PROTOLON (SB) NTSCGEWOEU

Medium Voltage Flexible Trailing Cable | 1.8/3 - 18/30 kV

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Medium Voltage Flexible Trailing Cable

PROTOLON (SB) NTSCGEWOEU serves as power supply or connection cable for large material handling machines, e.g. excavators in opencast mines, subject to extremely high mechanical stresses in which abrasion and chaffing stresses are to be expected in trailing operation.

Total Configurations: 50 — covering 7 voltage classes from 1.8/3 kV to 18/30 kV, with conductor sizes from 3×25 mm² up to 3×185 mm².

Key Advantages: Braided reinforcement with tear-resistant tape • High torsional & tensile resistance • Oil, ozone & UV resistant • Flame retardant per GOST-R/-K/-B Russian Federation certification

Technical Summary & Specifications

ELECTRICAL

Voltage: 1.8/3 – 18/30 kV
Test Voltage: 6 – 43 kV
Conductor: Finely stranded tinned copper, class 5

THERMAL

Max conductor temp: 90°C
Short circuit temp: 250°C
Fixed install: -40 to +80°C
Flexible install: -20 to +60°C

MECHANICAL

Torsional stress: ±100°/m
Tensile strength: 15 N/mm² static
Bend radius: 6×D fixed / 10×D flexible

CHEMICAL

Flame Retardant: ✓ EN/IEC 60332-1-2
Oil / Ozone / UV: ✓ Resistant

Standards: DIN VDE 0250-813 • EN 50525-2-21 • DIN VDE 0298-3 • MSHA P-189-4 • GOST-R/-K/-B Fire Certificate (Russian Federation) • DIN EN 60332-1-2 / IEC 60332-1-2 • IEC 60811-404

Cable Construction

Conductor & Insulation

1. Conductor — finely stranded tinned copper, class 5
2. Inner semi-conducting layer
3. Core insulation — EPR rubber (PROTOLON Special compound 3G13)

Core Arrangement

4. Three-core design with split earth conductor in the interstices, tear-resistant reinforcing tape over assembly
5. Outer semi-conducting layer — semi-conductive NBR easy strip
6. Split earth conductor

Reinforcement & Sheath

7. Braiding — Polyester material
8. Inner sheath — rubber, polychloroprene (PCP) special compound 5GM5
9. Outer sheath — rubber, polychloroprene (PCP) special compound 5GM5

Complete Specifications — 1.8/3 kV & 3.6/6 kV (16 Configurations)

PROTOLON (SB) NTSCGEWOEU 1.8/3kV — 8 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	35.5	38.5	2,470	1,125	410	0.33	0.795	131
3×35+3×25/3	7.6	39.5	42.5	3,080	1,575	470	0.31	0.565	162
3×50+3×25/3	9.1	43.1	46.1	3,750	2,250	540	0.29	0.393	202
3×70+3×35/3	10.9	46.7	50.7	4,690	3,150	610	0.28	0.277	250
3×95+3×50/3	12.6	54.4	58.4	6,210	4,275	660	0.28	0.210	301
3×120+3×70/3	14.2	58.2	62.2	7,430	5,400	720	0.27	0.164	352
3×150+3×70/3	15.9	63.7	67.7	8,900	6,750	790	0.26	0.132	404
3×185+3×95/3	17.7	67.6	71.6	10,330	8,325	860	0.26	0.108	461

PROTOLON (SB) NTSCGEWOEU 3.6/6kV — 8 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	43.1	46.1	2,910	1,125	340	0.36	0.795	131
3×35+3×25/3	7.6	42.5	45.5	3,180	1,575	390	0.34	0.565	162
3×50+3×25/3	9.1	45.7	48.7	3,860	2,250	430	0.32	0.393	202
3×70+3×35/3	10.9	51.7	55.7	5,080	3,150	490	0.30	0.277	250
3×95+3×50/3	12.6	59.9	63.9	6,580	4,275	540	0.29	0.210	301
3×120+3×70/3	14.2	59.0	63.0	8,110	5,400	600	0.28	0.164	352
3×150+3×70/3	15.9	64.4	68.4	8,610	6,750	650	0.27	0.132	404
3×185+3×95/3	17.7	68.3	72.3	10,020	8,325	700	0.27	0.108	461

Complete Specifications — 6/10 kV & 8.7/15 kV (16 Configurations)

PROTOLON (SB) NTSCGEWOEU 6/10kV — 8 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	41.6	44.6	2,880	1,125	310	0.37	0.795	131
3×35+3×25/3	7.6	44.2	47.2	3,340	1,575	350	0.34	0.565	162
3×50+3×25/3	9.1	47.3	50.3	4,020	2,250	390	0.33	0.393	202
3×70+3×35/3	10.9	53.4	57.4	5,610	3,150	440	0.31	0.277	250
3×95+3×50/3	12.6	57.4	61.4	6,140	4,275	490	0.30	0.210	301
3×120+3×70/3	14.2	62.6	66.6	8,010	5,400	540	0.29	0.164	352
3×150+3×70/3	15.9	66.1	70.1	9,170	6,750	580	0.28	0.132	404
3×185+3×95/3	17.7	69.6	73.6	10,280	8,325	630	0.27	0.108	461

PROTOLON (SB) NTSCGEWOEU 8.7/15kV — 8 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	46.3	49.3	3,230	1,125	250	0.39	0.795	139
3×35+3×25/3	7.6	50.2	54.2	3,920	1,575	280	0.37	0.565	172
3×50+3×25/3	9.1	53.3	57.3	4,610	2,250	310	0.35	0.393	215
3×70+3×35/3	10.9	58.0	62.0	6,000	3,150	350	0.33	0.277	265
3×95+3×50/3	12.6	68.2	72.2	7,850	4,275	390	0.32	0.210	319
3×120+3×70/3	14.2	67.2	71.2	8,440	5,400	420	0.31	0.164	371
3×150+3×70/3	15.9	70.8	74.8	9,640	6,750	460	0.30	0.132	428
3×185+3×95/3	17.7	76.4	80.4	11,440	8,325	500	0.29	0.108	488

Complete Specifications — 12/20 kV, 14/25 kV & 18/30 kV (18 Configurations)

PROTOLON (SB) NTSCGEWOEU 12/20kV — 8 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	51.9	55.9	3,920	1,125	220	0.41	0.795	139
3×35+3×25/3	7.6	54.4	58.4	4,450	1,575	250	0.39	0.565	172
3×50+3×25/3	9.1	65.0	69.0	6,300	2,250	270	0.37	0.393	215
3×70+3×35/3	10.9	68.9	72.9	7,410	3,150	300	0.35	0.277	265
3×95+3×50/3	12.6	68.1	72.1	7,950	4,275	330	0.33	0.210	319
3×120+3×70/3	14.2	71.4	75.4	9,160	5,400	360	0.32	0.164	371
3×150+3×70/3	15.9	76.8	80.8	10,720	6,750	390	0.31	0.132	428
3×185+3×95/3	17.7	88.4	92.4	13,530	8,325	420	0.30	0.108	488

PROTOLON (SB) NTSCGEWOEU 14/25kV — 2 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	58.7	62.2	5,310	1,125	190	0.43	0.795	139
3×35+3×25/3	7.6	64.8	68.8	6,150	1,575	220	0.41	0.565	172

PROTOLON (SB) NTSCGEWOEU 18/30kV — 8 Configurations

Basic Construction (mm²)	Conductor Ø (mm)	Cable Ø min (mm)	Cable Ø max (mm)	Cable Weight (kg/km)	Max. Tensile Strength (N)	Nominal Capacitance (nF/km)	Operation Inductance (mH/km)	Conductor Resistance at 20°C (Ω/km)	Current (A)
3×25+3×25/3	6.4	65.5	68.5	6,680	1,125	170	0.45	0.795	139
3×35+3×25/3	7.6	71.5	74.5	7,380	1,575	190	0.43	0.565	172
3×50+3×25/3	9.1	72.5	75.5	8,460	2,250	210	0.40	0.393	215
3×70+3×35/3	10.9	86.5	90.5	9,690	3,150	230	0.38	0.277	265
3×95+3×50/3	12.6	79.9	83.9	10,960	4,275	250	0.37	0.210	319
3×120+3×70/3	14.2	85.6	89.6	12,830	5,400	270	0.35	0.164	371
3×150+3×70/3	15.9	89.3	93.3	14,250	6,750	290	0.34	0.132	428
3×185+3×95/3	17.7	95.0	99.0	16,390	8,325	310	0.33	0.108	488

Complete Configuration Summary — All 50 Specifications

Voltage Class	Test Voltage	Configurations	Conductor Range	Cable Ø Range	Weight Range (kg/km)	Current Range (A)
1.8/3 kV	6 kV	8	3×25 – 3×185 mm²	35.5 – 71.6 mm	2,470 – 10,330	131 – 461
3.6/6 kV	11 kV	8	3×25 – 3×185 mm²	42.5 – 72.3 mm	2,910 – 10,020	131 – 461
6/10 kV	17 kV	8	3×25 – 3×185 mm²	41.6 – 73.6 mm	2,880 – 10,280	131 – 461
8.7/15 kV	24 kV	8	3×25 – 3×185 mm²	46.3 – 80.4 mm	3,230 – 11,440	139 – 488
12/20 kV	29 kV	8	3×25 – 3×185 mm²	51.9 – 92.4 mm	3,920 – 13,530	139 – 488
14/25 kV	36 kV	2	3×25 – 3×35 mm²	58.7 – 68.8 mm	5,310 – 6,150	139 – 172
18/30 kV	43 kV	8	3×25 – 3×185 mm²	65.5 – 99.0 mm	6,680 – 16,390	139 – 488
TOTAL: 50 Complete Specifications Across 7 Voltage Classes						

Applications

Application	Benefit
Opencast Mining Excavators	Withstands extreme mechanical stress from continuous trailing operation
Draglines & Bucket-Wheel Excavators	Braided reinforcement resists abrasion and chaffing in trailing conditions
Mobile Crushers & Conveyors	High torsional resistance (±100°/m) for dynamic equipment movement
Medium Voltage Distribution	7 voltage classes from 1.8/3 kV to 18/30 kV cover a wide range of installations

Ordering Information

For custom lengths, drum packaging, special conductor sizes, or technical consultation, please contact us directly via WhatsApp or visit our websites below. All 50 standard configurations are available ex-works with standard lead times.

Contact AnHui Feichun Special Cable Co., Ltd
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