PROTOMONT NSSHOEU 1kV
Flexible Rubber Cables

Application
For flexible use and fixed installation open-cast mining applications, in quarries, on construction sites and similar applications, with heavy mechanical stresses. The cables can be used indoors as well as outdoors, in explosion-hazard areas, in industry and in agriculture. They can be used permanently in waste water up to 40°C at a depth of max. 2000 m and in industrial water, cooling water, surface water, rainwater and mixed water - and in groundwater and seawater to a more limited extent. The requirements for accessibility and inspection depend on the consistency of the water.In aggressive water or composed of special substances, the cable's resistance properties should be tested. In other respects the specifications of DIN VDE 0298 part 3 applies.

Global data

Brand	PROTOMONT
Type designation	NSSHOEU
Standard	DIN VDE 0250-812
Certifications / Approvals	MA – China MSHA P-189-3 Fire Certificate of Russian Federation TR-Certificate GOST K GOST B

Notes on installation

Notes on installation	Maximum submersing depth 2000 meters

Design features

Conductor	Copper, tinned, finely stranded (class 5) in accordance with DIN EN 60228 / IEC 60228
Insulation	PROTOLON, Basic material: EPR, Compound type: 3GI3 in accordance with DIN EN 50363
Core identification	Up to 5 cores: colored in gray, black, brown, blue, green/yellow from 6 cores: light gray with black digits
Core arrangement	Three main conductors laid-up together with the protective-earth conductor, from 50 mm² with protective-earth conductor split into three in the outer interstices
Inner sheath	Vulcanized rubber compound, Basic material: EPR, Compound type: GM1B in accordance with DIN EN 50363 (not for single-core cables)
Outer sheath	Vulcanized rubber compound, synthetic elastomer compound e.g. CPE, Compound: 5GM5 in accordance with DIN EN 50363, Color: Yellow

Electrical parameters

Rated voltage	0.6/1 kV (600/1000V)
Max. permissible operating voltage AC	0.7/1.2 kV
Max. permissible operating voltage DC	0.9/1.8 kV
AC test voltage	3 kV
Duration of AC test voltage	5 min.

Chemical parameters

Resistance to fire	DIN EN 60332-1-2
Resistance to oil	DIN EN 60811-404
Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone and moisture
Water resistance	DIN EN 50525-2-21

Thermal parameters

Max. permissible temperature at conductor	90 °C
Max. short circuit temperature of the conductor	250 °C
Max. permissible water temperature	40 °C (At higher water temperatures, a shortened cable service life is to be expected)
Ambient temperature for fix installation min.	-40 °C
Ambient temp. in fully flex. operation min.	-25 °C
Ambient temp. in fully flex. operation max.	60 °C

Mechanical parameters

Max. tensile load of cable	15 N/mm²
Torsional stress	100 °/m
Min. bending radius	Acc. to DIN VDE 0298 part 3

Number of cores x cross section	Part number	MLFB Number	Outer diameter min. mm	Outer diameter max. mm	Net weight approx. kg/km	Permis-sible tensile force max. N	Nominal operating capacitance µF/km	Induc-tance nom. mH/ km	Current carrying capacity (1) A	Short Circuit Current (conduc-tor) kA
PROTOMONT NSSHÖU-O 1x...										
1x16	20004811	5DL1112	10.6	11.6	235	240	0.42	0.26	103	2.29
1x25	20008654	5DL1113	12.8	13.7	355	375	0.42	0.26	137	3.58
1x35	20004812	5DL1114	13.9	14.8	450	525	0.49	0.25	169	5.01
1x50	20004813	5DL1115	15.6	16.6	610	750	0.51	0.25	211	7.15
1x70	20004814	5DL1116	17.8	18.8	825	1050	0.59	0.24	261	10.01
1x95	20004815	5DL1117	19.7	20.7	1050	1425	0.6	0.24	314	13.59
1x120	20004816	5DL1118	22.4	23.4	1360	1800	0.69	0.23	367	17.16
1x150	20004817	5DL1120	24.4	25.4	1640	2250	0.69	0.23	422	21.45
1x185	20069571	5DL1121	27.2	28.8	2040	2775	0.68	0.23	481	26.46
1x240	20004818	5DL1122	30.4	32	2600	3600	0.73	0.23	571	34.32
1x300	20004819	5DL1123	34.5	36.8	3270	4500	0.76	0.23	681	42.9
PROTOMONT NSSHÖU-O 2x...										
2x1,5	20004826	5DL1204	10.8	11.9	160	45	0.22	0.33	23	0.21
2x2,5	20008593	5DL1205	12	13	205	75	0.23	0.32	30	0.36
2x4		5DL1206	14.5	15.5	295	120	0.26	0.31	41	0.57
PROTOMONT NSSHÖU-O 3x...										
3x1,5		5DL1756	11.3	12.3	180	68	0.22	0.33	23	0.21
3x2,5	20004872	5DL1751	12.5	13.6	230	113	0.23	0.32	30	0.36
3x4		5DL1760	15.1	16.2	340	180	0.26	0.31	41	0.57
3x6		5DL1946	16.2	17.3	415	270	0.3	0.29	53	0.86
3x10		5DL1944	20	21.1	650	450	0.32	0.28	74	1.43
3x16		5DL1311	23.1	24.2	890	720	0.42	0.26	99	2.29
3x25		5DL1964	26.8	28.5	1300	1125	0.42	0.26	131	3.58
3x35	20004837	5DL1391	30.9	32.5	1730	1575	0.49	0.25	162	5.01
3x50	20148227	5DL1320	35.2	38.3	2400	2250	0.39	0.27	202	7.15
PROTOMONT NSSHÖU-J 3x...										
3x1,5	20004827	5DL1304	11.3	12.3	180	68	0.22	0.33	23	0.21
3x2,5	20004828	5DL1305	12.5	13.6	230	113	0.23	0.32	30	0.36
3x4	20007174	5DL1306	15.2	16.2	340	180	0.26	0.31	41	0.57
3x6		5DL1914	16.2	17.3	415	270	0.3	0.29	53	0.86
PROTOMONT NSSHÖU-J 4x...										
4x1,5	20004838	5DL1404	12	13.1	210	90	0.22	0.33	23	0.21
4x2,5	20004839	5DL1405	14.6	15.7	310	150	0.23	0.32	30	0.36
4x4	20004840	5DL1406	16.2	17.3	410	240	0.26	0.31	41	0.57
4x6	20004841	5DL1407	17.4	18.5	500	360	0.3	0.29	53	0.86
4x10	20004842	5DL1410	21.8	22.9	800	600	0.32	0.28	74	1.43
4x16	20004843	5DL1412	25.9	27.6	1160	960	0.42	0.26	99	2.29
4x16+4x2,5	20004871	5DL1749	27.1	30.1	1433	960	0.42	0.26	99	2.29
4x25	20004844	5DL1413	30.6	32.3	1700	1500	0.42	0.26	131	3.58
4x35	20004845	5DL1414	33.4	35.1	2150	2100	0.49	0.25	162	5.01
4x50	20004846	5DL1415	38.2	41.2	2980	3000	0.51	0.25	202	7.15
4x70	20004847	5DL1416	42.4	45.5	3910	4200	0.59	0.24	250	10.01
4x95	20004848	5DL1417	48.2	52.3	5120	5700	0.6	0.24	301	13.59
4x120	20016763	5DL1418	54.7	58.8	6570	7200	0.69	0.23	352	17.16

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4x150	20023637	5DL1420	60.2	64.2	7990	9000	0.7	0.23	404	21.45
4x185	20007494	5DL1421	67.3	71.3	9820	11100	0.71	0.23	461	26.46
4x240	20060343	5DL1422	72.1	76.4	12100	14400	0.73	0.23	547	34.32
PROTOMONT NSSHÖU-J 3x.../...										
3x50/25	20004863	5DL1715	38.2	41.2	2820	2250	0.51	0.25	202	7.15
3x70/35	20004864	5DL1716	42.4	45.5	3670	3150	0.59	0.24	250	10.01
3x95/50	20004865	5DL1717	48.2	52.3	4840	4275	0.6	0.24	301	13.59
3x120/70	20004866	5DL1718	54.7	58.8	6250	5400	0.69	0.23	352	17.16
3x150/70	20004868	5DL1722	60.2	64.2	7500	6750	0.7	0.23	404	21.45
3x185/95	20004867	5DL1721	67.3	71.3	9290	8325	0.71	0.23	461	26.46
PROTOMONT NSSHÖU-J 3x... +3x.../3										
3x185 + 3x95/3		5DL1973	60.7	64.7	8690	8325	0.71	0.23	461	26.46
PROTOMONT NSSHÖU-J 5x...										
5x1,5	20004855	5DL1504	12.9	14	245	113	0.22	0.33	23	0.21
5x2,5	20004856	5DL1505	15.7	16.7	360	188	0.23	0.32	30	0.36
5x4	20004857	5DL1506	17.4	18.5	475	300	0.26	0.31	41	0.57
5x6	20004858	5DL1507	19.6	20.6	625	450	0.3	0.29	53	0.86
5x10	20004859	5DL1510	23.5	24.5	955	750	0.32	0.28	74	1.43
5x16	20004860	5DL1512	28	29.7	1380	1200	0.42	0.26	99	2.29
5x25	20004861	5DL1513	33.1	34.8	2030	1875	0.42	0.26	131	3.58
5x35	20006970	5DL1514	37	40.1	2700	2625	0.49	0.25	162	5.01
PROTOMONT NSSHÖU-J ...x1,5										
7x1,5	20004891	5DL1933	15.9	16.9	365	158	0.22	0.33	15	0.21
8x1,5	20004890	5DL1931	17.1	18.1	410	180	0.22	0.33	14	0.21
10x1,5	20004886	5DL1879	17.7	19.7	455	225	0.22	0.33	13	0.21
24x1,5	20088402	5DL1907	24.3	27.3	920	540	0.22	0.33	9	0.21
PROTOMONT NSSHÖU-J ...x2,5										
7x2,5	20004887	5DL1911	18	18.9	485	263	0.24	0.32	19	0.36
10x2,5	20174408	5DL1748	20.4	21.4	630	375	0.24	0.32	16	0.36
12x2,5	20004874	5DL1755	21.7	22.7	725	450	0.24	0.32	16	0.36
18x2,5	20004892	5DL1937	25.6	27.5	1035	675	0.24	0.32	13	0.36
24x2,5		5DL1842	28.6	30.2	1320	900	0.23	0.32	12	0.36
PROTOMONT NSSHÖU-J ...x4										
7x4	20059552	5DL1750	21	22	685	420	0.26	0.31	17	0.57
12x4	20040505	5DL1957	24.9	26.5	1030	720	0.26	0.31	12	0.57
PROTOMONT NSSHÖU-J ...x10										
7x10+5x1,5ST	20004896	5DL1962	26	29	1420	1050	0.33	0.28	28	1.43
7x4+5x1,5ST	20004893	5DL1938	24.1	26.1	901	420	0.26	0.31	17	0.57

(1) Nominal current carrying capacity for multicore cable or three single-core cables in trefoil in permanent operation with DC or AC with 50 up to 60 Hz at 30°C ambient temperature, free in air, three cores loaded. (see also VDE 0298-4)