PLANOFLEX NGFLGOEU 300/500V

Low voltage flat cables for festoon application



Flexible low voltage power and control cable, for use on festoon systems and for connecting moveable parts of machine tools, material handling equipment, etc., associated with high mechanical stresses and frequent bending during operation and for bending in one plane only.

STANDARDS / APPROVALS

UL File E 113313	Certifications / Approvals
DIN VDE 0250-809	General
DIN EN 60228/ IEC 60228 / VDE 0295	Conductor
DIN VDE 0207-20	Compound
DIN VDE 0207-21	Compound
DIN VDE 0298-4	Electrical parameters
Reversed bending	Mechanical parameters
DIN EN 60811-404 / IEC 60811-404	Chemical behaviour

CABLE DESIGN

Conductor	Copper, bare: up to 25 mm²: extremely finely stranded, class 6 above 35 mm²: finely stranded, class 5
Core insulation material	EPR rubber
-	Special compound 3GI3
-	The insulation wall thickness is designed according to 1kV rubber insulated cable based on VDE 0250 Part 1.
Core arrangement	Cores laid in parallel; for more than 12 cores: parallel bundles (where applicable) Individual Screen made of tinned copper braid, with coverage: individual 60%; TSP 80% Core identification: - up to 5 cores: black, blue, brown, grey, green/yellow (or black for version...-O); - for more than 5 cores: black with white colored numbers
Material outer sheath	Rubber - polychloroprene (PCP)
-	Special compound 5GM3

ELECTRICAL PARAMETERS

Rated voltage U0/U (Um)	300/500 V
Test voltage [kV]	2.5
AC test voltage (control cores) [kV]	2
Nominal voltage U [V]	500

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THERMAL PARAMETERS

Max. conductor temperature [°C]	90
Max. conductor temperature at short circuit [°C]	250
Ambient temperature fix installation (min) [°C]	-50
Ambient temperature fix installation (max) [°C]	80
Ambient temperature flexible installation (min) [°C]	-35
Ambient temperature flexible installation (max) [°C]	80

CHEMICAL PARAMETERS

Flame retardant	In accordance with EN/IEC 60332-1-2
Oil resistant	Yes
Ozone resistance	Yes
Resistant to UV	Yes

MECHANICAL PARAMETERS

Permanent tensile strength (rule)	15 N/mm²
Travel speed	- Gantry (reeling operation): no application - On non-motorized festoon (trolley) system: guidance value up to 160m/min - On motor-driven festoon (trolley) system: guidance value up to 180m/min (for speed beyond it is recommended to consult the manufacturer)
Bending radius (rule)	Acc. to VDE 0298-3: 4 X D fixed installation 5 X D flexible operation

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CABLE PROPERTIES

Basic construction	SAP code	External code	Diameter conductor [mm]	Height (min) [mm]	Height (max) [mm]	Width (min) [mm]	Width (max) [mm]	Cable weight [kg/km]
4x1,5	20003476	5DG5711	1.5	5.7	6.2	15	15.8	170
4x2,5	20003487	5DG5721	2	6.8	7.3	18.5	19.5	260
4x4	20003498	5DG5731	2.8	8.4	8.9	22.5	23.5	390
4x6	20003503	5DG5741	3.5	9	9.5	25.4	26.9	500
4x10	20003509	5DG5765	4.5	10.5	11	30.1	32.6	750
4x16	20003511	5DG5766	5.6	12.1	12.9	36	37.5	1,060
4x25	20003513	5DG5767	6.6	13.6	14.4	41.9	43.4	1,500
4x35	20003515	5DG5768	8.1	14.8	16.7	47	49.9	2,040
4x50	20003517	5DG5770	9.5	18	19	56	58	2,830
4x70	20003519	5DG5771	11.1	20.3	21.3	63.2	65.2	3,820
4x95	20003521	5DG5772	12.9	23.1	24.1	72.6	74.6	4,930
4x120	20230956	5DG5773	15	24.2	27.2	79.2	83.2	6,220
5x1,5	20230952	5DG5712	1.5	5.5	6	18.5	20.1	210
5x2,5	20230955	5DG5722	2	6.6	7.4	22.9	24.6	320
5x4	20230957	5DG5732	2.8	8.5	9	28.9	31.2	510
5x6	20003505	5DG5742	3.5	9.1	9.6	31.8	34.1	640
5x10	20230958	5DG5687	4.5	10.5	11.3	39.2	41.6	960
5x16	20003523	5DG5776	5.6	12.2	12.7	45.1	47.6	1,360
7x1,5	20230953	5DG5714	1.5	5.5	6	25	26.8	280
7x2,5	20003490	5DG5724	2	6.8	7.4	31	32.8	440
7x4	20003501	5DG5734	2.8	8.4	9	38.5	40.9	690
7x6	20003507	5DG5744	3.5	9	9.6	42.9	45.3	870
7x10	20230959	5DG5865	4.5	10.5	11.3	53	55.9	1,320
7x25	20070764	5DG5876	6.6	14.8	15.6	72.6	75.9	2,820
7x25	20217079	5DG5868	8.1	16.4	17.4	83.7	87	3,820
8x1,5	20003480	5DG5715	1.5	5.5	6	27.5	29.3	310
8x2,5	20003492	5DG5725	2	6.8	7.4	34.1	35.9	490
10x1,5	20230954	5DG5717	1.5	6.2	6.7	35.5	37	440
12x1,5	20003483	5DG5718	1.5	6.3	6.8	42	43.5	530
12x2,5	20003494	5DG5728	2	7.4	8	50.6	53.5	780
24x1,5	20003485	5DG5720	1.5	11.5	12.3	51	53.2	1,040
24x2,5	20003496	5DG5730	2	14.8	15.6	65.4	68	1,690
42x1,5	20003470	5DG5653	1.5	15.1	16.1	70.2	72.3	1,920

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CABLE PROPERTIES

Basic construction	SAP code	External code	Diameter conductor [mm]	Height (min) [mm]	Height (max) [mm]	Width (min) [mm]	Width (max) [mm]	Cable weight [kg/km]
4x1,5(C)	20155763	5DG5880	1.5	6.8	7.4	18.5	19.5	250
4x4(C)	20165665	5DG5484	2.8	9.2	10.2	26.3	29.3	550
4x6(C)	20216849	5DG5485	3.5	9.5	11.1	28.8	31.8	665
4x10(C)	20165666	5DG5486	4.5	11.7	13.3	36	39	1,060
4x16(C)	20181525	5DG5487	5.6	12.8	14.4	40.2	43.2	1,360
4x25(C)	20196727	5DG5488	6.6	14.8	16.8	47.3	50.3	1,980
4x35(C)	20218360	5DG5489	8.1	16.9	18.9	53.4	57.4	2,590
4x50(C)	20181765	5DG5490	9.5	19.5	21.5	62	66	3,590
4x70(C)	20228007	5DG5491	11.1	21.9	23.9	69.8	73.8	4,630
4x95(C)	20181526	5DG5492	12.9	24.2	27.2	78.7	83.7	5,950
8x1,5(C)	20003526	5DG5884	1.5	6.8	7.4	35.1	35.1	510
12x1(C)	20003474	5DG5670	1.3	6.6	7.1	48.2	51.3	660
12x1,5(C)	20003527	5DG5888	1.5	7.4	8	51.7	55	780
4x(2x1)C	20003528	5DG5890	1.3	10.5	11.3	31.8	33.8	630
6x(2x2,5)C	20054902	5DG5898	2	14.2	15.2	60	62.7	1,680
7x(2x1)C	20003529	5DG5893	1.3	10.5	11.3	53.1	56	1,090
7x(3x1)	20037062	5DG5483	1.3	8.7	10.3	49.3	51.8	770
4x(2x16AWG)C	20003473	5DG5665	1.5	11	11.8	33.3	35.3	686
8x12AWG	20003469	5DG5554	2.7	8.3	8.8	41.9	43.8	738
12x12AWG	20003471	5DG5657	2.7	8.3	8.8	61.1	64	1,100
4x1/0AWG	20003468	5DG5510	10.3	18.9	20	59	61.8	3,172
4x1/0AWG+4x14AWG	20195590	5DG5652	10.3	18.9	20	75	78	3,150

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Current carrying capacity acc. VDE 0298-4, installed free in air at 30°C ambient temperature

CABLE PROPERTIES ELECTRICAL / MECHANICAL

Basic construction	SAP code	External code	Max. tensile strength [N]	Bending radius moving (min) [mm]	Conductor resistance at 20° C [Ohm/km]	Current carrying capacity [A]
4x1,5	20003476	5DG5711	90	19	13.3	24
4x2,5	20003487	5DG5721	150	22	7.98	32
4x4	20003498	5DG5731	240	36	4.95	43
4x6	20003503	5DG5741	360	38	3.3	56
4x10	20003509	5DG5765	600	44	1.91	78
4x16	20003511	5DG5766	960	65	1.21	104
4x25	20003513	5DG5767	1,500	72	0.78	138
4x35	20003515	5DG5768	2,100	84	0.554	170
4x50	20003517	5DG5770	3,000	95	0.386	212
4x70	20003519	5DG5771	4,200	107	0.272	263
4x95	20003521	5DG5772	5,700	121	0.206	316
4x120	20230956	5DG5773	7,200	136	0.161	370
5x1,5	20230952	5DG5712	113	18	13.3	24
5x2,5	20230955	5DG5722	188	22	7.98	32
5x4	20230957	5DG5732	300	36	4.95	43
5x6	20003505	5DG5742	450	38	3.3	56
5x10	20230958	5DG5687	750	45	1.91	78
5x16	20003523	5DG5776	1,200	64	1.21	104
7x1,5	20230953	5DG5714	158	18	13.3	24
7x2,5	20003490	5DG5724	263	22	7.98	32
7x4	20003501	5DG5734	420	36	4.95	43
7x6	20003507	5DG5744	630	38	3.3	56
7x10	20230959	5DG5865	1,050	45	1.91	78
7x25	20070764	5DG5876	2,625	78	0.78	138
7x25	20217079	5DG5868	3,675	87	0.554	170
8x1,5	20003480	5DG5715	180	18	13.3	24
8x2,5	20003492	5DG5725	300	22	7.98	32
10x1,5	20230954	5DG5717	225	20	13.3	24
12x1,5	20003483	5DG5718	270	20	13.3	24
12x2,5	20003494	5DG5728	450	24	7.98	32
24x1,5	20003485	5DG5720	540	62	13.3	24
24x2,5	20003496	5DG5730	900	78	7.98	32
42x1,5	20003470	5DG5653	945	81	13.3	24

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Basic construction	SAP code	External code	Max. tensile strength [N]	Bending radius moving (min) [mm]	Conductor resistance at 20° C [Ohm/km]	Current carrying capacity [A]
4x1,5(C)	20155763	5DG5880	90	22	13.3	24
4x4(C)	20165665	5DG5484	240	41	4.95	43
4x6(C)	20216849	5DG5485	360	44	3.3	56
4x10(C)	20165666	5DG5486	600	67	1.91	78
4x16(C)	20181525	5DG5487	960	72	1.21	104
4x25(C)	20196727	5DG5488	1,500	84	0.78	138
4x35(C)	20218360	5DG5489	2,100	95	0.554	170
4x50(C)	20181765	5DG5490	3,000	108	0.386	212
4x70(C)	20228007	5DG5491	4,200	120	0.272	263
4x95(C)	20181526	5DG5492	5,700	136	0.206	316
8x1,5(C)	20003526	5DG5884	180	22	13.3	24
12x1(C)	20003474	5DG5670	180	21	19.5	19
12x1,5(C)	20003527	5DG5888	270	24	13.3	24
4x(2x1)C	20003528	5DG5890	120	45	19.5	19
6x(2x2,5)C	20054902	5DG5898	450	76	7.98	32
7x(2x1)C	20003529	5DG5893	210	45	19.5	19
7x(3x1)	20037062	5DG5483	315	41	19.5	19
4x(2x16AWG)C	20003473	5DG5665	156	59	13.3	23
8x12AWG	20003469	5DG5554	396	44	4.95	40
12x12AWG	20003471	5DG5657	596	44	4.95	40
4x1/0AWG	20003468	5DG5510	3,210	100	0.986	232
4x1/0AWG+4x14AWG	20195590	5DG5652	596	100	0.986	262

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