ICS IE ToughCat MUD 7 S/FTP

Mud protected, installation cable for tougher environments

Application

Generic Data transmission. This Cat7 S/FTP cable is based on our DNV and Lloyd Register certified ToughCat, but with an additional fire retardant, halogen-free, low smoke MUD protecting outer jacket. This cable is meant for use as installation/horizontal cable in tougher electrical and mechanical environment, including ships and offshore units.

Construction

Conductor	: Solid copper wire Ø 0.56 mm (AWG 23)
Insulation	: Foamskin PE, Ø 1.4 mm
Twisting	: 2 Cores to the pair
Lay up	: 4 Pairs (PiMF) to the core
Pair screen	: Al-laminated plastic foil around each pair
Overall screen	: Copper braid, tinned
Inner sheath	: Oil resistant, Fire retardant and halogen free LSHF-FR (SHF1)
Outer sheath	: MUD protecting
Marking text	: E.g. "meter" "year" manufacturer ToughCat MUD C7S 4x2/0.56

Outer Sheath Colours

Available colours	: Black and Grey

Installation recommendations

Min. Bending Radius during Installation	: 8xD
Min. Bending Radius Fix Installed	: 4xD
Max. Conductor Operating Temperature	: 85°C

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Standards applied

IEC 61156-5	Transmission characteristics
EN 50173-1	Generic cabling systems
EN 50288-4-1	Multi-Element Metallic Cables
ISO/IEC 11801	Information technology
IEC 60332-3-24	Flame Retardant
IEC 60754-2	Halogen Free
IEC 61034	Low Smoke
IEC 60811-2-1	Chemical resistance: - Mineral oils IRM 902 7 days/100°C - Diesel - IRM 903 : 7 days/100°C

Range and Dimensions

Article Code	Nominal diameter outer sheath, mm	MJ/km	kWh/m	Weight of Cable Approx. (Kg/Km)
P38C04P23BAZGR1Z	9.6	*	*	100

** On request*

Electrical properties at 20°C

DC loop resistance		< 138 Ω/km
Resistance unbalance		< 2%
Insulation resistance	500 V	> 5000 MΩxkm
Capacitance	at 800 Hz	Nom. 43 nF/km
Capacitance unbalance	pair to ground	< 1500 pF/km
Mean Characteristic impedance	at 100 MHz	100 ± 5 Ω
Nominal velocity of propagation		0.76c
Propagation delay		< 450 ns/100 m
Delay skew		< 15 ns/100 m
Transfer impedance	At 1 MHz At 10 MHz At 30 MHz	< 10 mΩ/m < 8 mΩ/m < 10 mΩ/m
Coupling attenuation		> 85 dB

Nominal Transmission characteristics at 20°C

F (MHz)	Attenuation (dB/100m)	NEXT (dB)	ACR (dB/100m)	Return loss (dB)	PS-NEXT (dB)	PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)
1	2,0	90	88		87	85	85	82
4	3,6	90	86	27	87	83	85	82
10	5,5	90	84	30	87	81	79	76
16	7,5	90	82	30	87	79	75	72
20	7,7	90	82	30	87	79	73	70
31.25	9,8	90	80	30	87	77	69	66
62.50	14,0	86	72	30	83	69	63	60
100	17,9	83	65	30	80	62	59	56
155	22,4	81	59	26	78	55	57	54
200	25,6	78	52	25	75	49	53	50
250	28,8	77	48	25	74	45	51	48
300	31,6	73	41	23	70	38	47	44
600	45,7	71	25	20	68	22	44	41

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