



HES Cabling Systems

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Technical Specification

Cable Type: 4x2x23# U/MRTP Unshielded Category 6A 100 Ohm LS0H Data Cable

HCS P/N: H6A-00406-xx0-BA0000

Revision: 01/17 Date: 07 November 2017



Category 6A U/MRTP unshielded indoor cable, conforming to ANSI/TIA-568-C.2 & IEC 61156-5 CAT 6A horizontal cable limits. The cable contains 4 individually foil-covered twisted pairs cabled together, overall jacketed with a LS0H compound for indoor use. The cable conforms to IEC 60332-1 and it fully supports all PoE applications including Types 1, 2, 3 & 4 and Class EA permanent links & channels as specified in ISO/IEC 11801 and EN 50173. The cable conforms to EU Regulation 305/2011 (CPR) Class B2ca-s1a,d0,a1.

Physical Description

Basic Conductor	Solid 23AWG (UL444) bare annealed copper.
Insulation	SFS-PO. OD: 1.200 mm nom.
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	None.
Drain wire	None.
Outer jacket	Low-smoke, Zero-halogen, Flame-retardant compound for indoor use.
Outer jacket thickness	0.65 mm nom.
Color	NS
Overall Diameter	7.2 mm nom.
Surface Marking	HCS H6A-00406 4x2x23# U/MRTP CATEGORY 6A DataLink 500A UNSHIELDED LS0H CABLE ETL VERIFIED to CAT 6A IEC 61156-5 ANSI/TIA-568-C.2 FR IEC 60332-1 CE CPR Class B2ca-s1a,d0,a1 CE 2011/65/EU (RoHS-2) [Meter Mark] METER [Batch Number]
Bend Radius	Dynamic: 8xD mm min. Static: 4xD mm min
Storage Temperature	-20 to +60C
Temperature installation range	0 to +50C
Temperature operating range	-20 to +60C
Flame Tests	IEC 60332-1 (flame propagation), IEC 60754 (acid gas) & IEC 61034 (smoke density).
EU Regulation 305/2011 (CPR) conformance	CENELEC EN 13501 Class B2ca-s1a,d0,a1. NB 0099.
Pulling force	150 N max.
Total Weight	49 kg/km nom.

Electrical Properties @ 20C

Mean Impedance	100±5 Ohm @ 1-500 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 III
Transfer Impedance	NA
Phase delay	534+36/f ^{1/2} nS/100m max. @ f=1-1000 MHz.
Delay Skew	25 nS/100m max.

Transmission Properties - Conforming to Category 6A ANSI/TIA-568-C.2

FREQ.	Insertion Loss	NEXT	PS NEXT	ACRF	PS ACRF	RL	Delay	TCL	EL-TCTL	PS ANEXT	PS AACRF
MHz	dB/100m	dB	dB	dB/100m	dB/100m	dB	nS/100m	dB	dB	dB	dB
	max.	min.	min.	min.	min.	min.	max.	min.	min.	min.	min.
1	2.0	74.3	72.3	67.8	64.8	20.0	570	40.0	35.0	67.0	67.0
10	5.9	59.3	57.3	47.8	44.8	25.0	545	40.0	15.0	67.0	58.2
20	8.3	54.8	52.8	41.8	38.8	25.0	542	37.0	9.0	67.0	52.2
25	9.3	53.3	51.3	39.8	36.8	24.3	541	36.0	7.0	67.0	50.2
30	10.2	52.1	50.1	38.3	35.3	23.8	541	35.2	5.5	67.0	48.7
62.5	14.9	47.4	45.4	31.9	28.9	21.5	539	32.0	NS	65.6	42.3
100	19.0	44.3	42.3	27.8	24.8	20.1	538	30.0	NS	62.5	38.2
200	27.5	39.8	37.8	21.8	18.8	18.0	537	27.0	NS	58.0	32.2
250	31.0	38.3	36.3	19.8	16.8	17.3	536	26.0	NS	56.5	30.2
300	34.2	37.1	35.1	18.3	15.3	16.8	536	25.2	NS	55.3	28.7
400	40.0	35.3	33.3	15.8	12.8	15.9	536	24.0	NS	53.5	26.2
500	45.3	33.8	31.8	13.8	10.8	15.2	536	23.0	NS	52.0	24.2

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