤ 100 m gliding	§05
FC-ECM31	CF31	PVC	Yes (C)	Heavy (class 5)	1.5 – 70	14	7.5 × d	≤ 100 m gliding	§06
FC-ECM34.UL.D	CF34.UL.D	TPE	No	Extremely heavy (class 6)	1.5 – 25	12	7.5 × d	≥ 400 m gliding	§07
FC-ECM35.UL	CF35.UL	TPE	Yes (C)	Extremely heavy (class 6)	0.5 – 25	10	7.5 × d	≥ 400 m gliding	§08
FC-ECM38	CF38	TPE	Yes (C)	Heaviest (class 7)	1.5 – 50	9	7.5 × d	≥ 400 m gliding	§09

How to find the replacement

IGUS PART NO.
CF31.25.04 · (4G2.5)C

→

FEICHUN PART NO.
FC-ECM31-002 · (4G2.5)C

Look up the igus part number in the “igus equivalent” column of the series dimension table — the same row gives the FeiChun part number with identical core count, cross-section and outer diameter.

02 Selection guide

LIGHT DUTY · PVC

HEAVY DUTY · PVC

EXTREMELY HEAVY AND HEAVIEST DUTY · TPE

FC-ECM885 · FC-ECM886

Economical series for flexing and short unsupported travels indoors.

- Unsupported travels up to 10 m
- Bend radius in e-chain 15 × d
- No oil exposure
- v up to 3 m/s, a up to 20 m/s²

FC-ECM30 · FC-ECM31

Oil-resistant series for storage units, machine tools and indoor cranes.

- Gliding up to 100 m
- Bend radius in e-chain 7.5 × d
- Oil resistance, class 2
- v up to 10 m/s, a up to 80 m/s²

FC-ECM34.UL.D · FC-ECM35.UL · FC-ECM38

Series for long travels, outdoor use and low temperatures.

- Gliding up to 400 m and more
- Operation in e-chain from −35 °C
- Oil, bio-oil and UV resistant
- FC-ECM38 is halogen-free

Shielded or unshielded?

For motors fed by frequency converters use the shielded series (designation with C): FC-ECM886, FC-ECM31, FC-ECM35.UL or FC-ECM38. Terminate the shield 360° in EMC glands at both ends. Unshielded series suit mains-fed motors and circuits without EMC requirements.

Selection steps: define the duty and the environment, choose jacket and shield, then check minimum bend radius, travel distance and speed in the series technical data. Size the cross-section from the motor current and the installation conditions. FeiChun engineers will recommend the optimum series on request.

03 FC-ECM885 PVC

chainflex CF885 equivalent

6 variants

Unshielded motor cable with PVC outer jacket for light flexing duty in energy chains, flame retardant

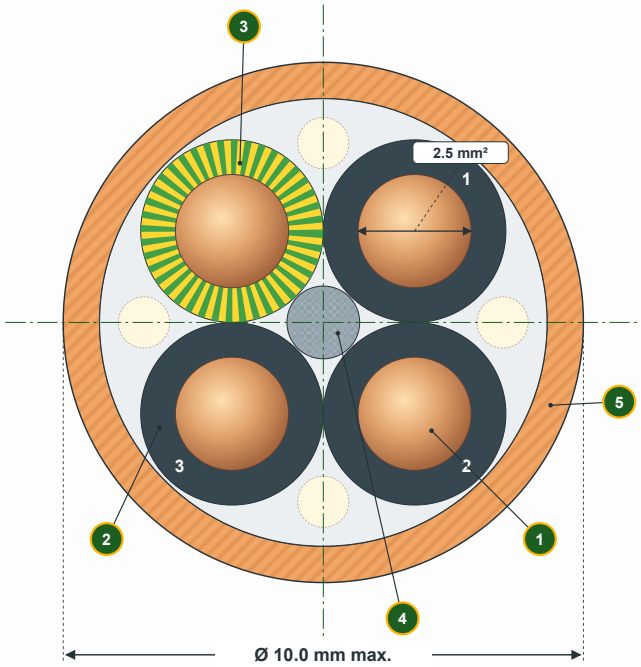
Flexing applications (class 3), especially unsupported travels up to 10 m; no oil exposure; no torsion. Preferably indoors: wood and stone processing, packaging, supply systems, handling and adjusting equipment. An economical choice for drives without screening requirements.

6 variants
Cross-section range 1.5 – 16 mm²

600/1000 V
Nominal voltage, test voltage 4000 V

15 × d
Min. bend radius in energy chain

PVC
Outer jacket



FEICHUN · SECTION A–A · 0.6/1 kV
FC-ECM885 PVC
Doc. No. FC-TDS-ECM885-2026-48A6-EN
Desig. 4G2.5
Rev. 0 · 2026-10-13 · 1st angle · not to scale

Drawing shows the base size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Bare copper wires, stranded (DIN EN 60228)
2	Core insulation	Low-capacitance TPE compound
3	PE earth core	Green-yellow PE core
4	Centre element / strain relief	Plastic centre element, plastic yarn filling
5	Outer jacket	PVC, pastel orange (≈ RAL 2003), black printing

Construction details

Element	Description
Conductor	Stranded conductor of bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality, low-capacitance TPE compound
Core structure	Cores stranded with optimised pitch around a plastic centre element; plastic yarn filling; plastic foil banding
Core identification	Black cores with white numbers: 1 — U/L1/C/L+, 2 — V/L2, 3 — W/L3/D/L−, 4 — 4/N; one green-yellow PE core
Outer jacket	Low-adhesion PVC compound adapted for energy chains; pastel orange (similar to RAL 2003), black printing

Key technical data

Parameter	Value
Nominal voltage	600/1000 V (DIN VDE 0298-3)
Test voltage	4000 V (DIN EN 50395)
Bend radius, e-chain, linear	min. 15 × d
Bend radius, flexible	min. 12 × d
Bend radius, fixed	min. 8 × d
Temperature, e-chain linear	+5 °C … +70 °C
Temperature, flexible	−5 °C … +70 °C (DIN EN 60811-504)
Temperature, fixed	−15 °C … +70 °C (DIN EN 50305)
v max., unsupported	3 m/s
a max.	20 m/s²
Travel distance	Unsupported travels up to 10 m (class 1)
Torsion	Not suitable for torsion (class 1)

Parameter	Value
Service life (R min. at 1 / 3 / 5 million double strokes)	+5/+15 °C: 17.5 / 18.5 / 19.5 × d; +15/+60 °C: 15 / 16 / 17 × d; +60/+70 °C: 17.5 / 18.5 / 19.5 × d
Oil resistance	No oil exposure (class 1)
UV resistance	Not specified (preferably indoors)
Flame retardance	IEC 60332-1-2, FT1, VW-1
Halogen-free	No (PVC jacket)
Silicone-free	Yes (PV 3.10.7)
Clean room	Not specified
Lead-free / REACH	RoHS II/III (2011/65/EU); EC 1907/2006
North American version	Designed to UL/CSA AWM Style 2570, 1000 V, 80 °C and NFPA 79-2018 (ch. 12.9); confirm FeiChun certificate availability when ordering
CE	2014/35/EU

Electrical data

Cross-section mm²	Max. conductor resistance at 20 °C Ω/km · DIN EN 50289-1-2	Current rating at 30 °C A
1.5	13.3	19

Cross-section mm²	Max. conductor resistance at 20 °C Ω/km · DIN EN 50289-1-2	Current rating at 30 °C A
2.5	7.98	27
4	4.95	37
6	3.3	48
10	1.91	69
16	1.21	92

The actual current rating depends on ambient temperature, type of installation and the number of loaded cores.

Dimensions, weight and ratings — FC-ECM885 PVC

Cores × cross-section mm²	FeiChun part no.	igus equivalent	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
1.5 mm²					
4G1.5	FC-ECM885-001	CF885.15.04	8.0	67	105
2.5 mm²					
4G2.5	FC-ECM885-002	CF885.25.04	10.0	110	163
4 mm²					
4G4.0	FC-ECM885-003	CF885.40.04	11.5	175	244
6 mm²					
4G6.0	FC-ECM885-004	CF885.60.04	13.5	237	360
10 mm²					
4G10	FC-ECM885-005	CF885.100.04	17.0	412	514
16 mm²					
4G16	FC-ECM885-006	CF885.160.04	20.0	690	857

G — with green-yellow PE core; x — without PE core (O.PE versions); C — overall shield. Outer diameters are maximum values.

04 FC-ECM886 PVC · C

chainflex CF886 equivalent

6 variants

Shielded motor cable with PVC outer jacket for light flexing duty in energy chains, flame retardant

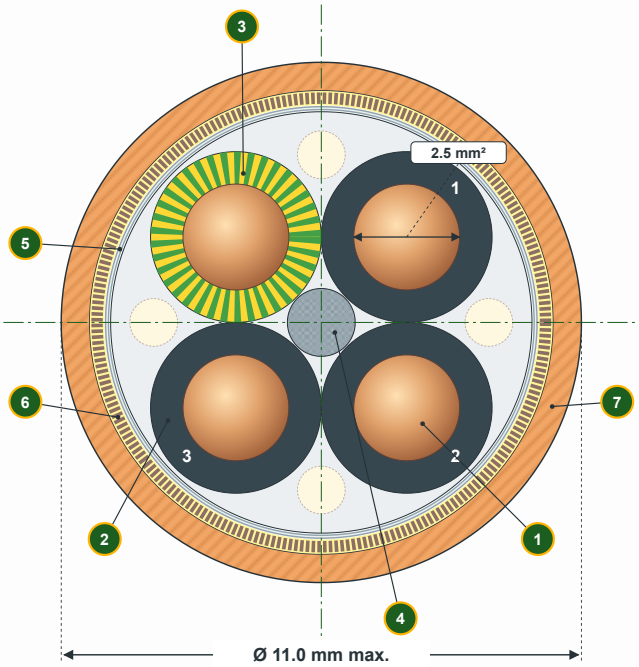
Shielded version of FC-ECM885 for converter-fed motors in light duty (class 3): unsupported travels up to 10 m, no oil exposure, no torsion. Preferably indoors: wood and stone processing, packaging, supply systems, handling and adjusting equipment.

6 variants
Cross-section range 1.5 – 16 mm²

600/1000 V
Nominal voltage, test voltage 4000 V

15 × d
Min. bend radius in energy chain

PVC
Outer jacket (shielded version)



FEICHUN · SECTION A–A · 0.6/1 kV
FC-ECM886 PVC · C
Doc. No. FC-TDS-ECM886-2026-F503-EN
Desig. (4G2.5)C
Rev. 0 · 2026-10-13 · 1st angle · not to scale

Drawing shows the base size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Bare copper wires, stranded (DIN EN 60228)
2	Core insulation	Low-capacitance TPE compound
3	PE earth core	Green-yellow PE core
4	Centre element / strain relief	Plastic centre element, plastic yarn filling
5	Shield foil	Aluminium-clad plastic foil
6	Overall shield	Tinned copper braid, approx. 60 % optical coverage
7	Outer jacket	PVC, pastel orange (≈ RAL 2003), black printing

Construction details

Element	Description
Conductor	Stranded conductor of bare copper wires (DIN EN 60228)
Core insulation	Mechanically high-quality, low-capacitance TPE compound
Core structure	Cores stranded with optimised pitch around a plastic centre element; plastic yarn filling; plastic foil banding
Core identification	Black cores with white numbers: 1 — U/L1/C/L+, 2 — V/L2, 3 — W/L3/D/L−, 4 — 4/N; one green-yellow PE core
Shield foil	Aluminium-clad plastic foil
Overall shield	Braid of tinned copper wires, approx. 60 % optical coverage
Outer jacket	Low-adhesion PVC compound adapted for energy chains; pastel orange (similar to RAL 2003), black printing

Key technical data

Parameter	Value
Nominal voltage	600/1000 V (DIN VDE 0298-3)
Test voltage	4000 V (DIN EN 50395)
Bend radius, e-chain, linear	min. 15 × d
Bend radius, flexible	min. 12 × d
Bend radius, fixed	min. 8 × d
Temperature, e-chain linear	+5 °C … +70 °C
Temperature, flexible	−5 °C … +70 °C (DIN EN 60811-504)
Temperature, fixed	−15 °C … +70 °C (DIN EN 50305)
v max., unsupported	3 m/s
a max.	20 m/s²
Travel distance	Unsupported travels up to 10 m (class 1)
Torsion	Not suitable for torsion (class 1)

Parameter	Value
Service life (R min. at 1 / 3 / 5 million double strokes)	+5/+15 °C: 17.5 / 18.5 / 19.5 × d; +15/+60 °C: 15 / 16 / 17 × d; +60/+70 °C: 17.5 / 18.5 / 19.5 × d
Oil resistance	No oil exposure (class 1)
UV resistance	Not specified (preferably indoors)
Flame retardance	IEC 60332-1-2, FT1, VW-1
Halogen-free	No (PVC jacket)
Silicone-free	Yes (PV 3.10.7)
Clean room	Not specified
Lead-free / REACH	RoHS II/III (2011/65/EU); EC 1907/2006
North American version	Designed to UL/CSA AWM Style 2570, 1000 V, 80 °C and NFPA 79-2018 (ch. 12.9); confirm FeiChun certificate availability when ordering
CE	2014/35/EU

Electrical data

Cross-section mm²	Max. conductor resistance at 20 °C Ω/km · DIN EN 50289-1-2	Current rating at 30 °C A
1.5	13.3	21
2.5	7.98	30
4	4.95	41
6	3.3	53
10	1.91	74
16	1.21	99

The actual current rating depends on ambient temperature, type of installation and the number of loaded cores.

Dimensions, weight and ratings — FC-ECM886 PVC · C

Cores × cross-section mm²	FeiChun part no.	igus equivalent	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
1.5 mm²					
(4G1.5)C	FC-ECM886-001	CF886.15.04	9.5	79	133
2.5 mm²					
(4G2.5)C	FC-ECM886-002	CF886.25.04	11.0	122	191
4 mm²					
(4G4.0)C	FC-ECM886-003	CF886.40.04	13.0	186	270
6 mm²					
(4G6.0)C	FC-ECM886-004	CF886.60.04	14.5	278	381
10 mm²					
(4G10)C	FC-ECM886-005	CF886.100.04	17.5	444	571
16 mm²					
(4G16)C	FC-ECM886-006	CF886.160.04	20.5	691	854

G — with green-yellow PE core; x — without PE core (O.PE versions); C — overall shield. Outer diameters are maximum values.

05 FC-ECM30 PVC

chainflex CF30 equivalent

14 variants

Unshielded motor cable with oil-resistant PVC outer jacket for heavy duty in energy chains, flame retardant

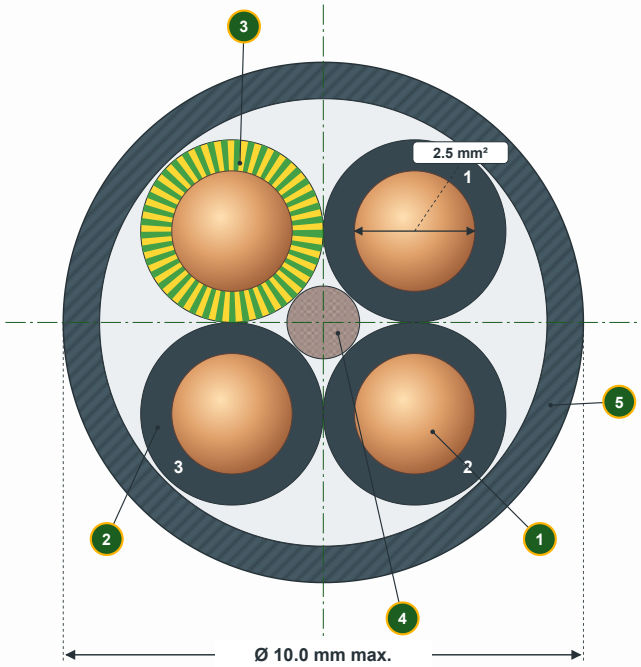
Heavy duty in energy chains (class 5): unsupported travels and gliding up to 100 m, light oil exposure, torsion ±90° per 1 m of cable. Storage and retrieval units, machining units and packaging machines, quick handling, indoor cranes. Preferably indoors; outdoors at temperatures above +5 °C.

14 variants
Cross-section range 1.5 – 50 mm²

600/1000 V
Nominal voltage, test voltage 4000 V

7.5 × d
Min. bend radius in energy chain

PVC
Outer jacket



FEICHUN · SECTION A–A · 0.6/1 kV
FC-ECM30 PVC
Doc. No. FC-TDS-ECM30-2026-E3B3-EN
Desig. 4G2.5
Rev. 0 · 2026-10-13 · 1st angle · not to scale

Drawing shows the base size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Especially bending-resistant copper conductor (DIN EN 60228)
2	Core insulation	Low-capacitance XLPE compound
3	PE earth core	Green-yellow PE core
4	Centre element / strain relief	High-tensile centre element (strain relief)
5	Outer jacket	Oil-resistant PVC, jet black (≈ RAL 9005), tear strip

Construction details

Element	Description
Conductor	Cross-sections < 10 mm²: especially bending-resistant strand of bare copper wires; ≥ 10 mm²: conductor made of pre-stranded bunches (DIN EN 60228)
Core insulation	Mechanically high-quality, low-capacitance XLPE compound
Core structure	Cores wound with short pitch around a high-tensile centre element
Core identification	Black cores with white numbers: 1 — U/L1/C/L+, 2 — V/L2, 3 — W/L3/D/L−, 4 — 4/N; one green-yellow PE core
Outer jacket	Pressure-extruded, gusset-filling, oil-resistant low-adhesion PVC (DIN EN 50363-4-1); jet black (similar to RAL 9005), white printing; tear strip for fast stripping

Key technical data

Parameter	Value
Nominal voltage	600/1000 V (DIN VDE 0298-3)
Test voltage	4000 V (DIN EN 50395)
Bend radius, e-chain, linear	min. 7.5 × d
Bend radius, flexible	min. 6 × d
Bend radius, fixed	min. 4 × d
Temperature, e-chain linear	+5 °C … +70 °C
Temperature, flexible	−5 °C … +70 °C (DIN EN 60811-504)
Temperature, fixed	−15 °C … +70 °C (DIN EN 50305)
v max., unsupported	10 m/s
v max., gliding	5 m/s
a max.	80 m/s²
Travel distance	Unsupported travels and gliding up to 100 m (class 5)
Torsion	±90° per 1 m cable length (class 2)

Parameter	Value
Service life (R min. at 5 / 7.5 / 10 million double strokes)	+5/+15 °C: 10 / 11 / 12 × d; +15/+60 °C: 7.5 / 8.5 / 9.5 × d; +60/+70 °C: 10 / 11 / 12 × d
Oil resistance	Oil-resistant following DIN EN 50363-4-1 (class 2)
UV resistance	Medium
Flame retardance	IEC 60332-1-2, FT1, VW-1
Halogen-free	No (PVC jacket)
Silicone-free	Yes (PV 3.10.7)
Clean room	Class 2 to DIN EN ISO 14644-1 (IPA tested)
Lead-free / REACH	RoHS II/III (2011/65/EU); EC 1907/2006
North American version	Designed to UL/CSA AWM Style 2570, 1000 V, 80 °C and NFPA 79-2018 (ch. 12.9); confirm FeiChun certificate availability when ordering
CE	2014/35/EU

Electrical data

Cross-section mm²	Max. conductor resistance at 20 °C Ω/km · DIN EN 50289-1-2	Current rating at 30 °C A
1.5	13.3	19
2.5	7.98	27
4	4.95	37
6	3.3	48
10	1.91	69
16	1.21	92
25	0.78	121
35	0.56	152
50	0.39	191

The actual current rating depends on ambient temperature, type of installation and the number of loaded cores.

Dimensions, weight and ratings — FC-ECM30 PVC

Cores × cross-section mm²	FeiChun part no.	igus equivalent	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
1.5 mm²					
4G1.5	FC-ECM30-001	CF30.15.04	8.0	61	104
2.5 mm²					
4G2.5	FC-ECM30-002	CF30.25.04	10.0	100	166
5G2.5	FC-ECM30-003	CF30.25.05	11.0	124	203
4 mm²					
4G4.0	FC-ECM30-004	CF30.40.04	11.5	163	249
5G4.0	FC-ECM30-005	CF30.40.05	12.5	204	302
6 mm²					
4G6.0	FC-ECM30-006	CF30.60.04	13.5	237	343
5G6.0	FC-ECM30-007	CF30.60.05	15.0	297	410
10 mm²					
4G10	FC-ECM30-008	CF30.100.04	16.5	407	548
5G10	FC-ECM30-009	CF30.100.05	19.5	515	684
16 mm²					
4G16	FC-ECM30-010	CF30.160.04	20.0	646	826
5G16	FC-ECM30-011	CF30.160.05	23.5	815	1,067
25 mm²					
4G25	FC-ECM30-012	CF30.250.04	25.0	1,014	1,320
35 mm²					
4G35	FC-ECM30-013	CF30.350.04	28.5	1,439	1,795
50 mm²					
4G50	FC-ECM30-014	CF30.500.04	34.0	2,061	2,528

G — with green-yellow PE core; x — without PE core (O.PE versions); C — overall shield. Outer diameters are maximum values.

FEICHUN CABLE

06 FC-ECM31 PVC · C

chainflex CF31 equivalent

14 variants

Shielded motor cable with oil-resistant PVC outer jacket for heavy duty in energy chains, flame retardant

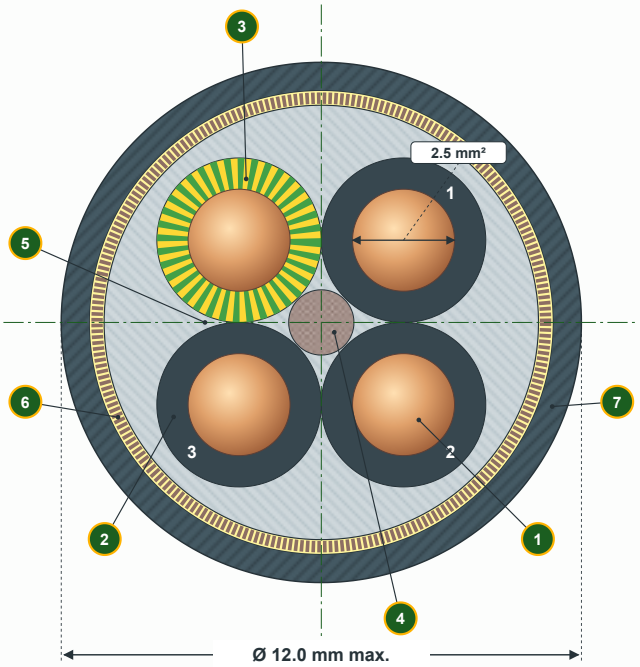
Converter-fed motors in heavy duty (class 5): unsupported travels and gliding up to 100 m, light oil exposure, no torsion. Storage and retrieval units, machining units and packaging machines, quick handling, indoor cranes. Preferably indoors; outdoors at temperatures above +5 °C.

14 variants
Cross-section range 1.5 – 70 mm²

600/1000 V
Nominal voltage, test voltage 4000 V

7.5 × d
Min. bend radius in energy chain

PVC
Outer jacket (shielded version)



FEICHUN · SECTION A–A · 0.6/1 kV
FC-ECM31 PVC · C
Doc. No. FC-TDS-ECM31-2026-4D30-EN
Desig. (4G2.5)C
Rev. 0 · 2026-10-13 · 1st angle · not to scale

Drawing shows the base size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Especially bending-resistant copper conductor (DIN EN 60228)
2	Core insulation	Low-capacitance TPE compound
3	PE earth core	Green-yellow PE core
4	Centre element / strain relief	High-tensile centre element (strain relief)
5	Inner jacket	Gusset-filling PVC with tear strip
6	Overall shield	Al/PET tape + tinned copper braid, approx. 70 % lin. / 90 % opt.
7	Outer jacket	Oil-resistant PVC, jet black (≈ RAL 9005)

Construction details

Element	Description
Conductor	Cross-sections < 10 mm^2: especially bending-resistant strand of bare copper wires; ≥ 10 mm^2: conductor made of pre-stranded bunches (DIN EN 60228)
Core insulation	Mechanically high-quality, low-capacitance TPE compound
Core structure	Cores wound with short pitch around a high-tensile centre element
Core identification	Black cores with white numbers: 1 — U/L1/C/L+, 2 — V/L2, 3 — W/L3/D/L−, 4 — 4/N; one green-yellow PE core
Inner jacket	Pressure-extruded, gusset-filling PVC compound; tear strip for fast stripping
Overall shield	Aluminium/polyester tape and extremely bending-resistant tinned copper braid; approx. 70 % linear / 90 % optical coverage
Outer jacket	Oil-resistant low-adhesion PVC (DIN EN 50363-4-1); jet black (similar to RAL 9005), white printing

Key technical data

Parameter	Value
Nominal voltage	600/1000 V (DIN VDE 0298-3)
Test voltage	4000 V (DIN EN 50395)
Bend radius, e-chain, linear	min. 7.5 × d
Bend radius, flexible	min. 6 × d
Bend radius, fixed	min. 4 × d
Temperature, e-chain linear	+5 °C … +70 °C
Temperature, flexible	−5 °C … +70 °C (DIN EN 60811-504)
Temperature, fixed	−15 °C … +70 °C (DIN EN 50305)
v max., unsupported	10 m/s
v max., gliding	5 m/s
a max.	80 m/s^2
Travel distance	Unsupported travels and gliding up to 100 m (class 5)
Torsion	Not suitable for torsion (class 1)

Parameter	Value
Service life (R min. at 5 / 7.5 / 10 million double strokes)	+5/+15 °C: 10 / 11 / 12 × d; +15/+60 °C: 7.5 / 8.5 / 9.5 × d; +60/+70 °C: 10 / 11 / 12 × d
Oil resistance	Oil-resistant following DIN EN 50363-4-1 (class 2)
UV resistance	Medium
Flame retardance	IEC 60332-1-2, FT1, VW-1
Halogen-free	No (PVC jacket)
Silicone-free	Yes (PV 3.10.7)
Clean room	Class 2 to DIN EN ISO 14644-1 (IPA tested)
Lead-free / REACH	RoHS II/III (2011/65/EU); EC 1907/2006
North American version	Designed to UL/CSA AWM Style 2570, 1000 V, 80 °C and NFPA 79-2018 (ch. 12.9); confirm FeiChun certificate availability when ordering
CE	2014/35/EU

Electrical data

Cross-section mm²	Max. conductor resistance at 20 °C Ω/km · DIN EN 50289-1-2	Current rating at 30 °C A
1.5	13.3	21
2.5	7.98	30
4	4.95	41
6	3.3	53
10	1.91	74
16	1.21	99
25	0.78	131
35	0.56	162
50	0.39	202
70	0.28	250

The actual current rating depends on ambient temperature, type of installation and the number of loaded cores.

Dimensions, weight and ratings — FC-ECM31 PVC · C

Cores × cross-section mm²	FeiChun part no.	igus equivalent	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
1.5 mm²					
(4G1.5)C	FC-ECM31-001	CF31.15.04	10.5	89	163
2.5 mm²					
(4G2.5)C	FC-ECM31-002	CF31.25.04	12.0	133	241
(5G2.5)C	FC-ECM31-003	CF31.25.05	13.0	163	284
4 mm²					
(4G4.0)C	FC-ECM31-004	CF31.40.04	13.5	203	314
(5G4.0)C	FC-ECM31-005	CF31.40.05	15.0	263	383
6 mm²					
(4G6.0)C	FC-ECM31-006	CF31.60.04	16.0	298	467
(5G6.0)C	FC-ECM31-007	CF31.60.05	18.0	361	538
10 mm²					
(4G10)C	FC-ECM31-008	CF31.100.04	20.5	505	762
(5G10)C	FC-ECM31-009	CF31.100.05	22.5	637	910
16 mm²					
(4G16)C	FC-ECM31-010	CF31.160.04	23.5	763	1,069
25 mm²					
(4G25)C	FC-ECM31-011	CF31.250.04	28.5	1,163	1,629
35 mm²					
(4G35)C	FC-ECM31-012	CF31.350.04	32.5	1,592	2,183
50 mm²					
(4G50)C	FC-ECM31-013	CF31.500.04	37.5	2,244	3,001
70 mm²					

Cores × cross-section mm²	FeiChun part no.	igus equivalent	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
(4G70)C	FC-ECM31-014	CF31.700.04	43.0	3,203	3,834

G — with green-yellow PE core; x — without PE core (O.PE versions); C — overall shield. Outer diameters are maximum values.

FEICHUN CABLE

07 FC-ECM34.UL.D TPE

chainflex CF34.UL.D equivalent

12 variants

Unshielded motor cable with TPE outer jacket for extremely heavy duty in energy chains: oil and bio-oil resistant, UV-resistant, flame retardant

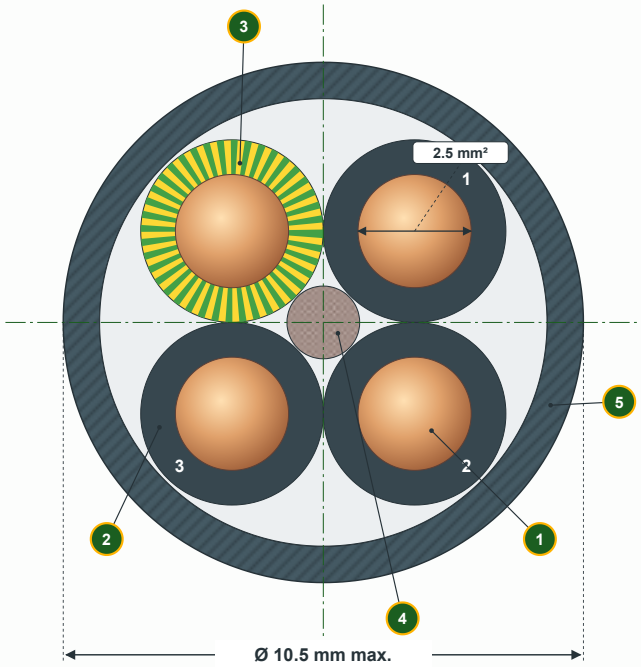
Extremely heavy duty (class 6): unsupported travels and gliding up to 400 m and more, almost unlimited resistance to oils including bio-oils, torsion ±90° per 1 m of cable. Indoor and outdoor use, low-temperature flexible, hydrolysis and microbe resistant. Storage and retrieval units, machine tools, quick handling, clean rooms, outdoor cranes.

12 variants
Cross-section range 1.5 – 25 mm²

600/1000 V
Nominal voltage, test voltage 4000 V

7.5 × d
Min. bend radius in energy chain

TPE
Outer jacket



FEICHUN · SECTION A–A · 0.6/1 kV
FC-ECM34.UL.D TPE
Doc. No. FC-TDS-ECM34-2026-36F1-EN
Desig. 4G2.5
Rev. 0 · 2026-10-13 · 1st angle · not to scale

Drawing shows the base size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Especially bending-resistant copper conductor (DIN EN 60228)
2	Core insulation	Low-capacitance TPE compound
3	PE earth core	Green-yellow PE core (except O.PE versions)
4	Centre element / strain relief	High-tensile centre element (strain relief)
5	Outer jacket	Flame-retardant TPE, signal black (≈ RAL 9004)

Construction details

Element	Description
Conductor	Cross-sections < 10 mm^2: especially bending-resistant strand of bare copper wires; ≥ 10 mm^2: conductor made of pre-stranded bunches (DIN EN 60228)
Core insulation	Mechanically high-quality, low-capacitance TPE compound
Core structure	Cores wound with short pitch around a high-tensile centre element
Core identification	Black cores with white numbers: 1 — U/L1/C/L+, 2 — V/L2, 3 — W/L3/D/L−, 4 — 4/N; one green-yellow PE core
Outer jacket	Pressure-extruded, gusset-filling, flame-retardant low-adhesion TPE with extreme abrasion resistance; signal black (similar to RAL 9004), white printing; tear strip

Key technical data

Parameter	Value
Nominal voltage	600/1000 V (DIN VDE 0298-3)
Test voltage	4000 V (DIN EN 50395)
Bend radius, e-chain, linear	min. 7.5 × d
Bend radius, flexible	min. 6 × d
Bend radius, fixed	min. 4 × d
Temperature, e-chain linear	−35 °C … +90 °C
Temperature, flexible	−45 °C … +90 °C (DIN EN 60811-504)
Temperature, fixed	−50 °C … +90 °C (DIN EN 50305)
v max., unsupported	10 m/s
v max., gliding	6 m/s
a max.	80 m/s^2
Travel distance	Unsupported travels and gliding up to 400 m and more (class 6)
Torsion	±90° per 1 m cable length (class 2)

Parameter	Value
Service life (R min. at 5 / 7.5 / 10 million double strokes)	−35/−25 °C: 10 / 11 / 12 × d; −25/+80 °C: 7.5 / 8.5 / 9.5 × d; +80/+90 °C: 10 / 11 / 12 × d
Oil resistance	Oil-resistant following DIN EN 60811-404; bio-oil resistant following VDMA 24568 (class 4)
UV resistance	High
Flame retardance	IEC 60332-1-2, FT1, VW-1
Halogen-free	Not declared (PVC-free jacket)
Silicone-free	Yes (PV 3.10.7)
Clean room	Class 1 to DIN EN ISO 14644-1 (IPA tested)
Lead-free / REACH	RoHS II/III (2011/65/EU); EC 1907/2006
DESINA	Following VDW / DESINA standardisation
North American version	Designed to UL/CSA AWM, 1000 V, 90 °C and NFPA 79-2018 (ch. 12.9); confirm FeiChun certificate availability when ordering
CE	2014/35/EU

Electrical data

Cross-section mm²	Max. conductor resistance at 20 °C Ω/km · DIN EN 50289-1-2	Current rating at 30 °C A
1.5	13.3	21
2.5	7.98	30
4	4.95	41
6	3.3	53
10	1.91	74
16	1.21	99
25	0.78	131

The actual current rating depends on ambient temperature, type of installation and the number of loaded cores.

Dimensions, weight and ratings — FC-ECM34.UL.D TPE

Cores × cross-section mm²	FeiChun part no.	igus equivalent	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
1.5 mm²					
4G1.5	FC-ECM34ULD-001	CF34.UL.15.04.D	8.5	61	109
2.5 mm²					
4G2.5	FC-ECM34ULD-002	CF34.UL.25.04.D	10.5	100	166
4 mm²					
4G4.0	FC-ECM34ULD-003	CF34.UL.40.04.D	12.0	163	244
6 mm²					
4G6.0	FC-ECM34ULD-004	CF34.UL.60.04.D	14.0	237	344
5G6.0	FC-ECM34ULD-005	CF34.UL.60.05.D	15.5	297	420
10 mm²					
4G10	FC-ECM34ULD-006	CF34.UL.100.04.D	17.0	407	540
5G10	FC-ECM34ULD-007	CF34.UL.100.05.D	19.5	510	683
4x10	FC-ECM34ULD-008	CF34.UL.100.04.O.PE.D	17.0	407	540
16 mm²					
4G16	FC-ECM34ULD-009	CF34.UL.160.04.D	20.5	646	819
5G16	FC-ECM34ULD-010	CF34.UL.160.05.D	23.0	813	1,039
4x16	FC-ECM34ULD-011	CF34.UL.160.04.O.PE.D	20.5	646	819
25 mm²					
4G25	FC-ECM34ULD-012	CF34.UL.250.04.D	25.0	1,014	1,268

G — with green-yellow PE core; x — without PE core (O.PE versions); C — overall shield. Outer diameters are maximum values.

08 FC-ECM35.UL TPE · C

chainflex CF35.UL equivalent

10 variants

Shielded motor cable with TPE outer jacket for extremely heavy duty in energy chains: oil and bio-oil resistant, UV-resistant, flame retardant

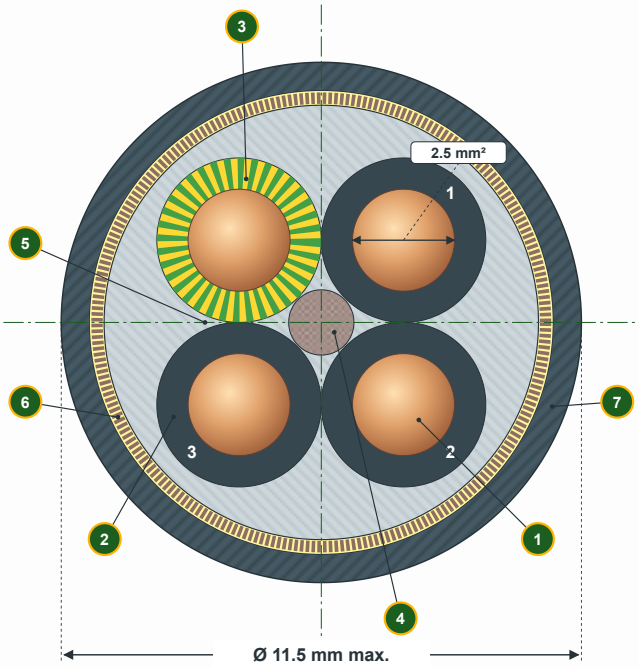
Converter-fed motors in extremely heavy duty (class 6): unsupported travels and gliding up to 400 m and more, almost unlimited resistance to oils and bio-oils, no torsion. Indoor and outdoor use; storage and retrieval units, machine tools, quick handling, clean rooms, outdoor cranes, low temperatures.

10 variants
Cross-section range 0.5 – 25 mm²

600/1000 V
Nominal voltage, test voltage 4000 V

7.5 × d
Min. bend radius in energy chain

TPE
Outer jacket (shielded version)



FEICHUN · SECTION A–A · 0.6/1 kV
FC-ECM35.UL TPE · C
Doc. No. FC-TDS-ECM35-2026-6641-EN
Desig. (4G2.5)C
Rev. 0 · 2026-10-13 · 1st angle · not to scale

Drawing shows the base size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Especially bending-resistant copper conductor (DIN EN 60228)
2	Core insulation	Low-capacitance TPE compound
3	PE earth core	Green-yellow PE core (except O.PE versions)
4	Centre element / strain relief	High-tensile centre element (strain relief)
5	Inner jacket	Gusset-filling TPE with tear strip
6	Overall shield	Al/PET tape + tinned copper braid, approx. 70 % lin. / 90 % opt.
7	Outer jacket	Flame-retardant TPE, signal black (≈ RAL 9004)

Construction details

Element	Description
Conductor	Cross-sections < 10 mm^2: especially bending-resistant strand of bare copper wires; ≥ 10 mm^2: conductor made of pre-stranded bunches (DIN EN 60228)
Core insulation	Mechanically high-quality, low-capacitance TPE compound
Core structure	Cores wound with short pitch around a high-tensile centre element
Core identification	Black cores with white numbers: 1 — U/L1/C/L+, 2 — V/L2, 3 — W/L3/D/L−, 4 — 4/N; one green-yellow PE core
Inner jacket	Pressure-extruded, gusset-filling TPE compound; tear strip for fast stripping
Overall shield	Aluminium/polyester tape and extremely bending-resistant tinned copper braid; approx. 70 % linear / 90 % optical coverage
Outer jacket	Flame-retardant low-adhesion TPE with extreme abrasion resistance; signal black (similar to RAL 9004), white printing

Key technical data

Parameter	Value
Nominal voltage	600/1000 V (DIN VDE 0298-3)
Test voltage	4000 V (DIN EN 50395)
Bend radius, e-chain, linear	min. 7.5 × d
Bend radius, flexible	min. 6 × d
Bend radius, fixed	min. 4 × d
Temperature, e-chain linear	−35 °C … +90 °C
Temperature, flexible	−45 °C … +90 °C (DIN EN 60811-504)
Temperature, fixed	−50 °C … +90 °C (DIN EN 50305)
v max., unsupported	10 m/s
v max., gliding	6 m/s
a max.	80 m/s^2
Travel distance	Unsupported travels and gliding up to 400 m and more (class 6)
Torsion	Not suitable for torsion (class 1)

Parameter	Value
Service life (R min. at 5 / 7.5 / 10 million double strokes)	−35/−25 °C: 10 / 11 / 12 × d; −25/+80 °C: 7.5 / 8.5 / 9.5 × d; +80/+90 °C: 10 / 11 / 12 × d
Oil resistance	Oil-resistant following DIN EN 60811-404; bio-oil resistant following VDMA 24568 (class 4)
UV resistance	High
Flame retardance	IEC 60332-1-2, FT1, VW-1
Halogen-free	Not declared (PVC-free jacket)
Silicone-free	Yes (PV 3.10.7)
Clean room	Class 1 to DIN EN ISO 14644-1 (IPA tested)
Lead-free / REACH	RoHS II/III (2011/65/EU); EC 1907/2006
North American version	Designed to UL/CSA AWM, 1000 V, 90 °C and NFPA 79-2018 (ch. 12.9); confirm FeiChun certificate availability when ordering
CE	2014/35/EU

Electrical data

Cross-section mm²	Max. conductor resistance at 20 °C Ω/km · DIN EN 50289-1-2	Current rating at 30 °C A
0.5	39	10
0.75	26	14
1.5	13.3	21
2.5	7.98	30
4	4.95	41
6	3.3	53
10	1.91	74
16	1.21	99
25	0.78	131

The actual current rating depends on ambient temperature, type of installation and the number of loaded cores.

Dimensions, weight and ratings — FC-ECM35.UL TPE · C

Cores × cross-section mm²	FeiChun part no.	igus equivalent	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
0.5 mm²					
(4G0.5)C	FC-ECM35UL-001	CF35.UL.05.04	8.0	42	86
0.75 mm²					
(4G0.75)C	FC-ECM35UL-002	CF35.UL.07.04	8.5	58	107
1.5 mm²					
(4G1.5)C	FC-ECM35UL-003	CF35.UL.15.04	10.0	89	153
2.5 mm²					
(4G2.5)C	FC-ECM35UL-004	CF35.UL.25.04	11.5	133	214
4 mm²					
(4G4.0)C	FC-ECM35UL-005	CF35.UL.40.04	13.5	209	327
6 mm²					
(4G6.0)C	FC-ECM35UL-006	CF35.UL.60.04	16.0	305	461
(3x6.0)C	FC-ECM35UL-007	CF35.UL.60.03.O.PE	15.5	239	370
10 mm²					
(4G10)C	FC-ECM35UL-008	CF35.UL.100.04	19.5	468	689
16 mm²					
(4G16)C	FC-ECM35UL-009	CF35.UL.160.04	23.0	740	1,025
25 mm²					
(4G25)C	FC-ECM35UL-010	CF35.UL.250.04	28.0	1,181	1,544

G — with green-yellow PE core; x — without PE core (O.PE versions); C — overall shield. Outer diameters are maximum values.

09 FC-ECM38 TPE · C

chainflex CF38 equivalent

9 variants

Shielded motor cable with halogen-free TPE outer jacket for the heaviest duty in energy chains: PVC- and halogen-free, oil and bio-oil resistant, UV-resistant

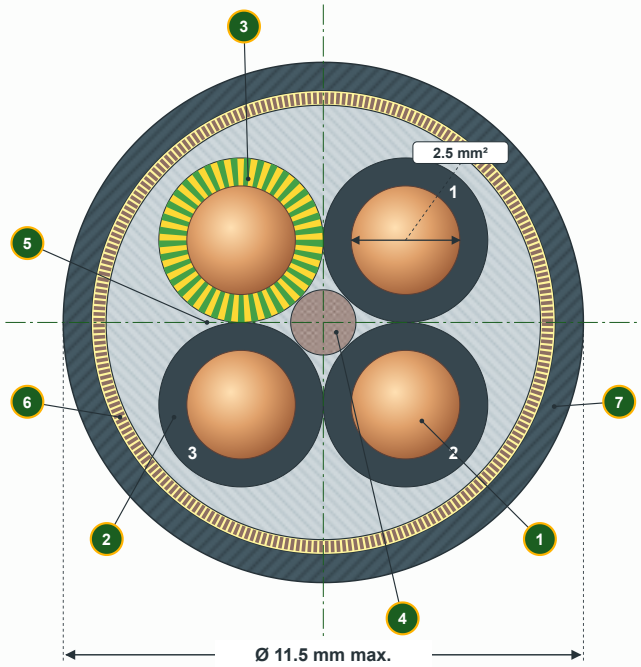
Heaviest duty (class 7): unsupported travels and gliding up to 400 m and more, almost unlimited resistance to oils and bio-oils, no torsion. For sites requiring halogen-free cables: storage and retrieval units, machine tools, quick handling, clean rooms and semiconductor insertion, outdoor cranes, low temperatures.

9 variants
Cross-section range 1.5 – 50 mm²

600/1000 V
Nominal voltage, test voltage 4000 V

7.5 × d
Min. bend radius in energy chain

TPE
Outer jacket (shielded version)



FEICHUN · SECTION A–A · 0.6/1 kV
FC-ECM38 TPE · C
Doc. No. FC-TDS-ECM38-2026-2C96-EN
Desig. (4G2.5)C
Rev. 0 · 2026-10-13 · 1st angle · not to scale

Drawing shows the base size; other sizes scale proportionally.

Pos.	Element	Material
1	Conductor	Especially bending-resistant copper conductor (DIN EN 60228)
2	Core insulation	Low-capacitance XLPE compound
3	PE earth core	Green-yellow PE core (except O.PE versions)
4	Centre element / strain relief	High-tensile centre element (strain relief)
5	Inner jacket	Gusset-filling TPE with tear strip
6	Overall shield	Tinned copper braid, approx. 70 % lin. / 90 % opt.
7	Outer jacket	Halogen-free TPE, jet black (≈ RAL 9005)

Construction details

Element	Description
Conductor	Cross-sections < 10 mm^2: especially bending-resistant strand of bare copper wires; ≥ 10 mm^2: conductor made of pre-stranded bunches (DIN EN 60228)
Core insulation	Mechanically high-quality, low-capacitance XLPE compound
Core structure	Cores wound with short pitch around a high-tensile centre element
Core identification	Black cores with white numbers: 1 — U/L1/C/L+, 2 — V/L2, 3 — W/L3/D/L−, 4 — 4/N; one green-yellow PE core
Inner jacket	Pressure-extruded, gusset-filling TPE compound; tear strip for fast stripping
Overall shield	Extremely bending-resistant tinned copper braid; approx. 70 % linear / 90 % optical coverage
Outer jacket	Halogen-free low-adhesion TPE with extreme abrasion resistance; jet black (similar to RAL 9005), white printing

Key technical data

Parameter	Value
Nominal voltage	600/1000 V (DIN VDE 0298-3)
Test voltage	4000 V (DIN EN 50395)
Bend radius, e-chain, linear	min. 7.5 × d
Bend radius, flexible	min. 6 × d
Bend radius, fixed	min. 4 × d
Temperature, e-chain linear	−35 °C … +90 °C
Temperature, flexible	−50 °C … +90 °C (DIN EN 60811-504)
Temperature, fixed	−55 °C … +90 °C (DIN EN 50305)
v max., unsupported	10 m/s
v max., gliding	6 m/s
a max.	80 m/s^2
Travel distance	Unsupported travels and gliding up to 400 m and more (class 6)
Torsion	Not suitable for torsion (class 1)

Parameter	Value
Service life (R min. at 5 / 7.5 / 10 million double strokes)	−35/−25 °C: 10 / 11 / 12 × d; −25/+80 °C: 7.5 / 8.5 / 9.5 × d; +80/+90 °C: 10 / 11 / 12 × d
Oil resistance	Oil-resistant following DIN EN 60811-404; bio-oil resistant following VDMA 24568 (class 4)
UV resistance	High
Flame retardance	Not specified
Halogen-free	Yes, DIN EN 60754; PVC-free
Silicone-free	Yes (PV 3.10.7)
Clean room	Class 1 to DIN EN ISO 14644-1 (IPA tested)
Lead-free / REACH	RoHS II/III (2011/65/EU); EC 1907/2006
North American version	Not provided
CE	2014/35/EU

Electrical data

Cross-section mm²	Max. conductor resistance at 20 °C Ω/km · DIN EN 50289-1-2	Current rating at 30 °C A
1.5	13.3	21
2.5	7.98	30
4	4.95	41
6	3.3	53
10	1.91	74
16	1.21	99
25	0.78	131
50	0.39	202

The actual current rating depends on ambient temperature, type of installation and the number of loaded cores.

Dimensions, weight and ratings — FC-ECM38 TPE · C

Cores × cross-section mm²	FeiChun part no.	igus equivalent	Outer diameter max. mm	Copper index kg/km	Weight approx. kg/km
1.5 mm²					
(4G1.5)C	FC-ECM38-001	CF38.15.04	10.0	89	140
2.5 mm²					
(4G2.5)C	FC-ECM38-002	CF38.25.04	11.5	133	198
4 mm²					
(4G4.0)C	FC-ECM38-003	CF38.40.04	13.0	203	280
6 mm²					
(4G6.0)C	FC-ECM38-004	CF38.60.04	16.0	288	409
10 mm²					
(4G10)C	FC-ECM38-005	CF38.100.04	18.5	468	613
(3x10)C	FC-ECM38-006	CF38.100.03.O.PE	17.0	358	494
16 mm²					
(4G16)C	FC-ECM38-007	CF38.160.04	23.0	738	943
25 mm²					
(4G25)C	FC-ECM38-008	CF38.250.04	27.0	1,153	1,432
50 mm²					
(3x50)C	FC-ECM38-009	CF38.500.03.O.PE	33.0	1,714	2,129

G — with green-yellow PE core; x — without PE core (O.PE versions); C — overall shield. Outer diameters are maximum values.

10 Standards and tests

Standard	Scope
DIN EN 60228	Conductors of insulated cables
DIN VDE 0298-3	Use of cables, nominal voltage
DIN VDE 0298-4	Current-carrying capacity
DIN EN 50395	Electrical test methods, test voltage
DIN EN 50289-1-2	DC conductor resistance
DIN EN 60811-504	Low-temperature bending, flexible use
DIN EN 50305	Temperature range, fixed installation
DIN EN 50363-4-1	PVC jacket compounds, oil resistance
DIN EN 60811-404	Jacket resistance to mineral oils
VDMA 24568	Resistance to biodegradable oils
IEC 60332-1-2	Flame propagation, single cable
UL VW-1 / CSA FT1	Flame tests (North America)
DIN EN 60754	Halogen-free
DIN EN ISO 14644-1	Clean room classes
NFPA 79-2018, ch. 12.9	Electrical standard for industrial machinery
PV 3.10.7	Silicone-free (paint-wetting impairing substances)
2014/35/EU	Low Voltage Directive (CE)
2011/65/EU	RoHS II/III — restriction of hazardous substances
Regulation (EC) No. 1907/2006	REACH
DESINA (VDW)	Standardisation (FC-ECM34.UL.D)

Routine and type tests

- AC voltage test at 4000 V on every delivery length
- Conductor resistance and dimensional check
- Bending-cycle tests on an energy chain test rig (type tests)
- Flame test (IEC 60332-1-2)
- Shield continuity and coverage check (shielded series)

Test documentation: every delivery comes with an inspection certificate from FeiChun's in-house laboratory. Third-party witnessed testing can be arranged at the buyer's expense.

11 Installation, connection and delivery

Installation notes

- Lay the cable into the energy chain without twisting, with at least 10 % clearance to the chain compartment and neighbouring cables; place heavy power cables towards the chain sides.
- Observe the minimum bend radius given in the series technical data; separate cables of different diameters with separators.
- Fix the cable with strain reliefs at both ends of the energy chain (moving and fixed end) — never inside the bending zone.
- Unwind the cable tangentially from the drum and lay it out before installation to release internal stress.
- Connection: cores 1/2/3 — U/V/W, green-yellow — PE. For O.PE versions route the protective conductor separately.
- Terminate the shield of shielded series 360° in EMC glands at both ends; do not use twisted pigtails.

Jacket marking

```
FEICHUN FC-ECM[…] [cores × cross-section] 600/1000V [year] [metre mark]
```

Packaging and delivery

Item	Standard
Drum	Steel or fumigated wooden drums, ends sealed with heat-shrink caps
Delivery lengths	As ordered, one continuous length (no joints)
Lead time	2–3 weeks after technical approval
Warranty	At least 3 years against manufacturing defects
Drum label	Type, cross-section, length, gross/net weight, batch no., drum no.

12 Certification and quality

CE — LVD 2014/35/EU
Attestation 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

FeiChun also holds an ATEX documentation review (Directive 2014/34/EU) and IECEx / VDE approvals for selected product groups. Site-specific approvals are arranged with the end user or local distributor where required. Certificate copies are available on request.

13 Trademark notice and intellectual property

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Document control

Doc. No. FC-CAT-ECM-2026-M300-EN
Revision 0 — first issue
Date 13 October 2026
Scope 71 variants · 7 series

Prepared — Technical Dept.	Checked — QC Dept.	Approved — Int'l Business