



HYDROFIRM(T) EMV-FC S1BC4B-F 0,6/1 kV

Screened Cable for Drinking Water Application
KTW/ACS



Technical Data

	Trademark	HYDROFIRM(T) EMV-FC
	Type designation	S1BC4B-F
	Specification	Design and tests according to Prysmian specification
	Application	<p>For making connections to electrical equipment used in water and subjected to medium mechanical stress.</p> <p>Especially for frequency converter controlled AC drives and if considerable demands in respect of electromagnetic compatibility (EMC) according to the EMC directive imposes. For an effective shielding both ends of cable must have a good shield contact to ground.</p> <p>The cables can also be used in drinking water, industrial water, cooling water, surface water, rainwater, ground water and sea water (salt water) down to 500m depth.</p> <p>The outer sheath fulfil the requirements of health according to the German KTW-Recommendation and the Attestation de Confirmité Sanitaire (ACS) according to French law.</p> <p>The relevant certificates are available.</p> <p>If the water concerned is aggressive or composed of special substances, the cables resistance properties should be examined.</p> <p>These cables can be used indoors, outdoors, in industrial and agricultural plant, but not in explosion-hazard areas.</p> <p>In other respects, DIN VDE 0298-300 / HD 516 applies.</p>
Electrical parameters	Rated voltage	U ₀ /U = 0.6/1 kV
	Maximum permissible operation voltage of plant and power system	<p>- Single-phase and three-phase AC operation</p> <p>Line-Earth/ Line-Line 0.7/1.2 kV</p> <p>- DC operation</p> <p>Line-Earth/ Line-Line 0.9/1.8 kV</p>
	AC test voltage	5 kV (test duration 5 min.)
	Current-carrying capacity	The values are valid for a cable in permanent operation with DC or AC with 50 up to 60 Hz in air at 30 °C. In other respects, DIN VDE 0298-4 applies
Thermal parameters	Maximum permissible operating temperature at conductor	90°C
	Maximum permissible short-circuit temperature at conductor	250°C (max. 5s)
	Minimum permissible temperatures	when in motion - 25°C when stationary - 40°C
	Maximum permissible water temperature	60°C (At higher water temperatures, a shortened cable service life is to be expected.) For applications in waters up to 80°C, please ask for our special cable HYDROFIRM TGH.
Mechanical parameters	Tensile strength	max. 15 N/mm ² , see selection table
	Minimum bending radii	See selection table

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Special parameters	Water resistance	Test according to DIN VDE 0282-16 (HD 22.16)
	Requirements of health	Test according to the German KTW-Recommendation
	Acceptance in France	Test according to the Attestation de Conformité Sanitaire ACS



Design features

Conductor	Copper, plain, finely stranded, Class 5 according to DIN VDE 0295 / HD 383 / IEC 60228
Insulation	Ozone, water and weather resistant insulation compound, base EPR (Ethylene-Propylene Rubber)
Core identification	Colour of cores according to DIN VDE 0293-308:2003
Sheath	One-layer-sheath system: EPR special compound; according to KTW-Recommendation; colour: blue
Shield	Braiding of tinned copper wires between inner and outer sheath Maximum transfer impedance of 30 Ohm/km at 30 MHz
Marking	HYDROFIRM(T) EMV-FC S1BC4B-F 3X10/10 KON 0,6/1 kV KTW ACS

Selection and ordering data

Number of cores and nominal cross-sectional area mm ²	Order-No.	Conductor diameter	Diameter over shield	Overall diameter of cable	Overall diameter of cable	Minimum bending radii (fixed installation)	Minimum bending radii (free movement and entry)	Approx. net weight for 1000 m	Tension force	Current-carrying capacity, touching surfaces, at 30°C, 3 cores loaded	Short-circuit current
		guidance value mm	guidance value mm	Min. value mm	Max. value mm	mm	mm	kg	Max. value N	A	1 s kA
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3X1,5/1,5KON	5DH8 742	1,6	8,7	9,5	11,1	33	44	171	67	23	0,21
3X2,5/2,5KON	5DH8 743	2,0	9,7	10,5	12,1	48	61	225	112	30	0,36
3X4/4KON	5DH8 744	2,4	10,7	11,8	13,4	54	67	304	180	41	0,57
3X6/6KON	5DH8 745	2,9	12,2	13,6	15,2	61	76	382	270	53	0,86
3X10/10KON	5DH8 746	3,9	16,6	17,8	19,8	79	99	680	450	74	1,43
3X16/16KON	5DH8 747	5,0	19,4	20,9	22,9	92	115	1016	720	99	2,29
3X25+3G16/3	5DH8 748	6,3	24,5	25,3	28,3	113	142	1448	1125	131	3,58
3X35+3G16/3	5DH8 749	7,5	26,7	28,3	31,3	125	157	1845	1575	162	5,01
3X50+3G25/3	5DH8 750	8,9	31,0	33,2	36,2	145	181	2582	2250	202	7,15
3X70+3G35/3	5DH8 751	10,7	36,0	38,7	41,7	167	209	3560	3150	250	10,01
3X95+3G50/3	5DH8 752	12,3	41,5	43,7	47,7	191	239	4560	4275	301	13,59
3X120+3G70/3	5DH8 753	14,3	45,6	48,8	51,8	207	259	5685	5400	352	17,16