

FlexFlame BFOU(c) 150/250(300)V S4/S8 Instr. cable



Fire resistant, flame retardant halogen-free instrumentation cable. Mud resistant

BFOU(c) 150/250(300)V

MGT/EPR/EPR/TCWB/EVA

NEK TS 606 CodeS4/S8

Operating temperature : 90°C
Operating Voltage : 150/250(300)V

Standards applied

Application

Fixed installation for instrumentation, communication, control and alarm systems in both EX (Zone 0, 1 & 2)- and safe areas, emergency and critical systems where requirement for fire resistance exists. Meets the mud resistant requirements in NEK TS 606:2009.

IEC 60092-376 (2003-05)	- Design
IEC 60228 class 2	- Conductor
IEC 60092-360	- Insulation
IEC 60092-360	- Sheath
IEC 60332-1-2	- Flame Retardant
IEC 60332-3-22	- Flame Retardant
IEC 60331-1, -2, -21	- Fire Resistant
IEC 60754-1,2	- Halogen Free
IEC 61034-1,2	- Low Smoke

Construction

	Code Letter	
Conductor		Tinned annealed stranded circular copper (STCC), IEC 60228 class 2
Insulation	B	Mica-tape + EP-rubber, IEC 60092-360 (EPR)
Pair / Triple / Quad twisting		Color coded cores twisted together and wrapped with polyester tape. Pairs/Triples are laid up collectively and screened by copper backed polyester tape with tinned copper drain wire. Pairs/triples are identified by numbered tape or by numbers printed directly on the insulated conductors.
Inner covering	F	Flame retardant and halogen-free thermoplastic compound
Tape over inner covering		PET tape
Armour/screen	O	Tinned annealed copper wire braid
Tape over armour/screen		PET tape
Outer sheath	U	Flame retardant, halogen-free and mud resistant thermoset compound, SHF2 (IEC 60092-360)
Marking text		Eg. "meter" "year" DRAKA 01 BFOU(c) 250V S4/S8 4 PAIR 0,75 mm ² FLEX - FLAME IEC 60092-376 IEC 60331-1*) or IEC 60331-2*) IEC 60331-21**) IEC 60332-3-22
Manufacturing unit		DRAKA 01 = Draka Norsk Kabel
Outer sheath colour		Grey or Blue

*) IEC 60331-1 for cables with an overall diameter exceeding 20 mm and IEC 60331-2 for cables with an overall diameter not exceeding 20 mm

**) IEC 60331-21 also at enhanced temperature 1000°C for 180 minutes

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Core identification instrumentation cables

Pair - Black - Light Blue

Triple - Black - Light Blue - Brown

Quad - Black - Light Blue - Brown - Grey

Range and dimensions

Number of elements	No of cores in element	Cross section core, mm ²	Conductor Diameter, mm	Insulation Thickness, mm	Thickness Inner covering, mm	Diameter inner covering, mm	Diameter Braid Wire, mm	Mechanical cross-section of the braid, mm ²	Thickness Outer Sheath, mm	Diameter outer sheath, mm	Weight of Cable Approx. (Kg/Km)	Copper content Approx. (kg/km)
2	2	0.75	1.1	0.6	1.1	10.5 ± 0.8	0.3	8.5	1.3	14.5 ± 0.8	340	113
2	2	0.75	1.1	0.6	1.1	10.5 ± 0.8	0.3	8.5	1.3	14.5 ± 0.8	340	113
4	2	0.75	1.1	0.6	1.1	12.5 ± 0.8	0.3	10.2	1.4	16 ± 0.8	440	155
4	2	0.75	1.1	0.6	1.1	12.5 ± 0.8	0.3	10.2	1.4	16 ± 0.8	440	155
8	2	0.75	1.1	0.6	1.1	16.5 ± 0.8	0.3	13.6	1.5	20.5 ± 1	680	240
8	2	0.75	1.1	0.6	1.1	16.5 ± 0.8	0.3	13.6	1.5	20.5 ± 1	680	240
12	2	0.75	1.1	0.6	1.4	19.5 ± 0.8	0.3	15.3	1.6	24 ± 1	910	307
12	2	0.75	1.1	0.6	1.4	19.5 ± 0.8	0.3	15.3	1.6	24 ± 1	910	307
16	2	0.75	1.1	0.6	1.9	22 ± 1	0.3	17.8	1.7	26.5 ± 1	1180	383
16	2	0.75	1.1	0.6	1.9	22 ± 1	0.3	17.8	1.7	26.5 ± 1	1180	383
19	2	0.75	1.1	0.6	1.9	23 ± 1	0.3	20.4	1.8	28 ± 1	1330	447
24	2	0.75	1.1	0.6	2.3	27.5 ± 1	0.3	22.9	2	32.5 ± 1.5	1700	536
24	2	0.75	1.1	0.6	2.3	27.5 ± 1	0.3	22.9	2	32.5 ± 1.5	1700	536
2	3	0.75	1.1	0.6	1.1	12 ± 0.8	0.3	10.2	1.3	15.5 ± 0.8	400	142
2	3	0.75	1.1	0.6	1.1	12 ± 0.8	0.3	10.2	1.3	15.5 ± 0.8	400	142
4	3	0.75	1.1	0.6	1.1	14 ± 0.8	0.3	11.9	1.4	18 ± 0.8	540	197
4	3	0.75	1.1	0.6	1.1	14 ± 0.8	0.3	11.9	1.4	18 ± 0.8	540	197
8	3	0.75	1.1	0.6	1.1	18.5 ± 0.8	0.3	15.3	1.6	23 ± 1	870	308
8	3	0.75	1.1	0.6	1.1	18.5 ± 0.8	0.3	15.3	1.6	23 ± 1	870	308
12	3	0.75	1.1	0.6	1.4	22 ± 1	0.3	17.8	1.8	27 ± 1	1180	410
12	3	0.75	1.1	0.6	1.4	22 ± 1	0.3	17.8	1.8	27 ± 1	1180	410
16	3	0.75	1.1	0.6	2.1	25.5 ± 1	0.3	20.4	1.9	30.5 ± 1.5	1580	513
16	3	0.75	1.1	0.6	2.1	25.5 ± 1	0.3	20.4	1.9	30.5 ± 1.5	1580	513
24	3	0.75	1.1	0.6	2.5	31.5 ± 1.5	0.4	36.2	2.1	37 ± 1.5	2350	820
2	2	1.5	1.6	0.7	1.1	13 ± 0.8	0.3	10.2	1.4	16.5 ± 0.8	440	162
2	2	1.5	1.6	0.7	1.1	13 ± 0.8	0.3	10.2	1.4	16.5 ± 0.8	440	162
4	2	1.5	1.6	0.7	1.1	15 ± 0.8	0.3	11.9	1.4	19 ± 0.8	600	234
4	2	1.5	1.6	0.7	1.1	15 ± 0.8	0.3	11.9	1.4	19 ± 0.8	600	234
8	2	1.5	1.6	0.7	1.1	20 ± 1	0.3	17.8	1.7	24.5 ± 1	990	404
8	2	1.5	1.6	0.7	1.1	20 ± 1	0.3	17.8	1.7	24.5 ± 1	990	404
12	2	1.5	1.6	0.7	1.4	24 ± 1	0.3	20.4	1.8	28.5 ± 1	1350	540
12	2	1.5	1.6	0.7	1.4	24 ± 1	0.3	20.4	1.8	28.5 ± 1	1350	540
16	2	1.5	1.6	0.7	1.9	27 ± 1	0.3	22.9	1.9	31.5 ± 1.5	1750	677
16	2	1.5	1.6	0.7	1.9	27 ± 1	0.3	22.9	1.9	31.5 ± 1.5	1750	677

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Number of elements	No of cores in element	Cross section core, mm ²	Conductor Diameter, mm	Insulation Thickness, mm	Thickness Inner covering, mm	Diameter inner covering, mm	Diameter Braid Wire, mm	Mechanical cross-section of the braid, mm ²	Thickness Outer Sheath, mm	Diameter outer sheath, mm	Weight of Cable Approx. (Kg/Km)	Copper content Approx. (kg/km)
										1.5		
24	2	1.5	1.6	0.7	2.3	33.5 ± 1.5	0.4	36.2	2.2	39.5 ± 1.5	2620	1030
24	2	1.5	1.6	0.7	2.3	33.5 ± 1.5	0.4	36.2	2.2	39.5 ± 1.5	2620	1030
2	3	1.5	1.6	0.7	1.1	14.5 ± 0.8	0.3	11.9	1.4	18.5 ± 0.8	540	207
2	3	1.5	1.6	0.7	1.1	14.5 ± 0.8	0.3	11.9	1.4	18.5 ± 0.8	540	207
4	3	1.5	1.6	0.7	1.1	17 ± 0.8	0.3	13.6	1.5	21 ± 1	760	307
4	3	1.5	1.6	0.7	1.1	17 ± 0.8	0.3	13.6	1.5	21 ± 1	760	307
8	3	1.5	1.6	0.7	1.1	22.5 ± 1	0.3	17.8	1.8	27 ± 1	1270	516
8	3	1.5	1.6	0.7	1.1	22.5 ± 1	0.3	17.8	1.8	27 ± 1	1270	516
12	3	1.5	1.6	0.7	1.4	27 ± 1	0.3	22.9	1.9	32 ± 1.5	1750	734
12	3	1.5	1.6	0.7	1.4	27 ± 1	0.3	22.9	1.9	32 ± 1.5	1750	734
16	3	1.5	1.6	0.7	2.3	31.5 ± 1.5	0.4	36.2	2.1	37 ± 1.5	2540	1032
16	3	1.5	1.6	0.7	2.3	31.5 ± 1.5	0.4	36.2	2.1	37 ± 1.5	2540	1032
24	3	1.5	1.6	0.7	2.7	38.5 ± 1.5	0.4	40.7	2.4	45 ± 2	3580	1417
2	2	2.5	2	0.7	1.1	14 ± 0.8	0.3	11.9	1.4	18 ± 0.8	530	217
4	2	2.5	2	0.7	1.1	16.5 ± 0.8	0.3	13.6	1.5	20.5 ± 1	740	325
8	2	2.5	2	0.7	1.1	22 ± 1	0.3	17.8	1.8	27 ± 1	1230	551
12	2	2.5	2	0.7	2.1	28 ± 1	0.3	22.9	1.9	32.5 ± 1.5	1860	784
16	2	2.5	2	0.9	2.3	33 ± 1.5	0.4	31.7	2.1	39 ± 1.5	2600	1054
24	2	2.5	2	0.9	2.7	41 ± 2	0.4	40.7	2.4	47.5 ± 2	3780	1511
4	3	2.5	2	0.7	1.1	18.5 ± 0.8	0.3	15.3	1.6	23 ± 1	950	435
8	3	2.5	2	0.7	1.1	25 ± 1	0.3	20.4	1.9	30 ± 1.5	1620	761
16	3	2.5	2	0.9	2.6	38.5 ± 1.5	0.4	36.2	2.3	44.5 ± 2	3570	1473

Electrical values instrumentation cables

Type	Capacitance, approx. (nF/km)	Inductance, approx. (mH/km)	Resistance at 20°C, max. (Ohm/km)	L/R ratio, (microH/Ohm)
Unshielded pair 0,75 mm ²	100	0,67	26,3	12,7
Unshielded triple 0,75 mm ²	100	0,67	26,3	12,7
Unshielded pair 1,5 mm ²	110	0,63	12,9	24,4
Unshielded triple 1,5 mm ²	110	0,63	12,9	24,4
Unshielded pair 2,5 mm ²	125	0,59	8,02	36,8
Unshielded triple 2,5 mm ²	125	0,59	8,02	36,8
Unshielded 16 and 24 pair 2,5 mm ²	95	0,66	8,02	41,1
Unshielded 16 triple 2,5 mm ²	95	0,66	8,02	41,1

Ordering information

New Part number	Old Part number	Description	Sheath Colour	Stock item	EAN No. DNK	EL No.
20110651		BFOU(C) 2PAIR 0.75mm ² S4/S8	GREY	Yes	7021528938067	1043821
20110652		BFOU(C) 2PAIR 0.75mm ² S4/S8	BLUE	Yes	7021528938074	1043822
20110653		BFOU(C) 4PAIR 0.75mm ² S4/S8	GREY	Yes	7021528938180	1043823
20110654		BFOU(C) 4PAIR 0.75mm ² S4/S8	BLUE	Yes	7021528938197	1043824
20110655		BFOU(C) 8PAIR 0.75mm ² S4/S8	GREY	Yes	7021528938302	1043828
20110656		BFOU(C) 8PAIR 0.75mm ² S4/S8	BLUE	Yes	7021528938319	1043829

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New Part number	Old Part number	Description	Sheath Colour	Stock item	EAN No. DNK	EL No.
20110657		BFOU(C) 12PAIR 0.75mm ² S4/S8	GREY	Yes	7021528938364	1043830
20110658		BFOU(C) 12PAIR 0.75mm ² S4/S8	BLUE	-	7021528938371	1043831
20110659		BFOU(C) 16PAIR 0.75mm ² S4/S8	GREY	Yes	7021528938425	1043833
20110660		BFOU(C) 16PAIR 0.75mm ² S4/S8	BLUE	-	7021528938432	1043834
	893845	BFOU(C) 19PAIR 0.75mm ² S4/S8	GREY	-	7021528938456	-
20109505		BFOU(C) 24PAIR 0.75mm ² S4/S8	GREY	Yes	7021528938487	1043836
20118235		BFOU(C) 24PAIR 0.75mm ² S4/S8	BLUE	-	7021528938494	1043837
20110661		BFOU(C) 2TRIP 0.75mm ² S4/S8	GREY	-	7021528938661	1043921
	893867	BFOU(C) 2TRIP 0.75mm ² S4/S8	BLUE	-	7021528938678	1043922
20110662		BFOU(C) 4TRIP 0.75mm ² S4/S8	GREY	-	7021528938784	1043924
20118161		BFOU(C) 4TRIP 0.75mm ² S4/S8	BLUE	-	7021528938791	1043925
20110663		BFOU(C) 8TRIP 0.75mm ² S4/S8	GREY	-	7021528938906	1043928
20113359		BFOU(C) 8TRIP 0.75mm ² S4/S8	BLUE	Yes	7021528938913	1043929
20110664		BFOU(C) 12TRIP 0.75mm ² S4/S8	GREY	-	7021528938968	1043930
	893897	BFOU(C) 12TRIP 0.75mm ² S4/S8	BLUE	-	7021528938975	1043931
20110665		BFOU(C) 16TRIP 0.75mm ² S4/S8	GREY	-	7021528939026	1043933
	893903	BFOU(C) 16TRIP 0.75mm ² S4/S8	BLUE	-	7021528939033	1043934
	893908	BFOU(C) 24TRIP 0.75mm ² S4/S8	GREY	-	7021528939088	1043936
20110666		BFOU(C) 2PAIR 1.5mm ² S4/S8	GREY	Yes	7021528940060	1043862
20110667		BFOU(C) 2PAIR 1.5mm ² S4/S8	BLUE	-	7021528940077	1043861
20110668		BFOU(C) 4PAIR 1.5mm ² S4/S8	GREY	Yes	7021528940183	1043863
20110669		BFOU(C) 4PAIR 1.5mm ² S4/S8	BLUE	-	7021528940190	1043864
20110670		BFOU(C) 8PAIR 1.5mm ² S4/S8	GREY	Yes	7021528940305	1043868
20110671		BFOU(C) 8PAIR 1.5mm ² S4/S8	BLUE	-	7021528940312	1043869
20110672		BFOU(C) 12PAIR 1.5mm ² S4/S8	GREY	Yes	7021528940367	1043870
20110673		BFOU(C) 12PAIR 1.5mm ² S4/S8	BLUE	-	7021528940374	1043871
20109506		BFOU(C) 16PAIR 1.5mm ² S4/S8	GREY	Yes	7021528940428	1043873
20109507		BFOU(C) 16PAIR 1.5mm ² S4/S8	BLUE	-	7021528940435	1043874
20109508		BFOU(C) 24PAIR 1.5mm ² S4/S8	GREY	Yes	7021528940480	1043876
20109509		BFOU(C) 24PAIR 1.5mm ² S4/S8	BLUE	-	7021528940497	1043877
20110775		BFOU(C) 2TRIP 1.5mm ² S4/S8	GREY	-	7021528940664	1043971
	894067	BFOU(C) 2TRIP 1.5mm ² S4/S8	BLUE	-	7021528940671	1043972
20110674		BFOU(C) 4TRIP 1.5mm ² S4/S8	GREY	-	7021528940787	1043973
	894079	BFOU(C) 4TRIP 1.5mm ² S4/S8	BLUE	-	7021528940794	1043974
20110675		BFOU(C) 8TRIP 1.5mm ² S4/S8	GREY	Yes	7021528940909	1043977
	894091	BFOU(C) 8TRIP 1.5mm ² S4/S8	BLUE	-	7021528940916	1043978
20109510		BFOU(C) 12TRIP 1.5mm ² S4/S8	GREY	-	7021528940961	1043979
	894097	BFOU(C) 12TRIP 1.5mm ² S4/S8	BLUE	-	7021528940978	-
20109511		BFOU(C) 16TRIP 1.5mm ² S4/S8	GREY	Yes	7021528941029	1043981
	894103	BFOU(C) 16TRIP 1.5mm ² S4/S8	BLUE	-	7021528941036	1043982
20110776		BFOU(C) 24TRIP 1.5mm ² S4/S8	GREY	-	7021528941081	1043987
20110676		BFOU(C) 2PAIR 2.5mm ² S4/S8	GREY	-	7021528942064	-
20110677		BFOU(C) 4PAIR 2.5mm ² S4/S8	GREY	-	7021528942187	-
20110678		BFOU(C) 8PAIR 2.5mm ² S4/S8	GREY	-	7021528942309	-
	894231	BFOU(C) 8PAIR 2.5mm ² S4/S8	BLUE	-	7021528942316	-
20122326		BFOU(C) 12PAIR 2.5mm ² S4/S8	GREY	-	7021528942361	-
20110777		BFOU(C) 16PAIR 2.5mm ² S4/S8	GREY	-	7021528942422	-
	894248	BFOU(C) 24PAIR 2.5mm ² S4/S8	GREY	-	7021528942484	-
	894278	BFOU(C) 4TRIP 2.5mm ² S4/S8	GREY	-	7021528942781	-
	894290	BFOU(C) 8TRIP 2.5mm ² S4/S8	GREY	-	7021528942903	-
	894302	BFOU(C) 16TRIP 2.5mm ² S4/S8	GREY	-	7021528943023	-

Installation recommendations

Minimum Bending Radius during Installation	Minimum Bending Radius Fixed Installed	Maximum Tensile Load During Installation	Minimum Installation Temperature
8 x D	6 x D	50 N/mm ²	-20°C

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Draka Norsk Kabel AS

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