



Technical Specification

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

HCS P/N H7A-0040K-xx0-FA55W1

Revision: 13/22 Date: 11 February 2022



Category 7A S/FTP indoor cable, conforming to IEC 61156-5-2009, tested up to 1500MHz. The cable contains 4 individually foil-shielded twisted pairs cabled together with a TC drain-wire, overall shielded with a tinned-copper braid and overall jacketed with LS0H compound for indoor use, conforming to IEC 60332-1. The cable fully supports all IEEE 802.3 PoE applications including Type 1, 2, 3 & 4, CISCO UPoE & UPoE+ and HDBase-T PoH and Class FA permanent links & channels as specified in ISO/IEC 11801 and EN 50173.

Physical Description

Basic Conductor	Solid 23AWG, bare annealed copper (UL444).
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 55% nom. coverage.
Drain wire	Tin-coated copper conductor laid under the copper braid.
Outer jacket	Low-smoke, Zero-halogen, Flame-retardant compound for indoor use.
Outer jacket thickness	0.6 mm nom.
Color	Light Gray RAL 9002.
Overall Diameter	7.2 mm nom.
Surface Marking	HCS H7A-0040K 4x2x23# S/FTP CATEGORY 7A DataLink 1000 SHIELDED LS0H CABLE ETL VERIFIED GHMT VERIFIED to CAT 7A ISO/IEC-11801 & IEC 61156-5 FR IEC 60332-1 CE 2011/65/EU (RoHS-2) [Meter Mark] METER [Batch 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
Flame Tests	IEC 60332-1 (flame propagation), IEC 60754 (acid gas release) & IEC 61034 (smoke density).
Pulling force	150 N max.
Caloric value	600 kJ/m
Total Weight	55 kg/km nom.

Electrical Properties @ 20C

Characteristic Impedance	100±5 Ohm @ 1-1000 MHz
Vp	75-77% nom.
Capacitance	40 pF/m nom @ 1 kHz
Capacitance unbalance to ground	1.6 pF/m max. @ 1 kHz
Insulation Resistance	0.5 GOhm•km min.
DC Resistance	77 Ohm/km max. (2% max. resistance unbalance).
DC Loop Resistance	154 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 ^{1/2} nS/100m max. @ f=1-1000 MHz.
Delay Skew	15 nS/100m max. @ 4-1000MHz

Transmission Properties @ 20C CAT 7A IEC 61156-5-2009

Freq. MHz	IL dB/100m	NEXT dB	PS-NEXT dB	ELFEXT dB/100m	PS-ELFEXT 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
20	8.2	78.0	75.0	69.3	66.3	25.0	37.0	9.0	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
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 non-binding nominal values provided for reference only.

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