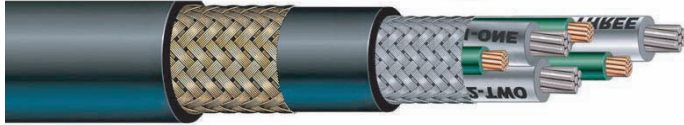




BOSTRIG™ TYPE P-VFD POWER CABLE 2000V

Shielded three conductor / **unarmored or armored and sheathed**
TYPE P POWER CABLE 2000V, 1/0 AWG to 777 MCM



Applications

Bostrig™ Type P shielded three conductor VFD Marine and Offshore Cable is designed specifically for use with variable frequency AC motor drives. This cable is designed to significantly mitigate the deleterious effects of high frequency harmonics and electromagnetic interference (EMI) on the motor /drive system as well as the adjacent environment.

Bostrig™ VFD cables have excellent resistance to oil, abrasion, moisture, vibration, sunlight, and ester based muds (Type P-MR). They are suitable for use in Class 1, Division 1 offshore applications (armored and sheathed) and complies with UL 1277 Type TC-ER extended runs requirements.

The standard insulation has a continuous operating temperature of 125°C, allowing for higher ampacity levels. These cables also meet cold bend requirements of -40°C and cold impact of -35°C (CSA 22.2 NO. 0.3).

This product may be manufactured in an unarmored or armored and sheathed version.

Features/Ratings

- Jacket provides superior resistance to oil, abrasion, moisture, sunlight, crush and impact
- High strand count conductors provide superior flexibility
- Higher allowable conductor operating temperature results in increased ampacity
- Cold bend/ cold impact of -40°/ -35°C in accordance with CSA 22.2 No. 0.3
- Flame retardant in accordance with IEEE 1202 and IEC 60332-3-22 Category A
- Meets IEEE standards for 2000V and performance requirements of IEC standards for 0.6/1 kV
- This product may be manufactured in an unarmored or armored and sheathed version
- Armored and sheathed cables suitable for use in Class 1 Division 1 and Zone 1 hazardous locations offshore
- Unarmored cables suitable for use in Class I, Division 2 and zone 2 hazardous locations offshore
- Meets requirements for UL 1277 Type TC-ER for exposed runs

Approvals

IEEE 1580 and IEEE 45- Marine Shipboard Cable
UL 1309- Marine Shipboard Cable Type X110
CSA 22.2 No. 245- Marine Shipboard Cable Type X110
Det Norske Veritas (DNV)
American Bureau of Shipping (ABS)
Transport Canada Approved AMS400-20-2
Transport Canada 8700-20-2
Lloyd's Register of Shipping (LRS)
United States Coast Guard-46CFR

Construction

CONDUCTORS: Soft annealed stranded tinned copper per ASTM B 33. A polyester tape separator is used over the conductor.

INSULATION: Bostrig Type P chemically cross-linked polyolefin (XLPO), meeting IEEE 1580 (2001).

GROUND CONDUCTORS: All Bostrig Type P-VFD Cables listed in this specification sheet are built using system grounds equal to the aggregate cross-section of a phase conductor and can be in contact with or isolated from the overall shield. A system ground is **REQUIRED** for supplying power from the switchboard to the inverter and then to the motor. If the VFD cable is only being used between the motor and the inverter, a cable with a reduced ground may be utilized.

SHIELD: Braided tinned copper and aluminum polyester tape for 100% coverage.

JACKET: Flame-Retardant Thermosetting CPE (Chlorinated Polyethylene) in accordance with the requirements of IEEE-1580-2010. Thickness as shown in tables on opposite page. Arctic Neoprene (Type N) also available as an option.

ARMOR (optional): Braided bronze in accordance with IEEE 1580.

SEATH: Flame-Retardant Thermosetting CPE (Chlorinated Polyethylene) applied over the armor in accordance with the requirements of IEEE-1580-2010. Thickness as shown in tables on opposite page. Arctic Neoprene (Type N) also available as an option.



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Type Designation	Draka Number	Conductor Size		**Ground Size		Cable Diameter (nominal)		Inductance		Capacitance		Calculated Ampacity† (measured @ °C)					Cable Weight (approximate)	
		AWG/MCM	mm²	AWG/MCM	mm²	in	mm	Ω/kft	Ω/km	pF/ft	pF/m	95	100	110	125*	Lbs/Mft	Kg/Km	
TP(OBS)N-1/0	T36028	1/0	56.3	5	18.6	1.520	38.6	0.09	0.3	190	623	156	164	176	229	2,275	3,385	
TP(OBS)N-2/0	T36029	2/0	66.5	4	21.5	1.620	41.1	0.09	0.3	212	695	175	186	201	254	2,730	4,065	
TP(OBS)N-4/0	T36030	4/0	112.6	1	56.3	2.090	53.1	0.09	0.3	259	850	241	252	270	354	4,360	6,490	
TP(OBS)N-262	T36031	262	133.0	1	56.3	2.220	56.4	0.09	0.3	247	810	267	294	315	395	5,045	7,510	
TP(OBS)N-313	T36032	313	158.6	1/0	18.6	2.350	59.7	0.08	0.2	270	886	298	321	344	442	5,855	8,715	
TP(OBS)N-373	T36033	373	189.3	2/0	61.5	2.540	64.5	0.08	0.2	292	958	333	361	387	492	6,950	10,345	
TP(OBS)N-444	T36034	444	225.1	3/0	92.1	2.850	72.4	0.08	0.2	318	1,043	371	411	440	608	8,650	12,875	
TP(OBS)N-535	T36035	535	271.2	3/0	92.1	3.010	76.5	0.09	0.3	291	954	417	443	475	608	9,695	14,430	
TP(OBS)N-646	T36036	646	327.5	4/0	112.6	3.160	80.3	0.09	0.3	314	1,030	469	516	553	678	11,395	16,960	
TP(OBS)N-777	T36037	777	393.8	262	133.0	3.500	88.9	0.09	0.3	345	1,132	528	582	602	750	13,515	20,115	

armored and sheathed

Type Designation	Draka Number	Conductor Size		**Ground Size		Sheath Thickness		Cable Diameter (nominal)		Inductance		Capacitance		Calculated Ampacity† (measured @ °C)					Cable Weight (approximate)	
		AWG/MCM	mm²	AWG/MCM	mm²	in	mm	in	mm	Ω/kft	Ω/km	pF/ft	pF/m	95	100	110	125*	Lbs/Mft	Kg/Km	
TP(OBS)NBS-1/0	T36038	1/0	56.3	5	18.6	0.110	2.8	1.800	45.7	0.09	0.3	190	623	156	164	176	229	2,275	3,385	
TP(OBS)NBS-2/0	T36039	2/0	66.5	4	21.5	0.110	2.8	1.900	48.3	0.09	0.3	212	695	175	188	201	254	2,730	4,065	
TP(OBS)NBS-4/0	T36040	4/0	112.6	1	56.3	0.110	2.8	2.370	60.2	0.09	0.3	259	850	241	252	270	354	4,360	6,490	
TP(OBS)NBS-262	T36041	262	133.1	1	56.3	0.110	2.8	2.500	63.5	0.09	0.3	247	810	267	294	315	395	5,045	7,510	
TP(OBS)NBS-313	T36042	313	158.7	1/0	18.6	0.110	2.8	2.630	66.8	0.08	0.2	270	886	298	32	344	442	5,855	8,715	
TP(OBS)NBS-373	T36043	373	189.2	2/0	61.5	0.140	3.6	2.880	73.2	0.08	0.2	292	958	333	361	387	492	6,950	10,345	
TP(OBS)NBS-444	T36044	444	225.2	3/0	92.1	0.140	3.6	3.190	81.0	0.08	0.2	318	1,043	371	411	440	594	8,650	12,875	
TP(OBS)NBS-535	T36045	535	271.3	3/0	92.1	0.140	3.6	3.350	85.1	0.09	0.3	291	954	417	443	475	608	9,695	14,430	
TP(OBS)NBS-646	T36046	646	327.5	4/0	112.6	0.140	3.6	3.530	89.7	0.09	0.3	314	1,030	469	516	553	678	11,395	16,960	
TP(OBS)NBS-777	T36047	777	394.2	262	133.0	0.140	3.6	3.840	97.5	0.09	0.3	345	1,132	528	582	602	750	13,515	20,115	

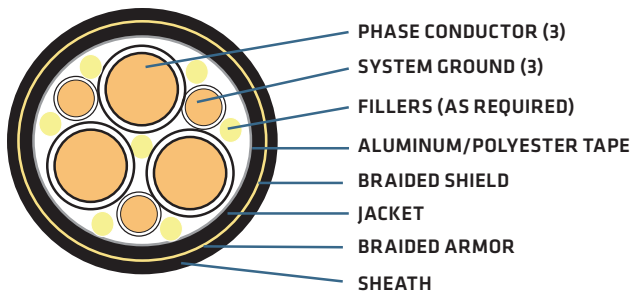
This information is provided for reference only. Please consult the factory or your representative to confirm all engineering information.

This information is not intended to replace the information in the appropriate and applicable standard or code.

†Ampacity based on 45°C ambient temperature; 95°C values based on ABS MODU Rules Table 6 - 100°C values based on IEEE-45 -100C values based on API 14F.

*125°C ampacities based on 45°C ambient in free air. Consult factory for conditions of use.

**Ground sizes shown are full sized grounds. Reduced grounds available upon request based on application.



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				GLAND SELECTION			GLAND REFERENCE CHART	
Type Designation	Draka Number	Cable Diameter (nominal)		Explosion Proof: Unarmored	Non-Explosion Proof: Unarmored	Non-Explosion Proof: Unarmored	Explosion Proof: (Unarmored) Hub Size Reference	Non-Explosion Proof: (Unarmored) - NPT Thread Size Reference
		in	mm					
TP(OBS)N-1/0	T36028	1.520	38.6	424UB-06	494AB-59	494NE-32	01 = 1/2"	03 = 1/2" - 14 NPT
TP(OBS)N-2/0	T36029	1.620	41.1	424UB-06/ 07	494AB-61	494NE-38	02 = 1/2"	04 = 1/2" - 14 NPT
TP(OBS)N-4/0	T36030	2.090	53.1	424UB-08	494AB-62	494NE-44	03 = 3/4"	05 = 1/2" - 14 NPT
TP(OBS)N-262	T36031	2.220	56.4	424UB-08/ 09	494AB-62/ 63	494NE-44/ 45	04 = 1"	08 = 3/4" - 14 NPT
TP(OBS)N-313	T36032	2.350	59.7	424UB-08/ 09	494AB-63	494NE-45	05 = 1-1/4"	10 = 3/4" - 14 NPT
TP(OBS)N-373	T36033	2.540	64.5	424UB-09	494AB-63	494NE-45	15 = 11/2"	14 = 1" - 11-1/2 NPT
TP(OBS)N-444	T36034	2.850	72.4	424UB-09	***	***	06 = 2"	15 = 1" - 11-1/2 NPT
TP(OBS)N-535	T36035	3.010	76.5	***	***	***	07 = 2-1/2"	20 = 1-1/4" - 11-1/2 NPT
TP(OBS)N-646	T36036	3.160	80.3	***	***	***	08 = 3"	21 = 1-1/4" - 11-1/2 NPT
TP(OBS)N-777	T36037	3.500	88.9	***	***	***	09 = 3-1/2"	27 = 1-1/2" - 11-1/2 NPT
								32 = 2" - 11-1/2 NPT
								38 = 2-1/2" - 8 NPT
								44 = 3" - 8 NPT
								45 = 3" - 8 NPT

armored and sheathed

				GLAND SELECTION			GLAND REFERENCE CHART	
Type Designation	Draka Number	Cable Diameter (nominal)		Explosion Proof: Armored	Non-Explosion Proof: Armored	Non-Explosion Proof: Armored	Explosion Proof: (Armored) Hub Size Reference	Non-Explosion Proof: (Armored) - NPT Thread Size Reference
		in	mm					
TP(OBS)NBS-1/0	T36038	1.800	45.7	424AN-06	474SW-59	474NP-32	01 = 1/2"	03 = 1/2" - 14 NPT
TP(OBS)NBS-2/0	T36039	1.900	48.3	424AN-06	474SW-59	474NP-32	02 = 3/4"	04 = 1/2" - 14 NPT
TP(OBS)NBS-4/0	T36040	2.370	60.2	424AN-07	474SW-61	474NP-38	03 = 1"	07 = 3/4" - 14 NPT
TP(OBS)NBS-262	T36041	2.500	63.5	424AN-08	474SW-61	474NP-38	04 = 1-1/4"	05 = 1/2" - 14 NPT
TP(OBS)NBS-313	T36042	2.630	66.8	424AN-08	474SW-62	474NP-39	05 = 1-1/2"	08 = 3/4" - 14 NPT
TP(OBS)NBS-373	T36043	2.880	73.2	424AN-08	474SW-63	474NP-45	06 = 2"	10 = 3/4" - 14 NPT
TP(OBS)NBS-444	T36044	3.190	81.0	424AN-09	474SW-64	474NP-47	07 = 2-1/2"	14 = 1" - 11-1/2 NPT
TP(OBS)NBS-535	T36045	3.350	85.1	424AN-09	474SW-64	474NP-47	08 = 3"	15 = 1" - 11-1/2 NPT
TP(OBS)NBS-646	T36046	3.530	89.7	***	***	***	09 = 3-1/2"	20 = 1-1/4" - 11-1/2 NPT
TP(OBS)NBS-777	T36047	3.840	97.5	***	***	***	10 = 1/2"	21 = 1-1/4" - 11-1/2 NPT
							12 = 3/4"	27 = 1-1/2" - 11-1/2 NPT
							15 = 1"	28 = 1-1/2" - 11-1/2 NPT
								31 = 2" - 11-1/2 NPT
								32 = 2" - 11-1/2 NPT
								33 = 2" - 11-1/2 NPT
								38 = 2-1/2" - 8 NPT
								39 = 2-1/2" - 8 NPT
								45 = 3" - 8 NPT
								47 = 3" - 8 NPT