



ShiplinePlus FR BIOI(I) 250V

Fire resistant and flame retardant
halogen-free instrumentation cable.
Braided



BIOI(i) 250V

MGT/HFXLPE/PO/TCWB/PO

Operating temperature : 90°C
Operating Voltage : 250V

Application

Armoured fire resistant cable for fixed installation in offshore installations where cable protection is required. Recommended for instrumentation, communication, control, alarm, emergency and critical systems. Can be installed and operated both indoors and outdoors.

Standards applied

IEC 60092-376:2003-05	- Design
IEC 60228 class 2	- Conductor
IEC 60092-351	- Insulation
IEC 60092-359	- Sheath
IEC 60332-1	- Flame Retardant
IEC 60332-3-22	- Flame Retardant
IEC 60331-21/31	- Fire Resistant
IEC 600754-1,2	- Halogen Free
IEC 61034-1,2	- Low Smoke

Construction

	Code Letter	
Conductor		Annealed stranded circular copper, IEC 60228 class 2
Insulation	B	Mica-tape + HFXLPE, IEC 60092-351 (HFXLPE)
Pair / Triple / Quad twisting		Numbered white cores are twisted together and wrapped with polyester tape. Pairs/Triples/Quads are laid up and individually shielded by aluminium backed polyester tape with tinned copper drain wire. Each pair/triples/quad is wrapped with polyester tape to prevent electrical contact with adjacent pairs/triples/quads. Pairs/triples/quads are identified by numbers printed on the insulated cores.
Inner covering	I	Flame retardant halogen-free thermoplastic compound, SHF1
Tape over inner covering		Additional tape may be applied
Armour/screen	O	Tinned annealed copper wire braid
Tape over armour/screen		Additional tape may be applied
Outer sheath	I	Flame retardant halogen-free thermoplastic compound, SHF1
Marking text		E.g. "meter" "year" DRAKA 01 BIOI(c) 250V 10 PAIR 0,75 mm ² IEC 60092-376 IEC 60331-21 IEC 60332-3-22 ShipLinePlus
Manufacturing unit		DRAKA 01 = Draka Norsk Kabel, DRAKA 02 = Draka Kabel BV Amsterdam, DRAKA 03 = Draka Kabel BV Emmen
Outer sheath colour		Grey



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Core identification instrumentation cables

The pairs have the following number identification according to IEC 60092-376

Pair no.1

Pair no. 2

Pair no. 3

Pair no. 4

Pair no. 5

The two pair cable may also be built up as a star quad

Core no.

1 - 2

3 - 4

5 - 6

7 - 8

etc - etc

1 - 3 - 2 - 4

Range and dimensions

Number of elements	No of cores in element	Cross section core, mm ²	Conductor Diameter, mm	Insulation Thickness, mm	Thickness Inner Sheath, mm	Diameter Inner Sheath, mm	Diameter Braid Wire, mm	Thickness Outer Sheath, mm	Diameter outer sheath, mm	Weight of Cable Approx. (Kg/Km)	Copper content Approx. (kg/km)
1	2	0.75	1.1	0.5	1	7.5 ± 0.5	0.2	0.8	10 ± 0.8	140	56
2	2	0.75	1.1	0.5	1.1	12.5 ± 0.8	0.3	0.9	15.5 ± 0.8	290	137
4	2	0.75	1.1	0.5	1.2	15 ± 0.8	0.3	1	18 ± 0.8	400	173
7	2	0.75	1.1	0.5	1.3	18 ± 0.8	0.3	1	21 ± 1	560	253
12	2	0.75	1.1	0.5	1.5	24.5 ± 1	0.3	1.2	28 ± 1	890	395
19	2	0.75	1.1	0.5	1.7	29 ± 1	0.3	1.3	32.5 ± 1.5	1240	548
24	2	0.75	1.1	0.5	1.8	34 ± 1.5	0.3	1.4	38 ± 1.5	1530	665
1	2	1.5	1.6	0.6	1	8.5 ± 0.5	0.2	0.8	11 ± 0.8	175	79
2	2	1.5	1.6	0.6	1.2	14.5 ± 0.8	0.3	1	17.5 ± 0.8	380	185
4	2	1.5	1.6	0.6	1.3	17.5 ± 0.8	0.3	1	20.5 ± 1	540	271
7	2	1.5	1.6	0.6	1.4	21 ± 1	0.3	1.1	24.5 ± 1	770	391
12	2	1.5	1.6	0.6	1.7	29 ± 1	0.3	1.3	32.5 ± 1.5	1230	612
19	2	1.5	1.6	0.6	1.9	34 ± 1.5	0.4	1.4	38 ± 1.5	1810	966
24	2	1.5	1.6	0.6	2.1	40 ± 2	0.4	1.6	45 ± 2	2330	1224

Electrical values instrumentation cables

Type	Capacitance, approx. (nF/km)	Inductance, approx. (mH/km)	Resistance at 20°C, max. (Ohm/km)	L/R ratio, (microH/km)
Shielded pair/triple 0,75 mm ²	65	0.75	26.0	14.42
Shielded pair/triple 1,5 mm ²	75	0.67	12.8	26.17

Ordering information

Part number	Description	Sheath Colour	EAN No. DNK	EL No.	KDN Part number	EAN no. KDN
833000	BIOI(I) 250V 1PAIR 0.75mm ²	GREY	7021528330007	-	-	-
833004	BIOI(I) 250V 2PAIR 0.75mm ²	GREY	7021528330045	-	-	-
833006	BIOI(I) 250V 4PAIR 0.75mm ²	GREY	7021528330069	-	-	-
833008	BIOI(I) 250V 7PAIR 0.75mm ²	GREY	7021528330083	-	-	-
833010	BIOI(I) 250V 12PAIR 0.75mm ²	GREY	7021528330106	-	-	-
833012	BIOI(I) 250V 19PAIR 0.75mm ²	GREY	7021528330120	-	-	-
833014	BIOI(I) 250V 24PAIR 0.75mm ²	GREY	7021528330144	-	-	-
833050	BIOI(I) 250V 1PAIR 1.5mm ²	GREY	7021528330502	-	-	-
833054	BIOI(I) 250V 2PAIR 1.5mm ²	GREY	7021528330540	-	-	-
833056	BIOI(I) 250V 4PAIR 1.5mm ²	GREY	7021528330564	-	-	-
833058	BIOI(I) 250V 7PAIR 1.5mm ²	GREY	7021528330588	-	-	-
833060	BIOI(I) 250V 12PAIR 1.5mm ²	GREY	7021528330601	-	-	-
833062	BIOI(I) 250V 19PAIR 1.5mm ²	GREY	7021528330625	-	-	-
833064	BIOI(I) 250V 24PAIR 1.5mm ²	GREY	7021528330649	-	-	-



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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	-10°C