

ICS IE ToughCat MUD 7S S/FTP

Mud protected installation cable for tougher environments with solid conductors



Application

Generic Data transmission. This Cat7S 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	: Stranded copper wire Ø 0.27 mm ²
Insulation	: PE, Ø 1.6 mm
Twisting	: 2 Cores to the pair
Lay up	: 4 Pairs
Pair screen	: Al-laminated plastic foil around each pair
Overall screen	: Copper braid, tinned Ø 6.6 mm
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 C7 S/FTP 4Px0.27mm ²

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 50288-2-1	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		< 155 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	1 – 100 MHz	100 ± 5 Ω
	100 – 250 MHz	100 ± 10 Ω
	250 – 600 MHz	100 ± 15 Ω
Nominal velocity of propagation		ca. 79 %
Propagation delay		< 570 ns/100 m
Delay skew		< 9 ns/100 m
Transfer impedance	(DC, 1 min) core/core and core/screen	1000 V
Coupling attenuation	At 1 MHz	< 10 mΩ/m
	At 10 MHz	< 10 mΩ/m
	At 30 MHz	< 10 mΩ/m
	At 100 MHz	< 20 mΩ/m

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	1,8	100	97	98	95	105	105	-
4	3,4	100	97	97	94	105	102	27
10	5,4	100	97	95	92	97	94	30
16	6,8	100	97	93	90	93	90	30
20	7,7	100	97	92	89	91	88	30
31,2	9,6	100	97	90	87	87	84	30
62,5	13,7	100	97	86	83	81	78	30
100	17,4	100	97	83	80	77	74	30
125	19,5	95	92	75	72	75	72	26
155,5	21,9	94	91	72	69	73	70	26
175	23,3	93	90	70	67	72	69	25
200	25,0	92	89	67	64	71	68	25
250	28,1	90	87	62	59	69	66	24
300	30,9	89	86	58	55	67	64	24
450	38,3	87	84	48	45	64	61	23
600	44,8	85	82	40	37	61	58	22

NOTICE

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