

USB3.0 for Active Optical Cable



1. Description

1. Basics: USB3.0 Active Optical Cable (AOC) speed up to 5 Gbps
2. Dimension of USB3.0 Type A male plug conforming requirements (Size: 56.1 x 8 x 16 mm).
3. It requires two cables to be connected into one adapter in order to operate well with USB 3.0 function.
4. There is no USB 2.0 function in this cable, thus it only support USB 3.0 function.

ELII USB3.0 AOC can extend high speed transmission distance up to 100m (330ft) of optical cable.

2. Features

- USB3.0 compliant, extend High Speed USB3.0 to 100m (330ft)
- 850nm Laser Optical Transmission Technology
- 90 Ohm impedance, low RFI/EMI for sensitive environment
- Thin, light, all-in-one over mold dimension fits USB3.0 Type A male plug
- Plug and play, no software to be installed
- Supports OS
 - windows system 7 , 8.1
 - Linux fedora 20
 - Scientific Linux 6.3
 - MAC OS 10.8.5 above



3. Applications

- File system to file system
- Long Distance Communication
- Conference Room System
- High Speed Data Transfer



PS:

1. Plug **Device 1** into USB 3.0 Host PC or NB.
2. Bridge **Device 2 and 3** by **Device 4**
3. Finally, plug in the **DC Adapter(5V/2A)** into **Device 4**.



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Interconnecting Components and Systems.

Data Sheet

Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Supply Voltage	V_{CC}	4.75	5.25	V
Storage Temperature	T_{st}	-10	70	°C
Operation Temperature	T_{op}	0	50	°C
Relative Humidity	RH	0	80	%

4. Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage	V_{CC}	+4.75	+5.0	+5.25	V
Center Wavelength	Tx λ		850		nm
	Rx λ		850		
Data Rate	Tx	20M		5G	bps
	Rx	20M		5G	bps
Ambient Temperature	T_A	0		+50	°C

5. Electrical Power Supply Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage	V_{CC}	+4.75	+5.0	+5.25	V
Supply Current	I	40	50	60	mA
Power Dissipation	P	0.2	0.275	0.32	W
Impedance Differential	Tx Z_{TX}		90		ohms
	Rx Z_{RX}		90		

6. Fiber Cable Specifications

Parameter	Value
Cable Jacket material	LSZH
Color	Orange
Optical Fiber	50/125 Multimode Fiber
Output Diameter	3.0mm
Minimum Bending Radius	37.5mm
Maximum Tensile Load	0.7GN / m ²
Net Weight	8g/meter



7. USB AOC Plug Appearance

Parameter	Value
Plug case material	Plastic
Color	Black
Plug dimension	56.1 x 8 x 16mm

NOTES:

1. All dimensions in mm.
2. Tolerance (except cable length): XXXX =±5, XXX.x =±1, XX.x =±0.5

8. EMC Test

EMI: FCC CLASS A (ICES-003) and CE CLASS A		
Standards		Conditions
EN 55 022 (CISPR22) FCC; PART 15 SUBPART B	CE (Conducted Emission) RE (Radiated Emission)	Meet Class A
EN 61 000-3-2 (IEC 61000-3-2)	Harmonics	Meet Class A
EN 61 000-3-2 (IEC 61000-3-3)	Flickers	Meet Class A
EMS: CE STANDARDS (EN 55024) and CISPR24 EQUIVALENTS		
Standards		Conditions
EN 61 000-4-2: 2008	Electrostatic Discharge Immunity (Air: 8kV, Contact: 4kV)	Meet Class B
EN 61 000-4-3: 2010	Radiated RF E-Field (80–1000MHz) 3V/m (AM 80%, 1kHz)	Meet Class A
EN 61 000-4-4: 2012	Fast Transients (5kHz, 60sec)	Meet Class B
EN 61 000-4-5: 2005	Surge Transients	Meet Class B
EN 61 000-4-6: 2008	Conducted Susceptibility (CS) Radiated Susceptibility (RS)	Meet Class A
EN 61 000-4-8: 2009	Power Frequency Magnetic Field	Meet Class A
EN 61 000-4-11: 2004	Voltage Dips, Interruption & Variation	Meet Class A

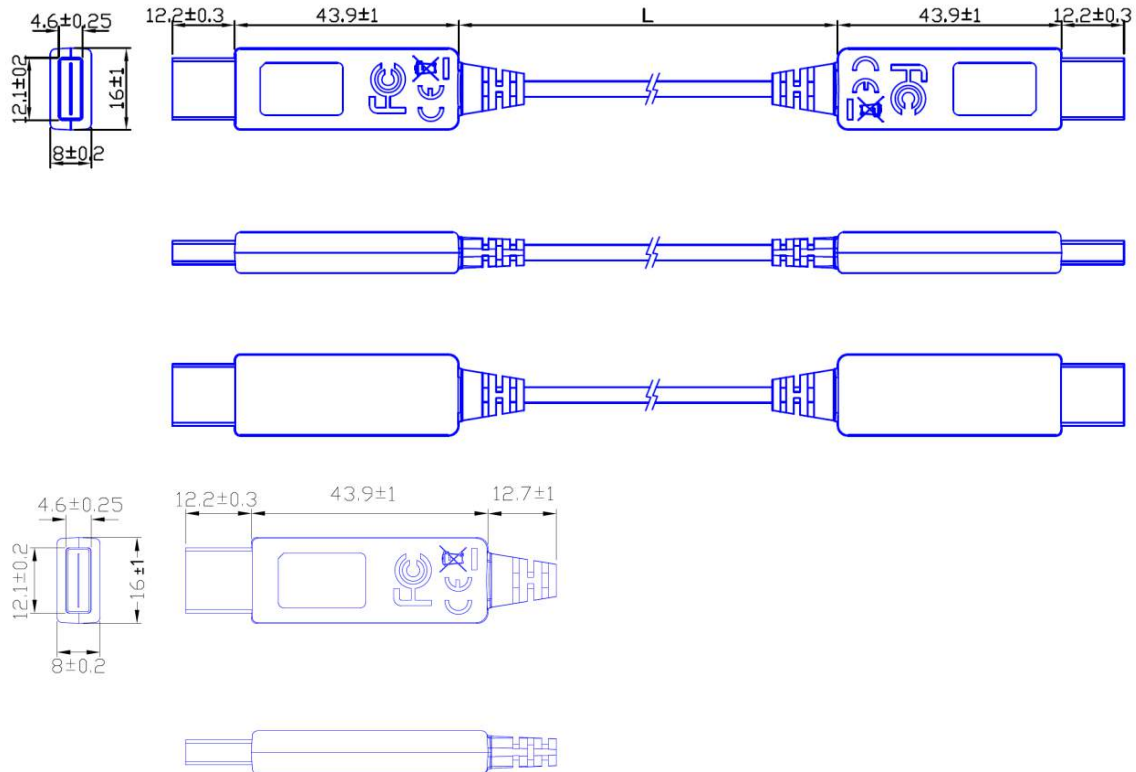


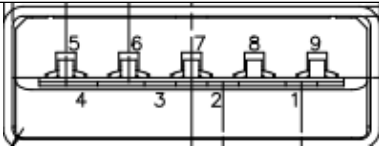
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9. Drawing



	<p style="text-align: right;">Length L= 10M~100M ^{+5%}/_{-0%}</p>																						
<p>Fiber print : Optical Cable OM3 50 /125 LSZH OFNR (UL) c(UL) 75°C E316737 (F.RoHS) MM/YY XXXXM</p>	 <table border="1" data-bbox="760 1459 990 1837"> <thead> <tr> <th>POSITION</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+5V Power</td> </tr> <tr> <td>2</td> <td>D-(N.C is ok)</td> </tr> <tr> <td>3</td> <td>D+(N.C is ok)</td> </tr> <tr> <td>4</td> <td>GND</td> </tr> <tr> <td>5</td> <td>StdA_SSRx-</td> </tr> <tr> <td>6</td> <td>StdA_SSRx+</td> </tr> <tr> <td>7</td> <td>GND_DRAIN</td> </tr> <tr> <td>8</td> <td>StdA_SSTx-</td> </tr> <tr> <td>9</td> <td>StdA_SSTx+</td> </tr> <tr> <td>Shell</td> <td>Shield</td> </tr> </tbody> </table> <p>USB3.0 A-plug connector define</p>	POSITION	DESCRIPTION	1	+5V Power	2	D-(N.C is ok)	3	D+(N.C is ok)	4	GND	5	StdA_SSRx-	6	StdA_SSRx+	7	GND_DRAIN	8	StdA_SSTx-	9	StdA_SSTx+	Shell	Shield
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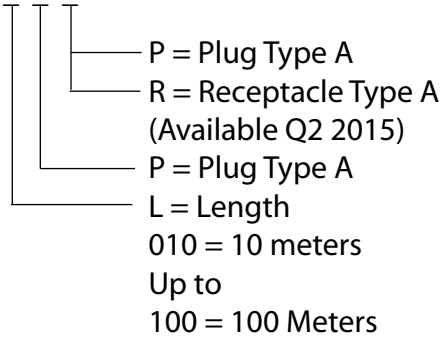
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10. Ordering

Ordering Part Number

ELII-AOC-L-P-Y



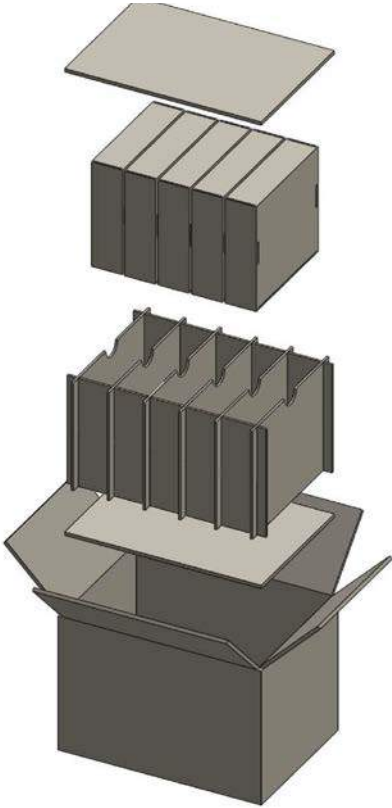
11. Package



Fiber Winding inside diameter $d=15.5\text{cm}\pm 0.5\text{cm}$ (sponge diameter $>15\text{cm}$) , Rubber cable ties *2 & Wire Tie *2



(* Optional)



Carton size : 470*340*300 mm