

# **SPECIFICATION SHEET**

PART NUMBER : EYNLS641AW-PB-1000  
EYNLS642AW-PB-1000  
EYNLS643AW-PB-1000  
EYNLS644AW-PB-1000  
EYNLS648AW-PB-1000

STYLE : 75°C 300V  
COMMUNICATION CABLE

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DESCRIPTION: CAT6 Bulk Cable 550 MHz,  
Un-Shielded, LSZH ,23 AWG, Solid, 4 Pair,  
U/UTP, LSZH

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RECOGNIZED: ETL

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**BLACK BOX NETWORK SERVICES**

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## SPECIFICATION

STYLE	75°C 300V COMMUNICATION CABLE	
SIZE	UTP 23AWG×4P	ESTABLISHED DATE : November/25/2015
STANDARD : UL444 & ISO/IEC 11801 CLASS E & ANSI/TIA-568-C.2 CAT 6 EN71-3 & EPA3050B & 2002/95/EC (RoHS) . APPLICATION : LAN CABLE ARE SUITABLE FOR PERFECT AUDIO DATA AND VIDEO OF TRANSFER FOR HORIZONTAL NETWORK CONSTRUCTION :		
CONDUCTOR	SIZE	23AWG
	CONSTRUCTION	SOLID BARE COPPER
	COND. DIAM.	1/0.566±0.02 mm 0.02228±0.00078 inch
INSULATION	AVG. THICK.	0.217 mm 0.00854inch
	MIN. THICK.	0.200 mm 0.00787inch
	DIAMETER	1.000 ± 0.05 mm 0.03937±0.00197 inch
	MATERIAL	HDPE
	COLOR CODES	1.Blue × White/Blue ( Stripe ) 2.Orange × White/Orange ( Stripe ) 3.Green × White/Green ( Stripe ) 4.Brown × White/Brown ( Stripe )
CABLING	PAIR STRANDED	2 CORES STRANDED
	FILLER (SPLINE)	Yes
	ASSEMBLY STRANDED	4 PAIR STRANDED
BINDER	BINDER MATERIAL	N/A
SHIELD	OVERALL SHIELD & MATERIAL	N/A
	DRAIN WIRE	N/A
JACKETED	AVG. THICK.	0.50 mm 0.01968inch
	MIN. THICK.	0.46 mm 0.01811inch
	DIAMETER	6.0 ± 0.30 mm 0.23622±0.01181 inch
	MATERIAL	LSZH
	COLOR	Blue, Green, Red, Yellow, Purple
	RIP CORD	No
PACKAGING	Reel or Spool	Reel

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ELECTRICAL & PHYSICAL PROPERTIES :			
ITEM		23AWG × 4P	
RATING TEMP VOLTAGE		75°C 300V	
CONDUCTOR RESISTANCE		9.38 OHM/100m/20°C MAX.	
MUTUAL CAPACITANCE		56 pF/M MAX.	
DIELECTRIC STRENGTH		AC 1.5 KV/2S.	
SPARK TEST		2.5 KV	
INSULATION	UNAGED	TENSILE STRENGTH	2400 PSI MIN. (1.69 Kg/m m <sup>2</sup> )
		ELONGATION	300% MIN.
	AGED	TENSILE STRENGTH	UNAGED MIN. 75%(100°C×48HRS)
		ELONGATION	UNAGED MIN. 75%(100°C×48HRS)
JACKETED	UNAGED	TENSILE STRENGTH	2000 PSI MIN.(1.41 Kg/m m <sup>2</sup> )
		ELONGATION	100% MIN.
	AGED	TENSILE STRENGTH	UNAGED MIN. 75%(100°C×168HRS)
		ELONGATION	UNAGED MIN. 75%(100°C×168HRS)
INSULATION SHRINKBACK		150m/m, 121°C ±1°C ×1HR ≤ 9.5m/m	
COLD BEND TEST		-20°C ×4HRS NO CRACK	
FLAME RETARDANT TEST		IEC 60332-1	
AC LEAKAGE CURRENT THROUGH OVERALL JACKET		AC 1500V ≤ 10 mA	
DC RESISTANCE UNBALANCE		5% MAX.	
PAIR-TO-GROUND CAPACITANCE UNBALANCE		330 pF/100m MAX.	
CHARACTERISTIC IMPEDANCE		1 ~ 250 MHz 100±15 OHMS	
STRUCTURAL RETURN LOSS		250 MHz 17.3dB MIN.	
NOMINAL VELOCITY OF PROPAGATION (NVP)		67%	
PROPAGATION DELAY		250 MHz 536.3nS/100m MAX.	
DELAY SKEW		1 ~ 250 MHz 45nS/100m MAX.	
PRINTING LEGEND :			
BLACK BOX CORPORATION GUARANTEED FOR LIFE --- <a href="http://www.blackbox.com">www.blackbox.com</a> --- GIGATRUE			
CATEGORY 6 --- UTP 23AWG 4PR SOLID LSZH ANSI/TIA-568-C.2 - ETL VERIFIED TO			
CATEGORY 6 - TESTED TO 550MHZ (MM-YY) - XXXX FEET			

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## SPECIFICATION

### Electrical performance

ITEM Frequency (MHz)	Characteristic Impedance Upper limit Zu ( $\Omega$ )	Characteristic Impedance Lower limit Zl ( $\Omega$ )	IL MAX. (dB/100m)	NEXT MIN. (dB)	PS. NEXT MIN. (dB)	ELFEXT MIN. (dB/100m)	PS. ELFEXT MIN. (dB/100m)	RL. MIN. (dB)
1	-	-	2.0	74.3	72.3	67.8	64.8	20.0
4	115.2	86.8	3.8	65.3	63.3	55.8	52.8	23.0
8	112.6	88.8	5.3	60.8	58.8	49.7	46.7	24.5
10	111.9	89.4	6.0	59.3	57.3	47.8	44.8	25.0
16	111.9	89.4	7.6	56.2	54.3	43.7	40.7	25.0
20	111.9	89.4	8.5	54.8	52.8	41.7	38.8	25.0
25	112.9	88.5	9.5	53.3	51.3	39.8	36.8	24.3
31.25	114.1	87.7	10.7	51.9	49.9	37.9	34.9	23.6
62.5	118.3	84.5	15.4	47.4	45.4	31.8	28.9	21.5
100	121.9	82.0	19.8	44.3	42.3	27.8	24.8	20.1
200	128.8	77.6	29.0	39.8	37.8	21.8	18.8	18.0
250	131.5	76.0	32.8	38.3	36.3	19.8	16.8	17.3
300	134.2	74.4	36.3	37.1	35.1	18.3	15.3	16.8
350	136.9	72.8	40.4	36.1	34.1	16.9	13.9	16.3
400	139.6	71.2	44.2	35.3	33.3	15.8	12.8	15.9
500	142.0	70.4	48.9	33.8	31.8	13.8	10.8	15.2
550	143.7	67.6	51.8	33.2	31.2	13.0	10.0	14.9

**Remark :**

1. Cable that meet the requirements of the template are not required to be measured for return loss; alternately cables that meet the return loss requirements are not required to be measured for characteristic impedance.
2. Electrical characteristics between 250 and 550MHz is only for reference, not as acceptance criteria.