



HES Cabling Systems

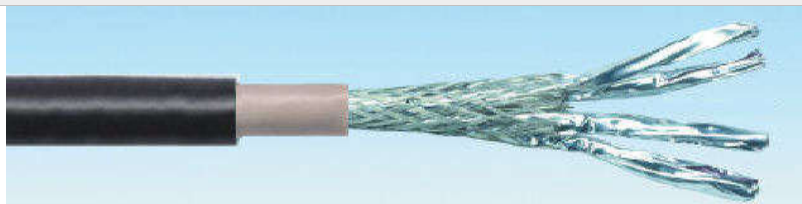
www.hescs.com

Technical Specification

Cable Type: 4x2x23# S/FTP Category 7 100 Ohm OUTDOOR Data Cable

HCS P/N: H07-00493-Dx7-FA35W0

Revision: 04/17 Date: 22 November 2017



Category 7 S/FTP outdoor cable, conforming to ISO/IEC-11801 and IEC 61156-5. The cable contains 4 individually foil-shielded twisted pairs cabled together, overall shielded with a tinned-copper braid and overall jacketed with LSOH compound for indoor use. An additional outer jacket, made of heavy-duty, black PE compound, renders the cable suitable for outdoor installations in mild conditions. This cable fully supports IEEE 802.3an 10GBASE-T and IEEE 802.3at 2009 Part 3 Amendment 3 including PoE+ and UPoE.

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% nominal coverage.
Drain wire	Tin-coated copper wire laid in close contact with the shield.
Inner jacket	Low-smoke, Zero-halogen, Flame-retardant compound for indoor use.
Inner jacket thickness	0.5 mm nom.
Color	NS
Inner diameter	7.0 mm nom.
Outer jacket	Heavy-duty, UV-resistant PE compound for outdoor use.
Outer jacket thickness	1.0 mm nom.
Outer jacket OD	9.0 mm nom.
Color	Black RAL 9005.
Surface Marking	HCS H07-00493 4x2x23# S/FTP CATEGORY 7 DataLink 600 SHIELDED OUTDOOR CABLE VERIFIED to CAT 7 ISO/IEC-11801 & IEC 61156-5 CE 2011/65/EU (RoHS-2) [Meter Mark] METER [Batch Number]

Mechanical Properties

Bend Radius	8xD mm min.
Storage Temperature	-40 to +75C
Installation Temperature range	0 to +50C
Operating Temperature range	-40 to +60
Pulling force	100 N max.
Total Weight	75 kg/km nom.

Electrical Properties

Characteristic Impedance	100±5 Ohm @ 1-600 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 Ib
Transfer Impedance	IEC 61156-5 Grade 1
Phase delay	534+36/f ^{1/2} nS/100m max. @ f=1-600 MHz.
Delay Skew	25 nS/100m max. @ 4-1000MHz

Transmission Properties @ 20C - Conforming to IEC 61156-5 Category 7

FREQ.	Insertion Loss		NEXT		PS NEXT		ELFEXT		PS ELFEXT		RL		TCL	EL-TCTL	PS ANEXT	PS AFEXT
MHz	dB/100m		dB		dB		dB/100m		dB/100m		dB		dB	dB	dB	dB
	Max	Nom	Min	Nom	Min	Nom	Min	Nom	Min	Nom	Min	Nom	Min	Min	Min	Min
1	NS	1.8	78.0	100	75.0	97	78.0	105	75.0	103	20.0	23	40.0	35.0	67.0	67.0
4	3.74	3.4	78.0	100	75.0	97	78.0	93	75.0	91	23.0	25	40.0	23.0	67.0	67.0
16	7.41	6.8	78.0	100	75.0	97	69.9	81	66.9	79	25.0	30	38.0	10.9	67.0	67.0
25	9.29	8.7	78.0	100	75.0	97	66.0	77	63.0	75	24.3	30	36.0	7.0	67.0	65.2
31.25	10.41	9.6	78.0	100	75.0	97	64.1	75	61.1	73	23.6	28	35.1	5.1	67.0	63.3
62.5	14.88	13.7	75.5	100	72.5	97	58.0	69	55.1	67	21.5	28	32.0	NS	67.0	57.3
100	19.02	17.4	72.4	100	69.4	97	54.0	65	51.0	63	20.1	25	30.0	NS	67.0	53.2
250	30.97	28.1	66.4	90	63.4	87	46.0	57	43.0	55	17.3	25	26.0	NS	67.0	45.2
300	34.19	30.9	65.2	89	62.2	86	44.5	55	41.5	53	17.3	25	NS	NS	67.0	43.7
400	40.01	35.0	63.4	88	60.4	85	42.0	53	39.0	51	17.3	23	NS	NS	67.0	41.2
500	45.26	40.0	61.9	86	58.9	83	40.0	50	37.0	48	17.3	23	NS	NS	67.0	39.2
600	50.10	44.8	60.7	85	57.7	82	38.4	49	35.4	47	17.3	23	NS	NS	65.8	37.6

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