

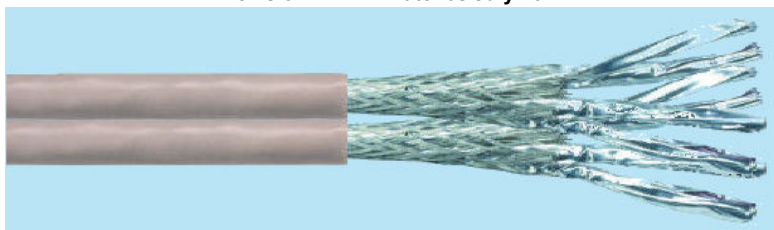


HES Cabling Systems

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Technical Specification

Cable Type: 2x(4x2x23#) S/FTP Category 7A 100 Ohm LS0H-3 Indoor Horizontal Cable
HCS P/N H7A-C080K-xx0-FA55W1
Revision: 11/24 Date: 08 July 2024



Category 7A S/FTP indoor cable, conforming to IEC 61156-5-2009, tested up to 1500MHz. The cable contains 8 individually foil-shielded twisted pairs cabled together in two groups with a TC drain-wire. Each group is overall shielded with a tinned-copper braid and the two groups are jacketed in parallel (FIG-8) with LS0H compound for indoor use, conforming to IEC 60332-3-24 flame test. This cable fully supports all IEEE 802.3 PoE applications including Type 1, 2, 3 & 4, CISCO UPoE & UPoE+ and HDBase-T PoH. The cable fully supports all ISO/IEC 11801 and TIA-568.2-D applications up to IEEE 10GBASE-T.

Physical Description

Basic Conductor	Solid 23AWG (UL444), bare annealed copper.
Insulation	SFS-PO.
Total number of insulated conductors	16, twisted in two groups, 4 pairs each.
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 on each group	Tin-coated copper wire braid providing 55% nom. coverage.
Drain wire in each group	Tin-coated copper wire laid in contact with the foils and the braid shields.
Outer jacket	Low-smoke, Zero-halogen, Flame-retardant compound for indoor use, extruded in parallel over the two groups.
Outer jacket thickness	0.75 mm nom.
Color	Gray RAL 9002.
Overall Diameter	7.5 x 15.0 mm nom. FIG-8 formation.
Surface Marking	HCS H7A-C080K 2x(4x2x23#) S/FTP CATEGORY 7A DataLink 1000 SHIELDED LS0H CABLE VERIFIED to CAT 7A ISO/IEC-11801 & IEC 61156-5 FR IEC 60332-3-24 CE 2011/65/EU (RoHS-2) [Meter Mark] METER wwSnnxxx Batch number = wwSnnxxx ww=week number Snn=cabiling machine number xxx=master reel number.
Group identification	The surface printing is always on the same side. The jacket of one group has two longitudinal ribs.

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 60332-3-24 (flame propagation), IEC 60754 (acid gas release) & IEC 61034 (smoke density).
Pulling force	150 N max.
Total Weight	120 kg/km nom.

Electrical Properties @ 20C

Characteristic Impedance	100±5 Ohm @ 1-1000 MHz
Vp	74% nom.
Capacitance	40 pF/m nom @ 1 kHz
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 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.	IL	NEXT	PS-NEXT	ELFEXT	PS-ELFEXT	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)