HES Cabling Systems

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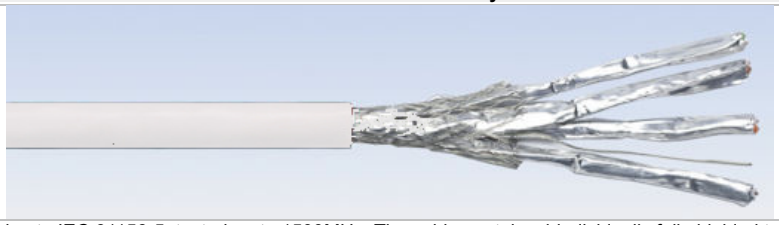
Technical Specification
Cable Type: 4x2x22# S/FTP Category 7A 100 Ohm LS0H Indoor Horizontal Cable
HCS P/N: H7A-B0402-xxx-DA55W0
Revision: 01/24 Date: 28 May 2024



Category 7A S/FTP indoor cable, conforming to IEC 61156-5, tested up to 1500MHz. The cable contains 4 individually foil-shielded twisted pairs cabled together, overall shielded with a tinned-copper braid (55%) and 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 22AWG (UL444) bare annealed copper.
Insulation	SFS-PO.
Total number of insulated conductors	8, twisted in 4 pairs.
Color code	Blue x White/Blue, Orange x White/Orange, Green x White/Green, Brown x White/Brown.
Individual pair shield	Aluminum foil, providing 100% coverage, foil face out.
Overall shield	Tin-coated copper wire braid, 55% 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 Colors	
P/N H7A-B0402-xx0-DA55W0	Gray RAL 7001
P/N H7A-B0402-xx1-DA55W0	Blue RAL 5015
P/N H7A-B0402-xx2-DA55W0	Orange RAL 2003
P/N H7A-B0402-xx3-DA55W0	Green RAL 6024
P/N H7A-B0402-xx5-DA55W0	White RAL 9003
P/N H7A-B0402-xx6-DA55W0	Red RAL 3000
P/N H7A-B0402-xx8-DA55W0	Yellow RAL 1021
P/N H7A-B0402-xx9-DA55W0	Purple RAL 4005
Overall Diameter	7.9 mm nom. 8.3 mm max.
Surface Marking	HCS H7A-B0402 4x2x22# S/FTP (55%) CATEGORY 7A DataLink 1000 SHIELDED LS0H CABLE 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.
Total Weight	73 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	0.5 GOhm•km min.
DC Resistance	62.0 Ohm/km max. (2% max. resistance unbalance).
DC Loop Resistance	124 Ohm/km max. (2% max. resistance unbalance).
Voltage rating	72Vdc max.
Coupling attenuation	IEC 61156-5 Type I.
Transfer Impedance	IEC 61156-5 Grade 1.
Phase delay	$534+36/f^{½}$ nS/100m max. @ f=1-1500 MHz.
Delay Skew	25 nS/100m.

Transmission Properties @ 20C CAT 7_A IEC 61156-5 Extended to 1500MHz

Freq.	IL	NEXT	PS-NEXT	ACR-F	PS ACR-F	RL	TCL	EL-TCTL	PS-ANEXT	PS-AACR-F
MHz	dB/100m	dB	dB	dB/100m	dB/100m	dB	dB	dB	dB	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
1400	74.4	58.2	55.2	32.2	29.2	13.6	NS	NS	60.3	30.3
1500	77.2	57.8	54.8	31.6	28.6	13.3	NS	NS	59.9	29.7

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

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