



HES Cabling Systems

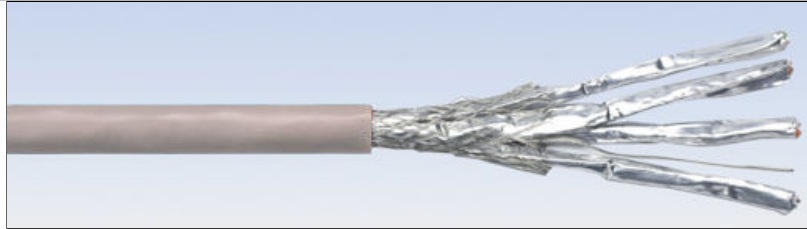
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Technical Specification

Cable Type: 4x2x23# S/FTP Category 7A 100 Ohm LS0H-3 Indoor Horizontal Cable

HCS P/N: H7A-B041K-xxx-DA35W1

Revision: 02/24 Date: 20 August 2024



Category 7A S/FTP indoor cable, conforming to IEC 61156-5, tested up to 1200MHz. The cable contains 4 individually foil-shielded twisted pairs cabled together, overall shielded with a tinned-copper braid overall jacketed with LS0H compound for indoor use, conforming to IEC 60332-3-22. The cable fully supports all IEEE 802.3 PoE applications including Type 1, 2, 3 & 4, CISCO UPoE & UPoE+ and HDBase-T PoH. The cable conforms to EU Regulation 305/2011 (CPR) Class Dca-s1a,d1,a1.

Physical Description

Basic Conductor	Solid 23AWG (UL444), bare annealed copper.
Insulation	SFS-PO.
Total number of insulated conductors	8, twisted in 4 pairs.
Color code	Blue x White, Orange x White, Green x White, Brown x White.
Individual pair shield	Aluminum foil, providing 100% coverage, foil face out.
Overall shield	Tin-coated copper wire braid, providing 35±5% coverage.
Drain wire	Tin-coated copper wire, 0.40±0.01 mm, laid in contact with the foils and the braid shields.
Outer jacket	Low-smoke, Zero-halogen, Flame-retardant compound for indoor use.
Outer jacket thickness	0.70±0.1 mm
Optional jacket colors	
H7A-B041K-xx0-DA35W1	Light Grey RAL 9002.
H7A-B041K-xx1-DA35W1	Blue RAL 5015
H7A-B041K-xx6-DA35W1	Red RAL 3000
H7A-B041K-xx9-DA35W1	Purple RAL 4005
Overall Diameter	7.7 mm nom.
Surface Marking	HCS H7A-B041K 4x2x23# S/FTP CATEGORY 7A DataLink 1000 SHIELDED LS0H CABLE Tested to 1200MHz VERIFIED to CAT 7A ISO/IEC-11801 & IEC 61156-5 FR IEC 60332-3-22 CE CPR Class Dca-s1a,d1,a1 CE 2011/65/EU (RoHS-2) [Meter Mark] METER wwSnnxxx
Note	Batch number wwSnnxxx ww=week number Snn=cabling machine number xxx=master reel number.

Mechanical Properties

Bend Radius	Dynamic: 8xD min. Static: 4xD min.
Storage Temperature	-20 to +75C
Temperature installation range	0 to +50C
Temperature operating range	-20 to +60C
EU Regulation 305/2011 (CPR) conformance	CENELEC EN 13501 Class Dca-s1a,d1,a1. NB 2652
Flame Tests	IEC 60332-3-22 (flame propagation), IEC 60754 (acid gas release) & IEC 61034 (smoke density).
Pulling force	150 N max.
Caloric value	650 kJ/m
Total Weight	64 kg/km nom.

Electrical Properties @ 20C

Characteristic Impedance	100±5 Ohm @ 100 MHz
Vp	74% nom.
Capacitance unbalance to ground	1.6 pF/m max. @ 1 kHz
Insulation Resistance	5 GOhm·km min.
Conductors DC Resistance	77 Ohm/km max. (2% max. resistance unbalance).
Conductors DC Loop Resistance	154 Ohm/km max. (2% max. resistance unbalance).
Shield DC Resistance	15 Ohm/km max.
Voltage rating	72Vdc max.
Coupling attenuation	IEC 61156-5 Type Ib.
Transfer Impedance	IEC 61156-5 Grade 1.
Phase delay	534+36/f ^{1/2} nS/100m max. @ f=1-1200 MHz.
Delay Skew	25 nS/100m max. @ 4-1200MHz

Transmission Properties @ 20C CAT 7A IEC 61156-5

Freq. MHz	IL dB/100m	NEXT dB	PS-NEXT dB	ACR-F dB/100m	PS ACR-F dB/100m	RL dB	TCL dB	EL-TCTL dB	PS-ANEXT dB	PS-AACR-F dB
	Max	Min.	Min.	Min.	Min.	Min.	Min.	Min.	Min.	Min.
1	2.1	78.0	75.0	78.0	75.0	20.0	40.0	35.0	67.0	67.0
10	5.8	78.0	75.0	75.3	72.3	25.0	40.0	15.0	67.0	67.0
25	9.2	78.0	75.0	67.3	64.3	24.3	36.0	7.0	67.0	65.2
30	10.1	78.0	75.0	65.8	62.8	23.8	35.2	5.5	67.0	63.7
62.5	14.6	78.0	75.0	59.4	56.4	21.5	32.0	NS	67.0	57.3
100	18.5	75.4	72.4	55.3	52.3	20.1	30.0	NS	67.0	53.2
250	29.7	69.4	66.4	47.3	44.3	17.3	26.0	NS	67.0	45.2
500	42.8	64.9	61.9	41.3	38.3	17.3	NS	NS	67.0	39.2
600	47.1	63.7	60.7	39.7	36.7	17.3	NS	NS	65.8	37.6
1000	61.9	60.4	57.4	35.3	32.3	15.1	NS	NS	62.5	33.2
1200	68.4	59.2	56.2	33.7	30.7	14.3	NS	NS	61.3	31.6

Transmission parameters indicated above 1000MHz are non-binding nominal values provided for reference only.

This cable fully conforms to EU Directive 2011/65/EU (RoHS-2)