ELII-SUHC-3000 SERIES

USB 3.0 Hybrid Active Optical Cable

Description

In order to compensate for ordinary USB3.0 active fiber cable 's defect that can't supply power to device, Electronic Links introduced a new USB3.0 hybrid cable. On the basis of the use of optical fiber as the transmission medium, it integrate cooper to achieve the purpose of supplying power to device. The length of USB3.0 hybrid cable can be extended up to 50m and this features offers flexibility in extending USB3.0 devices in commercial and industrial locations such as machine vision cameras ,security cameras,and storage drives ..

KEY FEATURES

◆ Extends USB 3.0 super speed devices up to 50 m

◆ Supports all USB 3.0 device types: control, interrupt, bulk and isochronous at up to 5 Gbps

◆ Operates with USB 3.0 super speed host controllers

◆ Supports all major operating systems including Windows, Mac OS, and Linux

◆ Number of devices can be increased using additional hubs

◆ A substantial increase in USB2.0 device bandwidth with Build-in SuperTT technology

◆ Providing maximum 900mA/5V for the device with locking screw holes

◆ Bus Power from the host PC: without external power supported.

Applications

◆ Industrial Control

◆ Digital Signage

◆ Home Network Integration

◆ Medical Device Connectivity

◆ KVM Extension

◆ Remote Desktop USB 3.0 Connections

◆ Security: web camera, access control

◆ USB 3.0 Device Sharing: print, scan, storage

Applications Reference
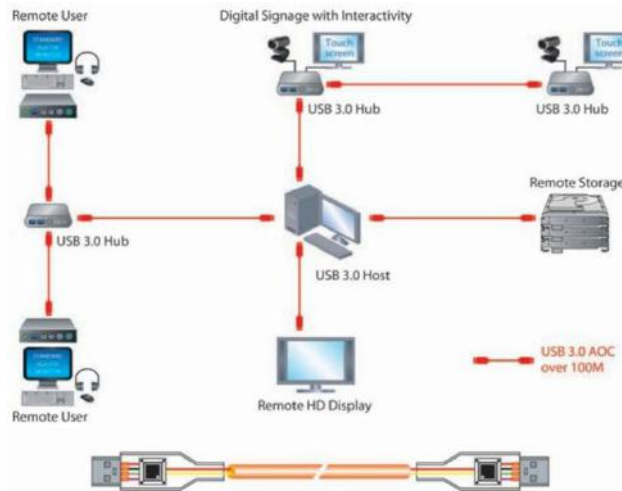
! Requires a separate power supply for the HUB if the cable's downstream port connect to HUB

! Attention , don't be scalded by the interface shell because the temperature may be high if long time use the product.

SPECIFICATIONS

Product Name	SUHC-3000 Series
Description	USB 3.0 Hybrid Active Optical Cable
Connector	Host side: USB3.0 standard-A plug (with locking screws) USB2.0 Micro-B receptacle,auxiliary power supply device with >2W power dissipation
	Device side: USB3.0 Micro-B Plug (with locking screws)
Max. data rate	5.0Gbps
Power	Host side:USB Bus power supply
	Device side supply current: Maximum5V {(900mA 10m/20m/30m) / (600mA 50m)} , need to connect Auxiliary power supply to host side
Cable diameter	3.0 mm

Operating Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F).
Humidity	5% to 90% (non-condensing)

Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Supply Voltage	VCC	-0.5	5.5	V
Operating Temperature	Top	0	70	°C
Storage Temperature	Ts	-40	85	°C
Storage Relative Humidity	Hs	10	85	%RH

Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Units
Supply Voltage	VCC	4.75	5	5.25	V
Operating Temperature	Top	0		50	°C

Characteristics

Parameter	Description	Minimum	Typical	Maximum	Units
VCC	Supply Voltage	4.75	5	5.25	V
I_{BUS}	Current at USB Bus Power	49.5	55	60.5	mA
R_{DIFF}	Differential impedance		90		Ω
USB3.0 AOC TX Characteristic					
P_{TX}	Optical TX output power	0			dBm
R_j	Random jitter			3	ps
D_j	Deterministic jitter			60	ps
T_j	Total jitter at a 10-12 BER			100	ps
USB3.0 AOC RX Characteristic					
S_{RX}	RX sensitivity	-7.5			dBm

$C_{AC\text{-}COUPLING}$	AC coupling capacitor on RXOUT	75	100	200	nF

USB 3.0 Standard-A Plug Pin Assignment

DETAIL G
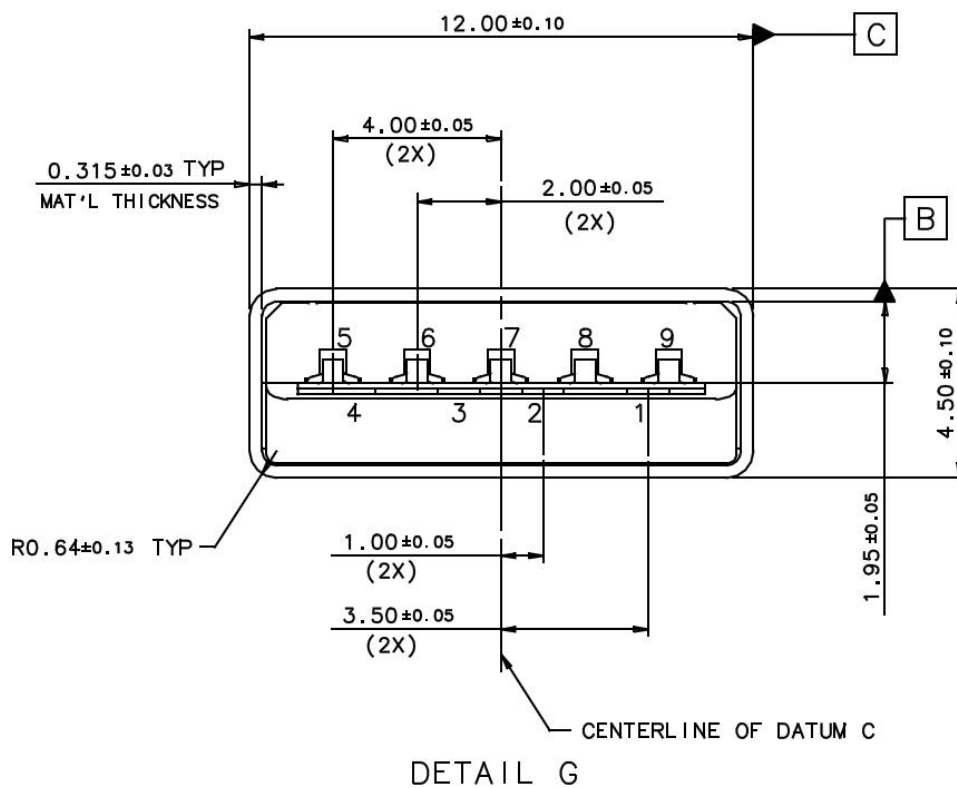
USB 3.0 Standard-A Plug Pin Assignment

Pin number	Signal Name	Description
1	VBUS	Power
2	D-	USB 2.0 differential pair
3	D+	
4	GND	Ground for power return
5	SSTX-	SuperSpeed transmitter differential pair
6	SSTX+	

7	GND	Ground for signal return
8	SSRX-	SuperSpeed receiver differential pair
9	SSRX+	
Shell	Shield	Shield

Ordering Information

Part Number	Description
ELII-SUHC-3000-010	USB 3.0 AOC, 5Gbps,Lengh 10m
ELII-SUHC-3000-020	USB 3.0 AOC, 5Gbps,Lengh 20m
ELII-SUHC-3000-030	USB 3.0 AOC, 5Gbps,Lengh 30m
ELII-SUHC-3000-050	USB 3.0 AOC, 5Gbps,Lengh 50m