HIGH-FLEX LV MINING REELING CABLE · DRILL RIGS · LHD · SHUTTLE CARS | 0.66/1.14 kV | 9 sizes | CPE rubber

FC-TRB-M-S 0.66/1.14 kV

Low-Voltage Mining Reeling Cable 0.66/1.14 kV – 3 power cores + 3 split PE conductors + 2 control cores + overall screen, CPE rubber sheath. Complete technical data sheet: construction, dimensions, weights, current ratings, standards and installation guidance for 9 sizes.

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01 Application and Product Overview

FC-TRB-M-S is a high-flex reeling cable for underground mines, tunnels and open-pit equipment, rated 0.66/1.14 kV, with the configuration 3 power cores + 3 split PE conductors + 2 control cores + overall screen. It has fine-wire class 5 copper conductors, halogen-free EPR/HEPR rubber insulation, a halogen-free inner sheath and an outer sheath of chlorinated polyethylene (CPE) rubber, resistant to weather, ozone and oil; power cores from 25 – 240 mm². Short-lay stranding makes it suitable for continuous winding on and off a cable reel under tensile and torsional load. The construction is derived from the FC-TPU-M D2X11Y platform with a rubber sheath.

Typical applications

- Converter-fed machine drives where control signals in the same cable must be protected against electromagnetic interference
- Electric drill jumbos, rock bolters and anchor-setting rigs fed through spring-driven or motor-driven cable reels in underground mines and tunnels
- Load-haul-dump (LHD) machines, electric underground trucks and shuttle cars operating at travel speeds up to 60 m/min
- Continuous miners, roadheaders and mobile crushers in wet, muddy and abrasive headings
- Repeated winding, unwinding, tensile and torsional loads, with water resistance for temporary immersion in flooded workings
- Open-pit and surface duty that calls for a rubber sheath with proven weather, ozone and oil resistance

Design

Combined power and control cable with an overall tinned-copper braid screen between the inner and outer sheath. The screen limits interference from frequency-converter-fed drives into the control cores and into nearby signal cables. A 360° screen termination at both ends is recommended.

9 sizes	0.66/1.14 kV	+90 °C	CPE rubber
Cross-section 25 – 240 mm²	Rated voltage U_0/U	Maximum conductor temperature	Sheath: CPE rubber

Key features

- Fine-wire class 5 copper conductors and a very short core lay length for repeated reeling and trailing
- Three split PE conductors in the interstices keep the cross-section round and balanced
- Designed for 20 N/mm² continuous tensile load (on the total copper cross-section of the power cores)
- CPE rubber sheath with proven weather, ozone and oil resistance
- Overall tinned-copper braid screen (≥ 85 % coverage) for EMC
- Flame retardant to IEC 60332-1-2

Service notes for mining duty

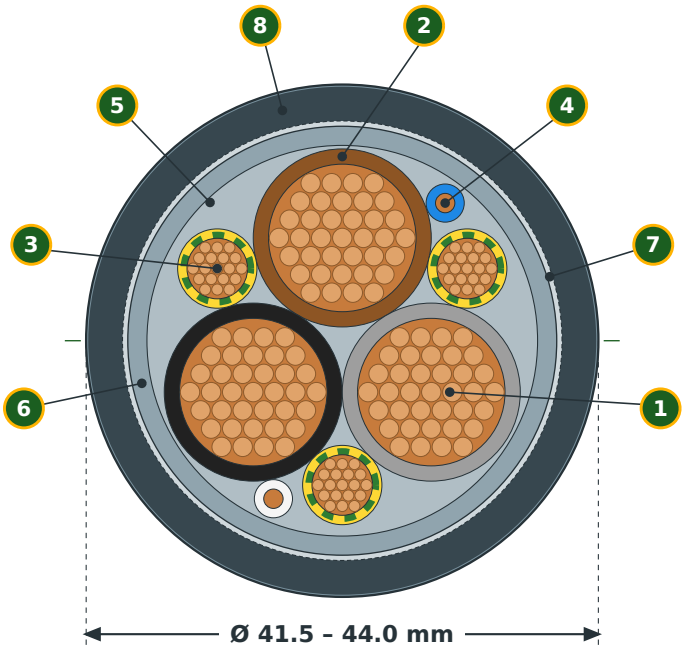
- Underground cable reels are exposed to rock contact and impact: fit a cable guide with rollers rather than fixed steel edges.
- Where the cable lies on the floor, run it on the side of the heading away from machine tracks and keep it out of standing water where possible.

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02 Construction

FEICHUN · CROSS-SECTION A-A · 0.66/1.14 kV

FC-TRB-M-S
Sample size 3×95+3G16+2×1.5 C · Rev 0 · Illustrative, not to scale



No.	Component	Material
1	Conductor	Bare annealed fine-wire copper, class 5 to IEC 60228
2	Insulation	Halogen-free EPR/HEPR rubber
3	Split PE conductor	Class 5 copper, green-yellow insulation, laid in the interstices between the power cores
4	Control cores	Class 5 copper, blue and white insulation
5	Filler and binder tape	Halogen-free compound, polyester tape
6	Inner sheath	Halogen-free polymer compound
7	Overall screen	Tinned-copper wire braid, coverage ≥ 85 %
8	Outer sheath	Chlorinated polyethylene (CPE) rubber, resistant to weather, ozone and oil

The drawing shows size 3×95+3G16+2×1.5 C. Other sizes have the same construction with scaled dimensions.

Construction details

Conductor	Bare annealed fine-wire copper, class 5 to DIN EN 60228 / IEC 60228 / VDE 0295
Insulation	Halogen-free EPR/HEPR rubber to IEC 60502-1, maximum conductor temperature 90 °C
Core identification	Power cores brown, black, grey to DIN VDE 0298-300
Protective conductor	Three PE conductors (3G), green-yellow, 16 mm² each, laid in the interstices between the power cores
Control cores	Two control cores 2 × 1.5 mm² (blue, white) laid in the free space between the power cores
Stranding	Power cores, split PE conductors and control or optical elements are stranded together with a very short lay length
Overall screen	Tinned-copper wire braid, coverage ≥ 85 %, between inner and outer sheath
Inner sheath	Halogen-free polymer compound, extruded tightly over the stranded cores
Outer sheath	Chlorinated polyethylene (CPE) rubber, resistant to weather, ozone and oil

Sheath material

The chlorinated polyethylene (CPE) rubber sheath offers good resistance to weather, ozone and mineral oil with good mechanical robustness and flexibility to −30 °C in motion, at a favourable cost level. CPE contains halogen; where halogen-free cables are specified, select the PUR version of the same construction.

03 Electrical, Thermal and Mechanical Characteristics

Electrical data

Rated voltage U_0/U	0.66/1.14 kV AC
Test voltage	3.5 kV AC, 5 min
Maximum operating voltage, DC	1.0/1.8 kV
Current-carrying capacity	To DIN VDE 0298-4 at 30 °C ambient; the table gives rated design values
Conductor resistance	Maximum at 20 °C, class 5 to IEC 60228

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Thermal and mechanical data

Maximum conductor temperature	+90 °C
Maximum temperature at short circuit	+250 °C
Ambient temperature, fixed installation	−40 °C to +90 °C
Ambient temperature, in motion	−30 °C to +90 °C
Minimum bending radius	4 × D fixed; 8 × D on a cable reel (DIN VDE 0298-3)
Maximum tensile load	20 N/mm² continuous, on the total copper cross-section of the power cores
Maximum torsional load	±50 °/m
Maximum travelling speed	60 m/min on a cable reel; higher speeds on request
Flame propagation	IEC 60332-1-2 / DIN EN 60332-1-2
Halogen-free	No (CPE rubber sheath)
UV and ozone resistance	Resistant
Mineral oil resistance	Resistant, IEC 60811-404

04 Dimensions, Weights and Rated Data – 0.66/1.14 kV (9 sizes)

Type designation cores × mm²	FeiChun article no.	Conductor Ø max mm	Outer Ø min mm	Outer Ø max mm	Min. bend radius mm	Weight approx. kg/km	Max. pull force N	R_{20} max Ω/km	Rated current A	I_k (1 s) kA
3×25+3G6+2×1 C	FC-MR084-001	6.2	24.0	25.5	204	1,310	1,500	0.780	131	3.58
3×35+3G6+2×1.5 C	FC-MR084-002	7.8	28.5	30.0	240	1,750	2,100	0.554	162	5.00
3×50+3G10+2×1.5 C	FC-MR084-003	9.6	32.0	34.0	272	2,420	3,000	0.386	202	7.15
3×70+3G16+2×1.5 C	FC-MR084-004	11.1	37.0	39.0	312	3,360	4,200	0.272	250	10.01
3×95+3G16+2×1.5 C	FC-MR084-005	12.6	41.5	44.0	352	4,000	5,700	0.206	302	13.59
3×120+3G25+2×1.5 C	FC-MR084-006	14.8	46.0	49.0	392	5,200	7,200	0.161	350	17.16
3×150+3G25+2×1.5 C	FC-MR084-007	16.0	51.0	54.0	432	6,190	9,000	0.129	402	21.45
3×185+3G35+2×1.5 C	FC-MR084-008	17.7	55.0	58.5	468	7,780	11,100	0.106	459	26.45
3×240+3G50+2×1.5 C	FC-MR084-009	20.2	63.0	67.0	536	10,200	14,400	0.0801	540	34.32

Current-carrying capacity: rated design values to DIN VDE 0298-4 for flexible cables, free air, 30 °C ambient; for other ambient temperatures, grouping or layered winding on a reel, apply the factors below. Pull force = 20 N/mm² × total copper cross-section of the power cores. Diameters, dimensions and weights are nominal design values and vary within manufacturing tolerances; confirm critical dimensions before dimensioning reels, guides or festoon systems. Other sizes and configurations are produced to order.

Ambient temperature factors (conductor 90 °C)

°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 current rating

I_k = 0.143 kA/mm² × cross-section of the power core (conductor 90 °C → 250 °C). For another short-circuit duration t: $I_{k,t} = I_{k,1s} / \sqrt{t}$ (0.1 s ≤ t ≤ 5 s).

Derating on a cable reel (DIN VDE 0298-4)

1 layer: 0.80 · 2 layers: 0.61 · 3 layers: 0.49 · 4 layers: 0.41. Permissible current = table current × layer factor × temperature factor.

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05 Reeling Performance and Reel Design Data

The values below support the dimensioning of the cable reel: minimum reel core diameter, copper weight for earthing and loop-resistance calculations, cable weight, and the rated current for the number of layers wound on the reel.

Type designation cores × mm²	Outer Ø max mm	Min. bend radius on reel, mm	Min. reel core Ø mm	Copper weight kg/km	Cable weight kg/100 m	Current, 1 layer A	2 layers A	3 layers A	4 layers A
3×25+3G6+2×1 C	25.5	204	408	960	131.0	105	80	64	54
3×35+3G6+2×1.5 C	30.0	240	480	1,240	175.0	130	99	79	66
3×50+3G10+2×1.5 C	34.0	272	544	1,760	242.0	162	123	99	83
3×70+3G16+2×1.5 C	39.0	312	624	2,470	336.0	200	152	122	102
3×95+3G16+2×1.5 C	44.0	352	704	3,150	400.0	242	184	148	124
3×120+3G25+2×1.5 C	49.0	392	784	4,080	520.0	280	214	172	144
3×150+3G25+2×1.5 C	54.0	432	864	4,890	619.0	322	245	197	165
3×185+3G35+2×1.5 C	58.5	468	936	6,120	778.0	367	280	225	188
3×240+3G50+2×1.5 C	67.0	536	1,072	8,010	1,020.0	432	329	265	221

Reel design guidance

- Spring reels suit short travel and low tensile load; motor-driven reels with torque control keep the cable under constant, low tension.
- Fit a guide or level-wind that keeps the cable parallel to the reel axis to prevent crossing turns.
- Rated current falls with the number of layers on the reel because heat is not dissipated; see the layer factors below.

06 Selection Guide and Sizing Aid

FC-TRB-M-S covers 9 sizes. The smallest, 3×25+3G6+2×1 C, has an outer diameter of up to 25.5 mm and weighs about 1,310 kg/km; the largest, 3×240+3G50+2×1.5 C, has an outer diameter of up to 67.0 mm and weighs about 10,200 kg/km, 7.8 times as much. Across the range the rated current in free air rises from 131 A to 540 A at 30 °C, and the minimum bending radius from 204 mm to 536 mm.

Example 1. A drive draws 128 A continuously, the cable is wound in 2 layers on the reel and the ambient temperature is 40 °C. Required table current = 128 / (0.61 × 0.91) = 231 A. The smallest suitable size is 3×70+3G16+2×1.5 C with 250 A.

Example 2. A drive draws 284 A continuously, the cable is wound in 1 layer on the reel and the ambient temperature is 35 °C. Required table current = 284 / (0.80 × 0.96) = 370 A. The smallest suitable size is 3×150+3G25+2×1.5 C with 402 A.

Type designation cores × mm²	Apparent power at 400 V kVA (1 layer)	Apparent power at 690 V kVA (1 layer)	Winding capacity m	Free-hanging length m (vertical)
3×25+3G6+2×1 C	72.6	125.2	6,570	116
3×35+3G6+2×1.5 C	89.8	154.9	4,525	122
3×50+3G10+2×1.5 C	112.0	193.1	3,435	126
3×70+3G16+2×1.5 C	138.6	239.0	2,645	127
3×95+3G16+2×1.5 C	167.4	288.7	1,970	145
3×120+3G25+2×1.5 C	194.0	334.6	1,555	141
3×150+3G25+2×1.5 C	222.8	384.3	1,280	148
3×185+3G35+2×1.5 C	254.4	438.8	1,060	145
3×240+3G50+2×1.5 C	299.3	516.3	690	143

Apparent power S = √3 × U × I × 0.80 (one layer on the reel, 30 °C). Winding capacity is an indicative value for a reel with 2,500 mm flange diameter, 1,000 mm traverse width, core diameter equal to the minimum reel core diameter and 90 % fill; it is not a substitute for the reel manufacturer's calculation. Free-hanging length = permissible pull ÷ (weight × 9.81); it is the length at which the cable's own weight reaches the rated pull, without any safety factor for hoisting.

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07 Engineering Profile by Size

Each size of FC-TRB-M-S with the values that matter when sizing a circuit: dimensions, weight, copper share, heat and voltage drop at rated current, and the permissible pull. Voltage drop is for 100 m of cable at rated current with conductors at 90 °C (three-phase).

3×25+3G6+2×1 C: outer Ø 25.5 mm, about 1,310 kg/km of which 960 kg/km is copper (73%). Rated current is 131 A in free air at 30 °C; at that current the conductor loss is about 34.1 W per metre and the voltage drop over 100 m is 22.6 V (conductors at 90 °C). Handling 3×25+3G6+2×1 C: 131.0 kg per 100 m, bending radius 204 mm; two people can lift a 20 m piece of about 26.2 kg.

Choose 3×35+3G6+2×1.5 C when the load is near 162 A: the conductor resistance is 0.554 Ω/km, the overall size is Ø 30.0 mm and the weight 1,750 kg/km. The minimum reel core is 480 mm and the 1 s short-circuit rating 5.00 kA. A 500 m length of 3×35+3G6+2×1.5 C weighs about 875 kg; with a 480 mm minimum core the drum must be sized for that load.

3×50+3G10+2×1.5 C: Ø 34.0 mm; bend radius 272 mm; weight 2,420 kg/km. Voltage drop at rated current (202 A) is 17.2 V per 100 m, loss 40.2 W/m, and the cable can support 126 m of its own length vertically at the rated pull of 3,000 N. Reel and handling: at 3×50+3G10+2×1.5 C the minimum reel core is 544 mm and the cable weighs 242.0 kg per 100 m, so a 500 m length weighs about 1,210 kg before the drum.

3×70+3G16+2×1.5 C: Ø 39.0 mm; bend radius 312 mm; weight 3,360 kg/km. Voltage drop at rated current (250 A) is 15.0 V per 100 m, loss 43.3 W/m, and the cable can support 127 m of its own length vertically at the rated pull of 4,200 N. Per 100 m, 3×70+3G16+2×1.5 C contains 247.0 kg of copper and 89.0 kg of insulation, filler and sheath material, which sets the scrap value and the recycling split.

For 3×95+3G16+2×1.5 C the design values are: Ø 44.0 mm, 4,000 kg/km, 5,700 N permissible pull, 302 A rated current. The copper accounts for 79% of the weight, and 47.9 W/m is dissipated at full load, so heat-sensitive reel layers should be derated as shown in section 04. Handling 3×95+3G16+2×1.5 C: 400.0 kg per 100 m, bending radius 352 mm; two people can lift a 20 m piece of about 80.0 kg.

Size 3×120+3G25+2×1.5 C has a maximum conductor resistance of 0.161 Ω/km, a copper content of 4,080 kg/km and a minimum bending radius of 392 mm (reel core 784 mm). Short-circuit capability for 1 s is 17.16 kA. Expect 12.4 V of drop per 100 m at 350 A. A 500 m length of 3×120+3G25+2×1.5 C weighs about 2,600 kg; with a 784 mm minimum core the drum must be sized for that load.

Size 3×150+3G25+2×1.5 C has a maximum conductor resistance of 0.129 Ω/km, a copper content of 4,890 kg/km and a minimum bending radius of 432 mm (reel core 864 mm). Short-circuit capability for 1 s is 21.45 kA. Expect 11.5 V of drop per 100 m at 402 A. Reel and handling: at 3×150+3G25+2×1.5 C the minimum reel core is 864 mm and the cable weighs 619.0 kg per 100 m, so a 500 m length weighs about 3,095 kg before the drum.

At 3×185+3G35+2×1.5 C the cable measures Ø 58.5 mm and weighs roughly 7,780 kg/km. It carries 459 A at 30 °C ambient, which produces 56.9 W/m of heat and a 10.7 V drop per 100 m. The permissible pull is 11,100 N, so a vertical length of 145 m can hang from its own weight before that limit is reached. Per 100 m, 3×185+3G35+2×1.5 C contains 612.0 kg of copper and 166.0 kg of insulation, filler and sheath material, which sets the scrap value and the recycling split.

3×240+3G50+2×1.5 C: outer Ø 67.0 mm, about 10,200 kg/km of which 8,010 kg/km is copper (79%). Rated current is 540 A in free air at 30 °C; at that current the conductor loss is about 59.6 W per metre and the voltage drop over 100 m is 9.6 V (conductors at 90 °C). Handling 3×240+3G50+2×1.5 C: 1,020.0 kg per 100 m, bending radius 536 mm; two people can lift a 20 m piece of about 204.0 kg.

08 Configuration Guidance and Variant Comparison

Typical case: a roadheader trailing 302 A at the face with a signal pair in the same cable. For this case FC-TRB-M-S is a fit in the 3×95+3G16+2×1.5 C size (Ø 44.0 mm).

CPE suits moderate-duty surface equipment and pumps; it contains halogen.

Rated 0.66/1.14 kV, the cable is intended for the 1,140 V supplies used in coal-mine face equipment, and its insulation is slightly thicker than the 0.6/1 kV version.

In the drawn size 3×95+3G16+2×1.5 C the cores fill 77% of the circle inside the inner sheath, the inner sheath is 1.6 mm thick, the screen 0.45 mm and the outer sheath 3.1 mm, giving a total wall of 5.2 mm around a core bundle of Ø 33.3 mm.

FC-TRB-M-S is one of 113 datasheets in the low-voltage mining reeling cable group and one of 953 in the library.

Element inventory and core layout

Element inventory of the drawn size 3×95+3G16+2×1.5 C: 8 elements with 336.0 mm² of copper in total.

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Element	Quantity	Cross-section	Ø over insulation mm	Copper mm²
Power / main core	3	95 mm²	15.2	285.0
Protective (PE) conductor	3	16 mm²	6.8	48.0
Control core	2	1.5 mm²	3.3	3.0

Termination data (indicative)

Type designation cores × mm²	Outer Ø or W × H mm	Cable gland thread	Lug / ferrule bolt	Strip length mm	Terminal row mm	Gland-to-bend straight mm
3×25+3G6+2×1 C	25.5	M40	M8	16	96	102
3×35+3G6+2×1.5 C	30.0	M50	M8	22	96	120
3×50+3G10+2×1.5 C	34.0	M50	M10	22	160	136
3×70+3G16+2×1.5 C	39.0	M63	M10	22	160	156
3×95+3G16+2×1.5 C	44.0	M63	M12	28	160	176
3×120+3G25+2×1.5 C	49.0	M63	M12	28	160	196
3×150+3G25+2×1.5 C	54.0	M75	M12	28	160	216
3×185+3G35+2×1.5 C	58.5	M75	M16	34	160	234
3×240+3G50+2×1.5 C	67.0	M90	M16	34	160	268

Gland, lug and terminal-row values are planning guides computed from the dimensions above; confirm them with the accessory manufacturer.

Comparison with related variants at size 3×95+3G16+2×1.5 C

Variant	Differs in	Outer Ø / H mm	Weight kg/km	Pull N	Current A
This datasheet FC-TRB-M-S	–	44.0	4,000	5,700	302
FC-TCS-M-S 0.66/1.14 kV	sheath	44.0 (+0%)	4,020 (+0%)	5,700 (+0%)	302 (+0%)
FC-TPU-MA D2X11Y-S 0.66/1.14 kV	sheath	44.0 (+0%)	3,910 (-2%)	5,700 (+0%)	302 (+0%)
FC-TRB-M-2F 0.66/1.14 kV	configuration	49.0 (+11%)	4,090 (+2%)	5,700 (+0%)	302 (+0%)
FC-TRB-M-NS 0.66/1.14 kV	configuration	44.0 (+0%)	3,970 (-1%)	5,700 (+0%)	302 (+0%)
FC-TRB-M-S-HT 0.66/1.14 kV	tensile braid	46.0 (+5%)	4,120 (+3%)	11,160 (+96%)	302 (+0%)
FC-TRB-M-S 0.6/1 kV	voltage class	43.0 (-2%)	3,940 (-2%)	5,700 (+0%)	302 (+0%)

Percentages show the change against this datasheet for the same cross-section; use them to judge what a change of sheath, voltage class, screen or tensile braid costs in size and weight.

09 Standards and Testing

Standard	Scope
DIN EN 60228 / IEC 60228 / VDE 0295	Conductors, class 5
IEC 60502-1	Insulation compound, power cables up to 1 kV
DIN VDE 0298-3	Application of cables – bending radii and tensile loads
DIN VDE 0298-4	Application of cables – current-carrying capacity
DIN EN 60332-1-2 / IEC 60332-1-2	Flame propagation, single cable
DIN VDE 0298-300	Core identification
IEC 60811-404	Mineral oil immersion test

Routine and type tests

- AC voltage test on every reel length (routine test): 3.5 kV AC, 5 min
- Conductor resistance and checks of dimensions, insulation thickness and sheath thickness
- Continuity of conductors and protective earth and control cores
- Bending, tensile and reeling torsion tests (type test)
- Flame propagation (IEC 60332-1-2)

Test documentation: every delivery is accompanied by a test certificate from FeiChun’s own laboratory. Third-party witnessed tests can be arranged at the buyer’s cost.

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10 Installation, Marking and Delivery

Installation guidance

- Use a spring-driven or motor-driven cable reel with a core diameter of at least twice the minimum bending radius (16 × D).
- Unwind from the shipping reel tangentially; never pull the cable over the flange of the drum, and avoid loops and kinks.
- Never repair a damaged outer sheath with tape alone; cut out the damaged section and use a repair method approved for the voltage class.
- Connect all parts of the split PE conductor at both ends of the cable.

Sheath marking

FEICHUN FC-TRB-M-S [cross-section] 0.66/1.14 kV [year] [serial no.] [metre mark]

Packing and delivery

Reel	Steel or fumigated wooden reels; cable ends sealed with heat-shrink caps
Delivery length	As ordered, in one continuous length without joints
Lead time	2–3 weeks after technical approval
Warranty	At least 3 years against manufacturing defects
Reel label	Type, cross-section, length, gross/net weight, batch no., reel no.

Ordering information

Order example: FC-TRB-M-S 3×95+3G16+2×1.5 C 0.66/1.14 kV – 500 m on one steel reel. When requesting a quotation, state the cable type, configuration, cross-section, voltage, length per piece, required standards and installation conditions.

11 Certification and Quality

All cable is subject to FeiChun’s quality control, with routine testing over 100 % of the delivered length. Certificates, type tests and third-party tests (for example partial discharge or compatibility with cable accessories) are provided per project requirement; copies of the records are available on request.

The CE, EAC and UKCA certificates listed in datasheet FC-TDS-TMP-2026-9238-EN apply to the FC-TPU-M D2X11Y product group. Confirm with FeiChun that the certificate scope covers this construction before quoting it in a tender.

Mine-specific approvals (for example coal-mine safety marks, MSHA, or ATEX / IECEx for gassy atmospheres) are not implied by this datasheet; they depend on the project, the machine and the country and are arranged with the end user.

12 Related Datasheets

Variants of this cable with a different sheath, configuration or voltage. All datasheets are in PDF format.

- FC-TCS-M-S 0.66/1.14 kV – 3 power cores + 3 split PE conductors + 2 control cores + overall screen, CSP rubber
- FC-TPU-MA D2X11Y-S 0.66/1.14 kV – 3 power cores + 3 split PE conductors + 2 control cores + overall screen, PUR low-temp
- FC-TRB-M-2F 0.66/1.14 kV – 3 power cores + 3 split PE conductors + two 12-fibre single-mode optical elements, CPE rubber
- FC-TRB-M-NS 0.66/1.14 kV – 3 power cores + 3 split PE conductors + overall screen, CPE rubber
- FC-TRB-M-S-HT 0.66/1.14 kV – 3 power cores + 3 split PE conductors + 2 control cores + overall screen, with aramid tensile support braid, CPE rubber
- FC-TRB-M-S 0.6/1 kV – 3 power cores + 3 split PE conductors + 2 control cores + overall screen, CPE rubber
- FC-TRB-M-F 0.66/1.14 kV – 3 power cores + 3 split PE conductors + 12-fibre single-mode optical element, CPE rubber
- FC-TRB-M-P 0.66/1.14 kV – 3 power cores + 3 split PE conductors + 2 pilot cores 2×2.5 mm², CPE rubber

Overview of all datasheets: Low-Voltage Mining Reeling Cables 0.6/1 and 0.66/1.14 kV

Frequently asked questions

What is FC-TRB-M-S used for?
Typical applications include converter-fed machine drives where control signals in the same cable must be protected against electromagnetic interference.

What are the outer diameter and minimum bending radius of 3×95+3G16+2×1.5 C?
The outer diameter is 41.5 to 44.0 mm and the minimum bending radius in moving or reeling operation is 352 mm (8 × D).

What minimum reel core diameter is needed for 3×95+3G16+2×1.5 C?
At least 704 mm, which is twice the minimum bending radius of 352 mm. A larger core diameter extends cable life.

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What current rating applies to 3×95+3G16+2×1.5 C on a cable reel?
The rated current in free air at 30 °C ambient is 302 A. Multiply it by 0.80 for one layer on the reel, 0.61 for two layers, 0.49 for three layers and 0.41 for four layers (DIN VDE 0298-4), and by the ambient temperature factor.

How much tensile load can 3×95+3G16+2×1.5 C take, and how long can it hang freely?
The permissible pull force is 5,700 N. With a weight of about 4,000 kg/km this corresponds to a free-hanging vertical length of about 145 m before the rated pull is reached; apply your own safety factor for hoisting or suspended installations.

What is the voltage drop and heat loss of 3×95+3G16+2×1.5 C at rated current?
At 302 A and a conductor temperature of 90 °C the voltage drop is about 13.7 V per 100 m and the conductor loss about 47.9 W per metre (maximum resistance 0.206 Ω/km at 20 °C).

Is this cable halogen-free?
No. The CPE rubber sheath contains halogen. If halogen-free cables are required, select the PUR version of the same construction.

Which cross-sections are available?
FC-TRB-M-S: 25, 35, 50, 70, 95, 120, 150, 185, 240 mm². Other sizes and special designs can be produced to order.

Does this datasheet include mine-specific approvals?
No. Mine-specific approvals, such as coal-mine safety marks, MSHA or ATEX/IECEx for gassy atmospheres, depend on the project and the country and are not implied by this document. Send the requirements to FeiChun technical support.

13 Trademark Notice and Intellectual Property

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