

# ARCTIC GRADE Fire resistant, instrumentation cable BFOU(c) 150/250(300)V, S4/S8

Fire resistant, flame retardant halogen-free instrumentation cable. Oil & Mud resistant. Cold bend / Cold impact resistant

## BFOU(c) 150/250(300)V MGT/EPR/EPR/TCWB/EVA

NEK TS 606 CodeS4/S8 Arctic Grade

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



### Application

Fixed installation for instrumentation, communication, control and alarm systems in both EX- and safe areas, emergency and critical systems where requirement for fire resistance exists. Meets the OIL & MUD resistance requirement in NEK TS 606:2009. Meets the cold bend / cold impact requirement in CSA 22.2 0.3-01 and IEC 60092-350 Clause 8.9 & Annex E at -40°C/-35°C.

### Standards applied

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
CSA 22.2 0.3-01 (-40°C/-35°C) / IEC 60092-350 Annex E (-40°C/-35°C)	- Cold Bend / Cold Impact

### Construction

	Code Letter	
<b>Conductor</b>		Tinned annealed stranded circular copper (STCC), IEC 60228 class 2
<b>Insulation</b>	<b>B</b>	Mica-tape + EP-rubber, IEC 60092-360 (EPR)
<b>Pair / Triple / Quad twisting</b>		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.
<b>Inner covering</b>	<b>F</b>	Flame retardant and halogen-free thermoplastic compound
<b>Tape over inner covering</b>		PET tape
<b>Armour/screen</b>	<b>O</b>	Tinned annealed copper wire braid
<b>Tape over armour/screen</b>		Rubberized Polyamide tape
<b>Outer sheath</b>	<b>U</b>	Flame retardant, halogen-free, mud and cold bend / cold impact resistant thermoset compound, SHF2 (IEC 60092-360)
<b>Marking text</b>		Eg. "meter" "year" DRAKA 01 BFOU(C) 250V S4/S8 4PAIR 0.75mm <sup>2</sup> FLEX - FLAME IEC 60092-376 IEC 60331-1* or IEC 60331-2* IEC 60331-21 IEC 60332-3-22 ARCTIC GRADE Cold bend (-40 deg. C) / Cold impact (-35 deg. C)
<b>Manufacturing unit</b>		DRAKA 01 = Draka Norsk Kabel
<b>Outer sheath colour</b>		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



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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 <sup>2</sup>	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 <sup>2</sup>	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	1.3	16 ± 0.8	440	155
4	2	0.75	1.1	0.6	1.1	12.5 ± 0.8	0.3	10.2	1.3	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
16	2	0.75	1.1	0.6	1.9	22 ± 1	0.3	17.8	1.7	27 ± 1	1180	383
16	2	0.75	1.1	0.6	1.9	22 ± 1	0.3	17.8	1.7	27 ± 1	1180	383
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	16 ± 0.8	400	143
2	3	0.75	1.1	0.6	1.1	12 ± 0.8	0.3	10.2	1.3	16 ± 0.8	400	143
4	3	0.75	1.1	0.6	1.1	14 ± 0.8	0.3	11.9	1.4	18 ± 0.8	550	198
4	3	0.75	1.1	0.6	1.1	14 ± 0.8	0.3	11.9	1.4	18 ± 0.8	550	198
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
16	3	0.75	1.1	0.6	2.1	25.5 ± 1	0.3	20.4	1.8	30.5 ± 1.5	1560	513
16	3	0.75	1.1	0.6	2.1	25.5 ± 1	0.3	20.4	1.8	30.5 ± 1.5	1560	513
24	3	0.75	1.1	0.6	2.5	31.5 ± 1.5	0.4	36.2	2.1	37.5 ± 1.5	2350	822
2	2	1.5	1.6	0.7	1.1	13 ± 0.8	0.3	10.2	1.4	17 ± 0.8	450	162
2	2	1.5	1.6	0.7	1.1	13 ± 0.8	0.3	10.2	1.4	17 ± 0.8	450	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	25 ± 1	990	404
8	2	1.5	1.6	0.7	1.1	20 ± 1	0.3	17.8	1.7	25 ± 1	990	404
12	2	1.5	1.6	0.7	1.4	24 ± 1	0.3	20.4	1.8	29 ± 1	1350	540
16	2	1.5	1.6	0.7	1.9	27 ± 1	0.3	22.9	1.9	32 ± 1.5	1740	677
16	2	1.5	1.6	0.7	1.9	27 ± 1	0.3	22.9	1.9	32 ± 1.5	1740	677
24	2	1.5	1.6	0.7	2.3	33.5 ± 1.5	0.4	36.2	2.2	39.5 ± 1.5	2610	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	2610	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	27.5 ± 1	1270	517
8	3	1.5	1.6	0.7	1.1	22.5 ± 1	0.3	17.8	1.8	27.5 ± 1	1270	517
12	3	1.5	1.6	0.7	1.4	27 ± 1	0.3	22.9	1.9	32.5 ± 1.5	1760	736
16	3	1.5	1.6	0.7	2.3	31.5 ± 1.5	0.4	36.2	2.1	37.5 ± 1.5	2540	1034
16	3	1.5	1.6	0.7	2.3	31.5 ± 1.5	0.4	36.2	2.1	37.5 ± 1.5	2540	1034
24	3	1.5	1.6	0.7	2.7	38.5 ± 1.5	0.4	40.7	2.4	45 ± 2	3560	1421

Number of elements	No of cores in element	Cross section core, mm <sup>2</sup>	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 <sup>2</sup>	Thickness Outer Sheath, mm	Diameter outer sheath, mm	Weight of Cable Approx. (Kg/Km)	Copper content Approx. (kg/km)
						1.5						
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
16	2	2.5	2	0.9	2.3	33 ± 1.5	0.4	31.7	2.1	39 ± 1.5	2590	1054
24	2	2.5	2	0.9	2.7	41 ± 2	0.4	40.7	2.4	47.5 ± 2	3760	1511
8	3	2.5	2	0.7	1.1	25 ± 1	0.3	20.4	1.9	30 ± 1.5	1620	762
16	3	2.5	2	0.9	2.6	38.5 ± 1.5	0.4	36.2	2.3	44.5 ± 2	3550	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 <sup>2</sup>	100	0,67	26,3	12,7
Unshielded triple 0,75 mm <sup>2</sup>	100	0,67	26,3	12,7
Unshielded pair 1,5 mm <sup>2</sup>	110	0,63	12,9	24,4
Unshielded triple 1,5 mm <sup>2</sup>	110	0,63	12,9	24,4
Unshielded pair 2,5 mm <sup>2</sup>	125	0,59	8,02	36,8
Unshielded triple 2,5 mm <sup>2</sup>	125	0,59	8,02	36,8
Unshielded 16 and 24 pair 2,5 mm <sup>2</sup>	95	0,66	8,02	36,8
Unshielded 12, 16 and 24 triple 2,5 mm <sup>2</sup>	95	0,66	8,02	36,8

### Ordering information

New Part number	Old Part number	Description	Sheath Colour	Stock item	EAN No. DNK	EL No.
	813806	BFOU(C) 2PAIR 0.75mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528138061	-
	813807	BFOU(C) 2PAIR 0.75mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528138078	-
	813818	BFOU(C) 4PAIR 0.75mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528138184	-
	813819	BFOU(C) 4PAIR 0.75mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528138191	-
	813830	BFOU(C) 8PAIR 0.75mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528138306	-
	813831	BFOU(C) 8PAIR 0.75mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528138313	-
	813842	BFOU(C) 16PAIR 0.75mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528138429	-
	813843	BFOU(C) 16PAIR 0.75mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528138436	-
	813848	BFOU(C) 24PAIR 0.75mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528138481	-
	813849	BFOU(C) 24PAIR 0.75mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528138498	-
	813866	BFOU(C) 2TRIP 0.75mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528138665	-
	813867	BFOU(C) 2TRIP 0.75mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528138672	-
	813878	BFOU(C) 4TRIP 0.75mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528138788	-
	813879	BFOU(C) 4TRIP 0.75mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528138795	-
	813890	BFOU(C) 8TRIP 0.75mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528138900	-
	813891	BFOU(C) 8TRIP 0.75mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528138917	-
	813902	BFOU(C) 16TRIP 0.75mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528139020	-
	813903	BFOU(C) 16TRIP 0.75mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528139037	-
	813908	BFOU(C) 24TRIP 0.75mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528139082	-
	814006	BFOU(C) 2PAIR 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528140064	-
	814007	BFOU(C) 2PAIR 1.5mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528140071	-
	814018	BFOU(C) 4PAIR 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528140187	-
	814019	BFOU(C) 4PAIR 1.5mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528140194	-
20116213		BFOU(C) 8PAIR 1.5mm <sup>2</sup> S4/S8 Cold	GREY	Yes	7021528140309	-
	814031	BFOU(C) 8PAIR 1.5mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528140316	-
	814036	BFOU(C) 12PAIR 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528140361	-
	814042	BFOU(C) 16PAIR 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528140422	-
	814043	BFOU(C) 16PAIR 1.5mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528140439	-
	814048	BFOU(C) 24PAIR 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528140484	-
	814049	BFOU(C) 24PAIR 1.5mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528140491	-
	814066	BFOU(C) 2TRIP 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528140668	-
	814067	BFOU(C) 2TRIP 1.5mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528140675	-
	814078	BFOU(C) 4TRIP 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528140781	-

New Part number	Old Part number	Description	Sheath Colour	Stock item	EAN No. DNK	EL No.
	814079	BFOU(C) 4TRIP 1.5mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528140798	-
	814090	BFOU(C) 8TRIP 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528140903	-
	814091	BFOU(C) 8TRIP 1.5mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528140910	-
	814096	BFOU(C) 12TRIP 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528140965	-
	814102	BFOU(C) 16TRIP 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528141023	-
	814103	BFOU(C) 16TRIP 1.5mm <sup>2</sup> S4/S8 Cold	BLUE	-	7021528141030	-
	814108	BFOU(C) 24TRIP 1.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528141085	-
	814206	BFOU(C) 2PAIR 2.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528142068	-
	814218	BFOU(C) 4PAIR 2.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528142181	-
	814230	BFOU(C) 8PAIR 2.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528142303	-
	814242	BFOU(C) 16PAIR 2.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528142426	-
	814248	BFOU(C) 24PAIR 2.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528142488	-
	814290	BFOU(C) 8TRIP 2.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528142907	-
	814302	BFOU(C) 16TRIP 2.5mm <sup>2</sup> S4/S8 Cold	GREY	-	7021528143027	-

### 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 <sup>2</sup>	-40°C



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