

PROTOLON NTM 25kV: Medium-Voltage Flexible Single-Core Cable acc. VDE 0250 Part 813



Application

In general single-core cables are used in short lengths e.g. for the connection of switchgear cubicles and for connection of mobile transformer substations to overhead lines. While laying and during operation, care should be taken to protect the cables against excessive mechanical stresses. Furthermore the general conditions in DIN VDE 0298-3 have to be applied.

Global data

Brand	PROTOLON
Type	PROTOLON NTMCGCWOEU
Standard	DIN VDE 0250-813
Certifications / Approvals	Fire Certificate of Russian Federation GOST K GOST B

Notes on installation

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Design features

Conductor	Finely stranded copper conductor, tinned (class 5), acc. DIN VDE 0295/ IEC 60228
PE-Conductor	Spinning with tinned copper wires 16 mm ² or 25 mm ²
Insulation	PROTOLON, Basic material: EPR, Compound type: 3GI3, acc. DIN VDE 0207 Part 20
Electrical field control	Inner and outer layer of semiconductive rubber compound
Outer sheath	Special compound, Basic material: Chlorinated rubber, Compound type: 5GM3, Color: Red, acc. DIN VDE 0207 Part 21

Electrical parameters

Rated voltage	14/25 kV
Maximum permissible operating voltage AC	17.3/30 kV
Maximum permissible operating voltage DC	22.5/45 kV
AC test voltage	36 kV

Chemical parameters

Resistance to fire	EN 60332-1-2, IEC 60332-1-2
Resistance to oil	EN 60811-404, IEC 60811-404
Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV, and moisture

Thermal parameters

Max. permissible temperature at conductor	90 °C
Max. short circuit temperature of the conductor	250 °C
Ambient temperature for fix installation min.	-40 °C
Ambient temperature for fix installation max.	80 °C
Ambient temp. in fully flex. operation min.	-25 °C
Ambient temp. in fully flex. operation max.	60 °C

Mechanical parameters

Tensile load on the conductor max .	15 N/mm ²
Torsional stress	25 °/m

Number of cores x cross section	Part number	Conductor diameter max. mm	Diameter over insulation (nom.) mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius fixed min. mm	Bending radius free moving min. mm	Net weight approx. kg/km	Permissible tensile force max. N	Conductor resistance at 20°C max. Ω/km	Nom. operating capacitance µF/km	Current carrying capacity (1) A	Short Circuit Current (conductor) kA
1x25/16KON		6.4	21.6	28.3	30.6	183.6	306	1250	375	0.795	0.16	189	3.58
1x35/16KON		7.5	22.7	30.4	32.7	196.2	327	1470	525	0.565	0.17	234	5.01
1x50/16KON		9	24.2	31.9	34.2	205.2	342	1680	750	0.393	0.19	294	7.15
1x70/16KON		10.8	26	33.7	36	216	360	1950	1050	0.277	0.21	360	10.01
1x95/16KON	20004737	12.6	27.8	36.5	38.8	232.8	388	2320	1425	0.21	0.23	434	13.59
1x120/16KON		14.2	29.4	38.1	40.4	242.4	404	2620	1800	0.164	0.25	505	17.16
1x150/25KON		15.8	31	40.5	42.7	256.2	427	3050	2250	0.132	0.27	582	21.45
1x185/25KON		17.4	32.6	42.1	44.3	265.8	443	3420	2775	0.108	0.29	664	26.46
1x240/25KON		20.4	35.6	45.1	47.3	283.8	473	4070	3600	0.0817	0.33	782	34.32
1x300/25KON	20024422	22.9	38.1	48.6	50.8	304.8	508	4850	4500	0.0654	0.36	898	42.9

(1): According to DIN VDE 0298, Part 4