



## CORDAFLEX (K) - AWG

Portable reel and festoon cable - EP insulation,  
dual black Neoprene jacket with braid  
reinforcement, 90°C, 600 volt

ENERGY



## Technical Data

	Type	CORDAFLEX (K) AWG
	Type designation	NSHTOEU -J/-O
	Approvals	UL file E 113313; DIN VDE 0250 part 814; MSHA P-189-1
	Application	Flexible power and control cable, for use on festoon systems and for connecting movable parts of machine tools, material handling equipment, etc., associated with high mechanical stresses and frequent bending during operation. e.g.: <ul style="list-style-type: none"> <li>- Container crane festoons</li> <li>- Timber crane festoons</li> <li>- Grab-type ship-unloading gantry festoons</li> <li>- Plow feeder reels and festoons</li> <li>- Refuse crane festoons</li> <li>- Stacker/reclaimer reels</li> <li>- Shiploader reels</li> <li>- Car dumper reels and festoons</li> <li>- Tripper reels and festoons</li> <li>- Steel mill crane festoons</li> <li>- etc.</li> </ul>
<b>Electrical parameters</b>	Rated voltage	600 Volts
	Maximum permissible operating voltage in AC systems	1200 V
	Maximum permissible operating voltage in DC systems	1800 V
	AC test voltage	
	- Power cores - Control cores	3.5 kV, 5 min 2.5 kV, 5 min
	Current-carrying capacity	According to DIN VDE 0298, Part 4
<b>Thermal parameters</b>	Ambient temperature	
	- Fully flexible operation - Fixed installation	-35°C to +80°C -50°C to +80°C
	Maximum permissible operating temperature of the conductor	90°C
	Short-circuit temperature of the conductor	250°C

## Technical Data

<b>Mechanical parameters</b>	Tensile load	Up to 20 N/mm <sup>2</sup>
	Torsional stresses	+/- 25°/m
	Minimum bending radii	According to DIN VDE 0298, Part 3
	Minimum distance with S-type directional changes	20xD
	Travel speed	
	- Reeling - Festoon	up to 120m/min Up to 240 m/min It is recommended to consult the manufacturer for speeds beyond 240m/min
Additional tests	Bending test	
<b>Chemical parameters</b>	Resistance to oil	DIN VDE 0473, Part 811-2-1, Para. 10
	Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone, UV and moisture



**Design features**

Type	CORDAFLEX (K) AWG
Conductor	tinned copper, finely stranded, class FS
Insulation	PROTOLON compound based on EPR (at least 3GI3)
Shield for individually shielded cores and twisted and shielded pairs	Braid screen made of tinned copper wires, transfer impedance optimized at 30 MHz. Surface covered: at least 60%: for individually shielded cores, at least 80%: for twisted and shielded pairs
Core identification	Best identification as a result of light colored insulation with numbers printed in black for power and control cables, earth conductor green/ yellow
Core arrangement	Laid-up in a maximum of 3 layers
Inner sheath	Basic material PCP Rubber compound 5GM3 Color: black
Anti Torsion Braid	Reinforced braid made of polyester threads, in a vulcanized bond between the sheath
Outer sheath	compound based on PCP ( 5GM3) Color: black
Marking	E113313 600V 90°C (UL) CORDAFLEX (K) (cross section)x(number of cores) OUTDOOR P-189-1-MSHA Germany
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Features	Benefits
Extra finely stranded tin coated copper conductors with a short length of lay	- Highly flexible long life conductor assembly
PROTOLON EP insulation	- Highly resistant to ozone
Very finely stranded tin coated copper braid on shielded constructions	- Very high shield coverage (approx. 90%)
Lubricated conductor assembly	- Provides a free riding conductor assembly that is easily flexed
Heavy duty double extruded black Neoprene jacket	- Superior low temperature sub-zero performance Highly resistant to oil, flame, etc.
Wide mesh textile braid reinforcement in a vulcanized bond	- Provides high torsion resistance
Good conductor geometry	- Less spare conductors required Promotes long conductor life
Metric sizes available	- International jobs
Control cable range includes individually shielded conductors or twisted shielded pairs	- Good data transmission performance High durability under constant flexing conditions Optimal operational performance
Design exceeds NSHTöU construction requirements specified in VDE 0250	

**Selection and ordering data**

Ordering Part No.	Prysmian Part No.	Number of Conductors	Conductor Size AWG	max. OD Inch -- mm	Cable weight Lbs/1000 ft -- kg/km	Max. Continuous Safe Tension lbs -- Newton
<b>CORDAFLEX (K) Control Cable - #16 AWG</b>						
4EC-1604	5DH3 503	4	#16	0.587-- 14.9	175 -- 261	25 -- 110
4EC-1605	5DH3 513	5	#16	0.602 -- 15.3	198 -- 295	30 -- 130
4EC-1607	5DH3 541	7	#16	0.772 -- 19.6	316 -- 470	40 -- 185
4EC-1609	5DH3 410	9	#16	0.819 -- 20.8	370 -- 550	50 -- 220
4EC-1612	5DH3 542	12	#16	0.862 -- 21.9	413 -- 615	70 -- 315
4EC-1616	5DH3 548	16	#16	0.969 -- 24.6	534 -- 795	90 -- 420
4EC-1620	5DH3 540	20	#16	1.039 -- 26.4	632 -- 940	120 -- 525
4EC-1624	5DH3 544	24	#16	1.165 -- 29.6	753 -- 1120	140 -- 630
4EC-1630	5DH3 546	30	#16	1.244 -- 31.6	874 -- 1300	180 -- 790
4EC-1636	5DH3 545	36	#16	1.291 -- 32.8	974 -- 1450	210 -- 945
4EC-1644	5DH3 547	44	#16	1.508 -- 38.3	1297 -- 1930	260 -- 1150
4EC-1654	5DH3 551	54	#16	1.555 -- 39.5	1510 -- 2250	320 -- 1415
<b>CORDAFLEX (K) Control Cable - #14 AWG</b>						
4EC-1404	5DH3 502	4	#14	0.646 -- 16.4	215 -- 320	40 -- 165
4EC-1407	5DH3 531	7	#14	0.846 -- 21.5	403 -- 600	65 -- 290
4EC-1409	5DH3 411	9	#14	0.941 -- 23.9	517 -- 770	85 -- 375
4EC-1412	5DH3 532	12	#14	0.980 -- 24.9	564 -- 840	110 -- 500
4EC-1416	5DH3 538	16	#14	1.059 -- 26.9	652 -- 971	150 -- 665
4EC-1420	5DH3 530	20	#14	1.197 -- 30.4	853 -- 1270	190 -- 830
4EC-1424	5DH3 534	24	#14	1.339 -- 34.0	1048 -- 1560	220 -- 1000
4EC-1430	5DH3 536	30	#14	1.386 -- 35.2	1163 -- 1730	280 -- 1250
4EC-1436	5DH3 535	36	#14	1.500 -- 38.1	1398 -- 2080	340 -- 1500
4EC-1444	5DH3 537	44	#14	1.655 -- 42.0	1835 -- 2730	410 -- 1830
4EC-1454	5DH3 550	54	#14	1.810 -- 46.0	2265 -- 3370	505 -- 2245
<b>CORDAFLEX (K) Control Cable - #12 AWG</b>						
4EC-1203	5DH3 511	3	#12	0.634 -- 16.1	217 -- 323	45 -- 200
4EC-1204	5DH3 501	4	#12	0.760 -- 19.3	306 -- 455	60 -- 265
4EC-1207	5DH3 521	7	#12	0.972 -- 24.7	558 -- 830	100 -- 465
4EC-1209	5DH3 412	9	#12	1.11 -- 28.2	706 -- 1050	135 -- 600
4EC-1212	5DH3 522	12	#12	1.11 -- 28.2	753 -- 1120	180 -- 795
4EC-1216	5DH3 528	16	#12	1.268 -- 32.2	981 -- 1460	240 -- 1060
4EC-1218	5DH3 523	18	#12	1.315 -- 33.4	1089 -- 1620	271 -- 1192
4EC-1220	5DH3 520	20	#12	1.346 -- 34.2	1163 -- 1730	300 -- 1325
4EC-1224	5DH3 524	24	#12	1.555 -- 39.5	1498 -- 2230	360 -- 1590
4EC-1230	5DH3 526	30	#12	1.61 -- 40.9	1666 -- 2480	450 -- 1985
4EC-1236	5DH3 525	36	#12	1.74 -- 44.2	2002 -- 2980	535 -- 2385
4EC-1244	5DH3 527	44	#12	1.929 -- 49.0	2426 -- 3610	655 -- 2910
4EC-1254	5DH3 552	54	#12	2.24 -- 56.9	3205 -- 4770	805 -- 3575
<b>CORDAFLEX (K) Control Cable - #10 AWG</b>						
4EC-1003	5DH3 430	3	#10	0.750 -- 19.0	343 -- 510	70 -- 310
4EC-1004	5DH3 440	4	#10	0.874 -- 22.2	427 -- 635	95 -- 420
4EC-1007	5DH3 457	7	#10	1.065 -- 27.0	793 -- 1180	165 -- 735
4EC-1009	5DH3 413	9	#10	1.346 -- 34.2	1082 -- 1610	215 -- 960
4EC-1012	5DH3 558	12	#10	1.343 -- 34.1	1149 -- 1710	285 -- 1270

**Selection and ordering data**

Ordering Part No.	Prysmian Part No.	Number of Conductors	Conductor Size AWG	max. OD Inch -- mm	Cable weight Lbs/1000 ft -- kg/km	Max. Continuous Safe Tension lbs -- Newton
<b>CORDAFLEX (K) Control Cable with Twisted Shielded Pairs (TSP = #16 AWG)</b>						
4EC-1603SP	5DH3 606	3	#16	1.02 -- 25.9	484 -- 720	35 -- 160
4EC-1606SP	5DH3 605	6	#16	1.291 -- 32.8	914 -- 1360	70 -- 315
4EC-1609SP	5DH3 607	9	#16	1.701 -- 43.2	1478 -- 2200	105 -- 470
<b>CORDAFLEX (K) Control Cable with Individually Shielded Pairs (IS = #16 AWG)</b>						
4EC-1604IS	5DH3 637	4	#16	0.638 -- 16.2	208 -- 310	20 -- 105
4EC-1612IS	5DH3 641	12	#16	1.0 -- 25.4	601 -- 895	70 -- 310
4EC-1630IS	5DH3 643	30	#16	1.496 -- 38	1337 -- 1990	180 -- 790
<b>CORDAFLEX (K) Composite Cable with Control Conductors (#12 AWG) and Twisted Shielded Pairs (TSP = #16 AWG)</b>						
4EC-1215-16-04SP	5DH3 602	15 + (4 TSP)	#12 + (#16)	1.488 -- 37.8	1418 -- 2110	270 -- 1200
4EC-1215-16-07SP	5DH3 603	19 + (7 TSP)	#12 + (#16)	1.870 -- 47.5	2097 -- 3120	380 -- 1690
4EC-1223-16-12SP	5DH3 604	23 + (12 TSP)	#12 + (#16)	2.102 -- 53.4	2648 -- 3940	500 -- 2220
4EC-1234-16-03SP	5DH3 618	34 + (3 TSP)	#12 + (#16)	1.894 -- 48.1	2197 -- 3270	570 -- 2540
<b>CORDAFLEX (K) Composite Cable with Control Conductors (#14 AWG) and Individually Shielded Conductors (IS = #16 AWG)</b>						
4EC-1419-16-05IS	5DH3 860	19 + (5 IS)	#14 + (#16)	1.35 -- 34.3	1075 -- 1600	240 -- 1050
4EC-1412-16-12IS	5DH3 815	12 + (12 IS)	#14 + (#16)	1.319 -- 33.5	1028 -- 1530	190 -- 840
4EC-1418-16-18IS	5DH3 891	18 + (18 IS)	#14 + (#16)	1.567 -- 39.8	1451 -- 2160	280 -- 1260
4EC-1424-16-20IS	5DH3 892	24 + (20 IS)	#14 + (#16)	1.752 -- 44.5	1801 -- 2680	360 -- 1600
4EC-1430-16-06IS	5DH3 700	30 + (6 IS)	#14 + (#16)	1.555 -- 39.5	1485 -- 2210	280 -- 1260
<b>CORDAFLEX (K) Power Cable - #12 AWG</b>						
4EC-1203	5DH3 511	3	#12	0.634 -- 16.1	217 -- 323	45 -- 200
4EC-1204	5DH3 501	4	#12	0.76 -- 19.3	306 -- 455	60 -- 265
<b>CORDAFLEX (K) Power Cable - #10 AWG</b>						
4EC-1003	5DH3 430	3	#10	0.750 -- 19.0	343 -- 510	70 -- 310
4EC-1004	5DH3 440	4	#10	0.874 -- 22.2	427 -- 635	95 -- 420
4EC-1005	5DH3 446	5	#10	1.843 -- 46.8	2540 -- 3780	120 -- 526
<b>CORDAFLEX (K) Power Cable - #8 AWG</b>						
4EC-0803	5DH3 431	3	#8	0.894 -- 22.7	450 -- 670	115 -- 510
4EC-0804	5DH3 441	4	#8	1,028 -- 26.1	618 -- 920	150 -- 670
<b>CORDAFLEX (K) Power Cable - #6 AWG</b>						
4EC-0603	5DH3 432	3	#6	0.985 -- 25.0	635 -- 945	180 -- 800
4EC-0604	5DH3 442	4	#6	1.154 -- 29.3	806 -- 1200	240 -- 1060
<b>CORDAFLEX (K) Power Cable - #4 AWG</b>						
4EC-0403	5DH3 433	3	#4	1.22 -- 31.0	927 -- 1380	285 -- 1270
4EC-0404	5DH3 443	4	#4	1.362 -- 34.6	1142 -- 1700	380 -- 1690



**Selection and ordering data**

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<b>CORDAFLEX (K) Power Cable -#2 AWG</b>						
4EC-0204	5DH3 444	4	#2	1.547 -- 39.3	1714 -- 2550	605 -- 2690
4EC-0205	5DH3 449	5	#2	1.74 -- 44.2	2170 -- 3230	761 -- 3350
<b>CORDAFLEX (K) Power Cable -#1 AWG</b>						
4EC-0104	5DH3 445	4	#1	1.768 -- 44.9	2251 -- 3350	760 -- 3390
<b>CORDAFLEX (K) Power Cable -#1/0 AWG</b>						
4EC-1014	5DH3 446	4	#1/0	1.843 -- 46.8	2450 -- 3780	969 -- 4262
<b>CORDAFLEX (K) Power Cable - Single Core</b>						
-	5DH3 404	1	4/0	1.083 -- 27.5	1028 -- 1530	485 -- 2136
-	5DH3 406	1	2/0	0.933 -- 23.7	719 -- 1070	305 -- 1344
-	5DH3 407	1	1/0	0.839 -- 21.3	571 -- 850	242 -- 1066
<b>CORDAFLEX (K)-C Power Cable with overall screen and Ground Conductor (GR)</b>						
-	5DH3 425	3 + (3GR )	#1 + (#8)	1.638 -- 41.6	2211 -- 3290	576 -- 2536
-	5DH3 426	3 + (3GR)	#2 + (#10)	1.449 -- 36.8	1781 -- 2650	457 -- 2010
-	5DH3 428	3 + (3GR)	#6 + (#10)	1.256 -- 31.9	1055 -- 1570	181 -- 795
-	5DH3 427	3 + (3GR)	#8 + (#12)	1.071 -- 27.2	779 -- 1160	114 -- 500
-	5DH3 437	3 + (3GR)	#10 + (#12)	0.953 -- 24.2	591 -- 880	71 -- 314