

Hybrid Shipboard Cable

halogen-free, flame retardant



SK-(KS-02YSCH)/2X(St+C)/H
2 x Cat. 7 (4 x 2 x AWG 23/1 PiMF) + 1 x 3 x 2.5 mm²

Application

For data transmission and controlling on ships.
Recommended for fixed installation indoor and outdoor, in dry and wet locations.

Construction

1. Copper data pairs (2 x (4 x 2 x AWG 23/1) PiMF) 100Ω (Cat. 7)

Conductor solid plain copper, size: AWG 23/1
Insulation foamed polyethylene PE with skin layer of PE (Ø 1.45 mm approx.)
Colour code white/blue, white/orange, white/green, white/brown
Pair Screen plastic coated aluminium tape, metallic surface outside in contact with tinned copper wire braid (overall screen)
Overall Screen tinned copper wire braid
Outer sheath halogen-free flame retardant polymer, yellow

2. Power Supply 1 x 3 x 2.5 mm²

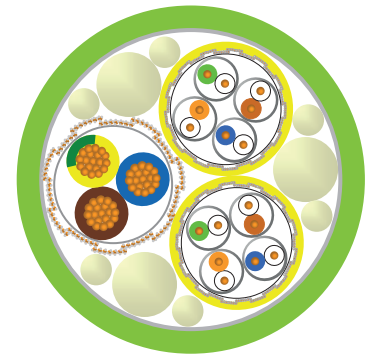
Conductor multistranded plain copper, size: 2.5 mm² (class 5 in acc. to IEC 60228)
Insulation cross linked polyethylene XLPE
Colour code yellow-green, blue, brown
Laying up cores twisted to cable core (with filling elements if necessary)
Overall screen at least 1 layer plastic tape, overlapped; 1 layer of aluminium coated plastic tape, overlapped, metallic surface in contact with tinned copper wire braid; opt. coverage min. 84 % (in acc. to IEC 60092-350), geometrical cross section approx. 4.3 mm²

3. Cable core

Laying up elements twisted to cable core (with filling elements if necessary)
Wrapping at least 1 layer of plastic tape, overlapped
Outer sheath halogen-free, flame retardant polymer, green

Cable Marking SPEZIALHYBRID V-IX-B WIKING KABEL (inkjet)
 Production Lot Code Length Marking

Example Sketch



Technical Data

Flame retardant: IEC 60332-1
Flame propagation: IEC 60332-3-22 (cat. A)
Overall diameter: approx.: 18.9 mm
 max.: 19.9 mm
Weight: approx.: 367 kg/km
Part No.: LKD700000130000
Temperature range: -10°C up to +60°C (during operation)
 - 5°C up to +50°C (during installation)
Min. bending radius: 10 x cable diameter

Abbreviations

SK- Hybrid cable
 02YS foam skin PE
 2X XLPE
 (St+C) combined screen
 H halogen-free compound
 PiMF pair in metal foil

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Electrical data at 20°C (copper data pairs - Cat. 7)

	Character	Unit	Values
Conductor resistance (loop)	max.	Ω/km	75
Impedance (f = 100 MHz)		Ω	100 Ω ± 5 Ω
Isolation resistance	min.	GΩ x km	5
Mutual capacitance	approx.	nF/km	42
Transfer capacitance (e)	approx.	pF/km	1500
Signal velocity (c)	approx.		0.8
Propagation delay	approx.	ns/100 m	420
Test voltage U _{eff}		V	1000
Operating voltage	max.	V	125

Electromagnetic behaviour (copper data pairs - Cat. 7)

	Character	Unit	Values
Transfer impedance at 10 MHz	nom.	mΩ/m	5
Screen attenuation up to 1000 MHz	nom.	dB	70
Coupling attenuation up to 1000 MHz	nom.	dB	85
Segregation class	in acc. to EN 50174-2		d

Electrical characteristics (copper data pairs - Cat. 7)

Frequency MHz	Attenuation dB/100m		NEXT dB		PS-NEXT dB		ACR dB@100 m		PS-ACR dB@100 m		ACR-F dB@100 m		PSACR-F dB@100 m		RL dB	
	typ.	Cat.7 max.*	typ.	Cat.7 min.*	typ.	Cat.7 min.*	typ.	Cat.7 min.*	typ.	Cat.7 min.*	typ.	Cat.7 min.*	typ.	Cat.7 min.*	typ.	Cat.7 min.*
1	1.9	2	105	80	102	77	104	78	101	75	98	80	95	77	26.6	23
10	4.8	5.7	105	80	102	77	101	74	98	71	103	74	100	71	35.3	25
100	16.3	18.5	105	72	102	69	89	54	86	51	89	54	86	51	39.6	20.1
200	24.3	26.8	105	68	102	65	81	41	78	38	82	48	79	45	36	18
250	27.5	30.2	105	66	102	63	78	36	75	33	79	46	76	43	34	17.3
500	37.9	44.1	100	62	97	59	62	18	59	15	67	40	64	37	29	17.3
600	42.4	48.9	95	61	92	58	53	12	50	9	60	38	57	35	25.4	17.3
700	47.2	---	95	---	92	---	48	---	45	---	57	---	54	---	24.6	---
800	50.3	---	93	---	90	---	43	---	40	---	53	---	50	---	23.5	---
900	54.6	---	90	---	87	---	35	---	32	---	49	---	46	---	22.6	---
1000	58	---	88	---	85	---	30	---	27	---	44	---	41	---	21.5	---
1150	61.9	---	86	---	83	---	25	---	22	---	39	---	36	---	20.6	---

*EN 50288-4-1 (2004) / IEC 61156-5 (2002) The effect of overall twisting of single elements can lead to an additional attenuation of 3% or frequency selective reflection at multicables.

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Electrical data at 20°C (Power Supply 230 V)

	Character	Unit	Values
Conductor Size	nom.	mm ²	2.5
Conductor resistance	max.	Ω/km	7.98
Test voltage U_{eff}	core:core	V	3500
	core:screen	V	3500
Operating voltage	max.	V	0.6/1 kV

Geometrical data (Power Supply 230 V)

No. of cores	RT of insulation	RT of core	Overall diameter
	nom.	nom.	approx.
	(mm)	(mm)	(mm)
2.5 mm ²			
3	0.7	3.4	8.3

Geometrical data overall

RT of outer sheath	Ø over outer sheath	Weight
nom.	nom. / max.	approx.
(mm)	(mm)	kg/km
1.4	18.9 / 19.9	367