

PROTOMONT(MT) (N)SHOEU 0,6/1 kV



Application

Rubber-sheathed flexible cables for open-cast mining, suitable for laying alongside conveyor belts (also for shiftable units), on material handling equipment and for tunneling sites, even when the cable is moved continuously, e.g. in cable suspension fittings and as connection between upper and lower cars. The cables are also suitable for connection of submersible pump units.

Global data

Brand	PROTOMONT(MT)
Type designation	(N)SHOEU
Standard	Based on DIN VDE 0250 part 812
Certifications / Approvals	VDE certificate with factory surveillance

Notes on installation

Notes on installation	Maximum submersing depth 500 meters
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Design features

Conductor	Electrolytic copper, not tinned, finely stranded (class 5)
Insulation	PROTOLON, Basic material: EPR, Compound type: Special compound better 3GI3
Core identification	Light gray with black digits
Core arrangement	Three main conductors laid-up together with the protective-earth conductor, from 50 mm ² with protective-earth conductor split into three in the outer interstices
Screen	In case of concentric screen (KON types only): closed layer of copper wire spinning over core assembly
Inner sheath	Basic material: EPR, Compound type: Special compound
Outer sheath	Basic material: Chlorinated rubber, Compound type: Special compound, 5GM5 Colour: 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

Chemical parameters

Reaction 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 and moisture
Water resistance	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 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

Max. tensile load on the conductor	15 N/mm ²
Torsional stress +/-	100 °/m
Min. bending radius	Acc. to DIN VDE 0298 part 3
Travel speed	Max. speed on rewinding with drum car: 100 m/min

Number of cores x cross section	Part number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Weight (approx.) kg/km	Conductor resistance at 20°C max. Ω/km	Nominal operating capacitance µF/km	Inductance nom. mH/km	Current carrying capacity (1) A	Short Circuit Current (conductor) max. (1s) kA
PROTOMONT(MT) (N)SHOEU-O										
1x16		5.2	9.5	11.1	230	1.21	0.44	0.26	99	1.95
1x25		6.4	11	12.6	335	0.78	0.45	0.26	131	3.05
1x35		7.5	12.3	13.9	435	0.554	0.52	0.25	162	4.27
1x50		9	14.5	16.5	615	0.386	0.54	0.25	202	6.1
1x70		11.1	16.4	18.4	812	0.272	0.61	0.24	250	8.54
1x95		12.8	18.5	20.5	1060	0.206	0.64	0.24	301	11.59
1x120		14.5	20.4	22.4	1300	0.161	0.72	0.23	352	14.64
1x150		16.5	22.8	24.8	1600	0.129	0.72	0.23	404	18.3
1x185		17.9	24.7	27.7	2020	0.106	0.71	0.23	461	22.57
1x240		21.2	27.6	30.6	2548	0.08	0.76	0.23	547	29.28
1x300		23.6	31.6	34.6	3200	0.0641	0.78	0.23	633	36.6
PROTOMONT(MT) (N)SHOEU-O										
2x1,5		1.6	9.8	11.4	145	13.3	0.21	0.33	23	0.18
2x2,5		2	10.7	12.3	185	7.98	0.24	0.32	30	0.31
2x4		2.4	11.9	13.5	220	4.95	0.27	0.3	41	0.49
PROTOMONT(MT) (N)SHOEU-O										
3x2,5		2	11.1	12.7	213	7.98	0.24	0.32	30	0.31
3x4		2.4	12.1	13.7	271	4.95	0.27	0.3	41	0.49
3x6		2.9	13.2	14.8	347	3.3	0.32	0.29	53	0.73
3x10		3.9	16.1	18.1	505	1.91	0.34	0.28	74	1.22
3x16		5.2	19	21	775	1.12	0.44	0.26	99	1.95
3x25		6.4	22.9	24.9	1160	0.78	0.45	0.26	131	3.05
3x35		7.5	24.9	27.9	1500	0.554	0.52	0.25	162	4.27
3x50		9	29.4	32.4	2190	0.386	0.54	0.25	202	6.1
3x70		11.1	34.8	37.8	2930	0.272	0.61	0.24	250	8.54
3x95		12.8	40.9	43.9	3720	0.206	0.64	0.24	301	11.59
3x120		14.4	44.7	47.7	4850	0.161	0.72	0.23	352	14.64
3x150		16.1	50	54	6130	0.129	0.72	0.23	404	18.3
3x185		17.9	54.6	58.6	7290	0.106	0.95	0.22	461	22.57
PROTOMONT(MT) (N)SHOEU-J										
3x1,5		1.6	10.2	11.8	160	13.3	0.21	0.33	23	0.18
3x2,5		2	11.1	12.7	200	7.98	0.24	0.32	30	0.31
3x4		2.4	12.1	13.7	270	4.95	0.27	0.31	41	0.49
3x6		2.9	13.2	14.8	340	3.3	0.32	0.29	53	0.73
PROTOMONT(MT) (N)SHOEU-J										
4x1,5		1.6	11	12.6	204	13.3	0.21	0.33	23	0.18
4x2,5		2	12	13.6	245	7.98	0.24	0.32	30	0.31
4x4		2.4	13	14.6	338	4.95	0.27	0.3	41	0.49
4x6		2.9	14.9	16.9	453	3.3	0.32	0.29	53	0.73
4x10		3.9	17.4	19.4	663	1.91	0.34	0.28	74	1.22
4x16		5.2	21.4	23.4	1020	1.12	0.44	0.26	99	1.95
4x25		6.4	24.5	27.5	1480	0.78	0.45	0.26	131	3.05
4x35		7.5	28.4	31.4	1880	0.554	0.52	0.25	162	4.27

Number of cores x cross section	Part number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Weight (approx.) kg/km	Conductor resistance at 20°C max. Ω/km	Nominal operating capacitance μF/km	Inductance nom. mH/km	Current carrying capacity (1) A	Short Circuit Current (conductor) max. (1s) kA
4x50		9	33.6	36.6	2570	0.386	0.54	0.25	202	6.1
4x70		10.6	39.5	42.5	3820	0.272	0.61	0.24	250	8.45
4x95		12.8	44.8	47.8	4920	0.206	0.64	0.24	301	11.59
4x120		14.4	49.9	53.9	6300	0.161	0.72	0.23	352	14.64
4x150		16.1	54.9	58.9	7578	0.129	0.72	0.23	404	18.3
PROTOMONT(MT) (N)SHOEU-J										
3x50+3x25/3		9	29.4	32.4	2320	0.386	0.54	0.25	202	6.1
3x70+3x35/3		10.6	34.8	37.8	3200	0.272	0.61	0.24	250	8.54
3x95/50	20220195	12.1	44.8	47.8	4400	0.206	0.6	0.24	301	13.59
3x95+3x50/3		12.8	40.9	43.9	4270	0.206	0.64	0.24	301	11.59
3x120+3x70/3		14.4	44.7	47.7	5350	0.161	0.72	0.23	352	14.64
3x150+3x70/3		16.5	50.8	54.8	6930	0.129	0.72	0.23	404	18.3
3x185+3x95/3		17.9	54.5	58.5	8150	0.106	0.71	0.23	461	22.57
3x240+3x120/3		20.6	62.2	66.2	10200	0.08	0.76	0.23	540	26.56
3x300+3x150/3		23.4	70.3	74.3	13250	0.064	0.78	0.23	633	29.28
PROTOMONT(MT) (N)SHOEU-J										
5x1,5		1.6	11.9	13.5	245	13.3	0.21	0.33	23	0.18
5x2,5		2	12.9	14.5	297	7.98	0.24	0.32	30	0.31
5x4		2.4	14.7	16.7	414	4.95	0.27	0.3	41	0.49
5x6		2.9	16.1	18.1	530	3.3	0.32	0.29	53	0.73
5x10		3.9	19	21	795	1.91	0.34	0.28	74	1.22
5x16		5.2	23.2	25.2	1200	1.21	0.44	0.26	99	1.95
5x25		6.4	28	31	1850	0.78	0.45	0.26	131	3.05
5x35		7.5	34.5	37.5	2650	0.554	0.46	0.25	162	4.27
PROTOMONT(MT) (N)SHOEU-O Control cables										
12x4		2.4	20.8	22.8	831	4.95	0.27	0.3	41	0.49
12x6		2.9	23.4	26.4	1129	3.3	0.32	0.29	53	0.73
PROTOMONT(MT) (N)SHOEU-J Control cables										
7x1,5		1.6	12.9	14.5	288	13.3	0.21	0.33	23	0.18
8x1,5		1.6	13.8	15.4	325	13.3	0.21	0.33	23	0.18
10x1,5		1.6	15.5	17.5	400	13.3	0.21	0.33	23	0.18
12x1,5		1.6	15.8	17.8	400	13.3	0.21	0.33	23	0.18
14x1,5		1.6	16.8	18.8	495	13.3	0.21	0.33	23	0.18
18x1,5		1.6	18.5	20.5	610	13.3	0.21	0.33	23	0.18
19x1,5		1.6	18.9	20.9	620	13.3	0.21	0.33	23	0.18
24x1,5		1.6	21.1	23.1	750	13.3	0.21	0.33	23	0.18
7x2,5		2	14.9	16.9	417	7.98	0.24	0.32	30	0.31
8x2,5		2	15.8	17.8	452	7.98	0.24	0.32	30	0.31
10x2,5		2	16.4	18.4	500	7.98	0.24	0.32	30	0.31
12x2,5		2	17.3	19.3	561	7.98	0.24	0.32	30	0.31
14x2,5		2	18.7	20.7	660	7.98	0.24	0.32	30	0.31
18x2,5		2	21.2	23.2	840	7.98	0.24	0.32	30	0.31
19x2,5		2	22.3	24.3	900	7.98	0.24	0.32	30	0.31
24x2,5		2	22.8	24.8	1009	7.98	0.24	0.32	30	0.31

Number of cores x cross section	Part number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Weight (approx.) kg/km	Conductor resistance at 20°C max. Ω/km	Nominal operating capacitance μF/km	Inductance nom. mH/km	Current carrying capacity (1) A	Short Circuit Current (conductor) max. (1s) kA
37x2,5		2	29	31	1600	7.98	0.24	0.32	30	0.31
PROTOMONT(MT) (N)SHOEU-J... KON Control cables										
3x0,75/0,75KON		1.1	6.6	7.6	96	26	0.27	0.29	8	0.11
18x1,5/1,5KON		1.6	22	24	720	13.3	0.21	0.33	23	0.18
4x1,5/1,5KON		1.6	13	14.6	280	13.3	0.19	0.35	23	0.18
7x1,5/4KON		1.6	15.5	17.5	360	13.3	0.21	0.33	23	0.18
9x1,5/4KON		1.6	17.5	19.5	430	13.3	0.21	0.33	23	0.18
12x1,5/4KON		1.6	18	20	517	13.3	0.21	0.33	23	0.18
15x1,5/4KON		1.6	21	23	600	13.3	0.21	0.33	23	0.18
19x1,5/4KON		1.6	22	24	700	13.3	0.21	0.33	23	0.18
7x2,5/2,5KON		2	14	15.6	418	7.98	0.24	0.32	30	0.31
12x2,5/2,5KON		2	16	18	630	7.98	0.24	0.32	30	0.31

on request all cross sections available as halogen free version with 5GM3 outer sheath.