

# USB 2.0 CABLES

Universal Serial Bus with increased data transfer of 480 Mbps available in various configurations.

## PART NUMBER REFERENCE



USB-A Connector Type: End "1"

Cable Type Options:

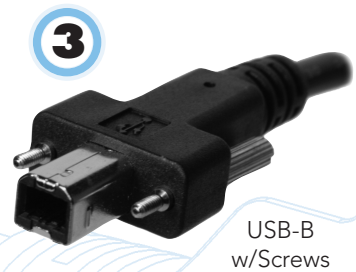
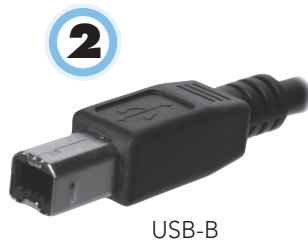
- HI FLEX = 1
- ROBOTIC = 2

Select Connector Type: End "2"

- USB-A = 1
- USB-B = 2
- USB-B w/Screws = 3
- Mini USB-B = 4
- Mini USB-B w/Screws = 5

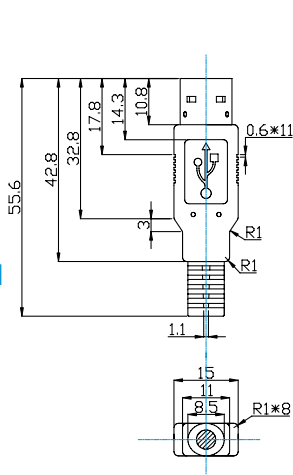
Option: Length in Meters

## CONNECTOR TYPE OPTIONS:

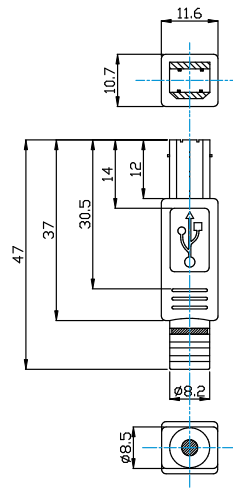


REV. C

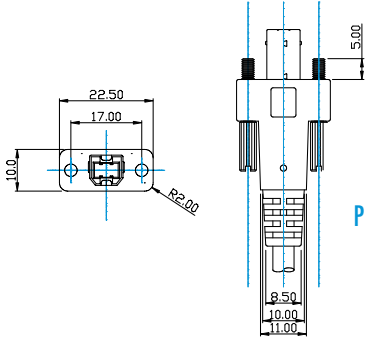
PROFILE 1



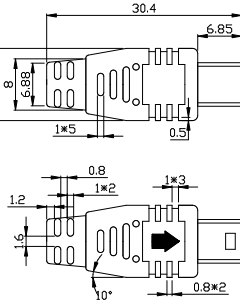
PROFILE 2



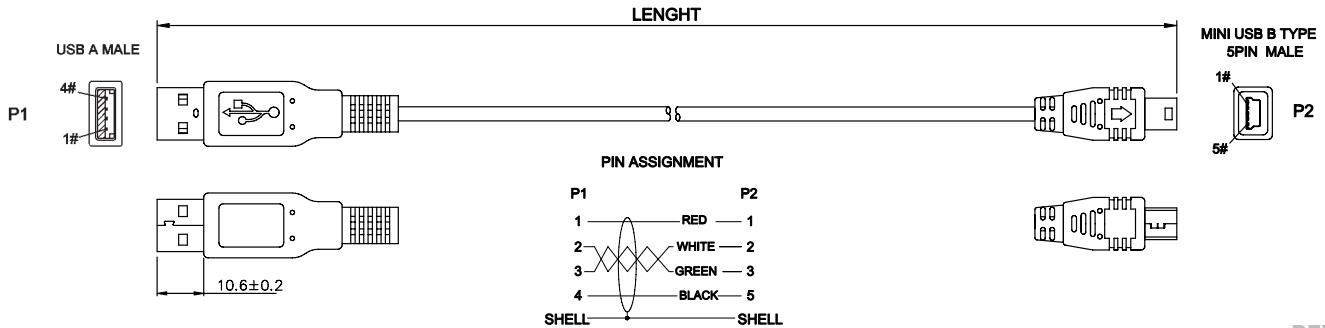
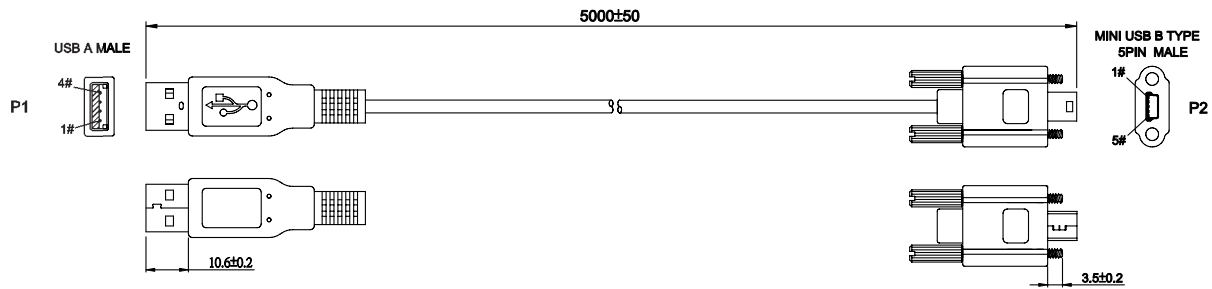
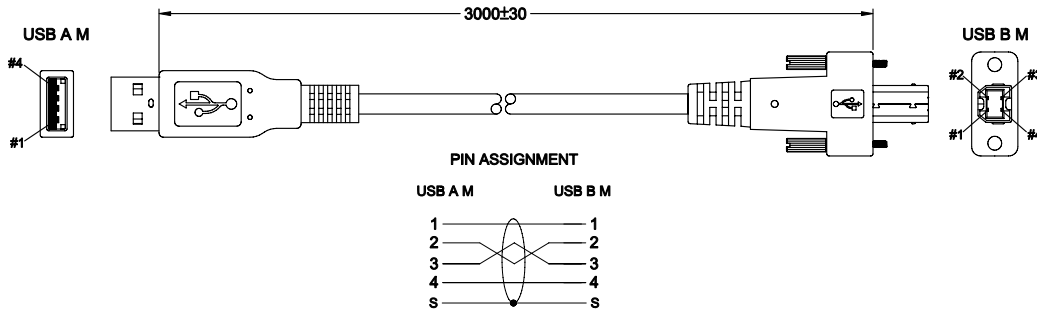
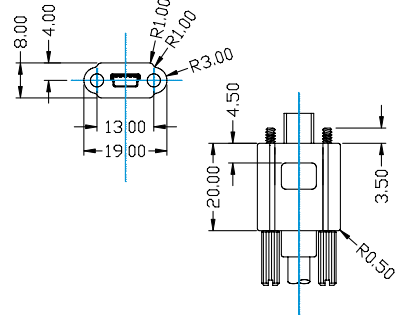
PROFILE 3



PROFILE 4

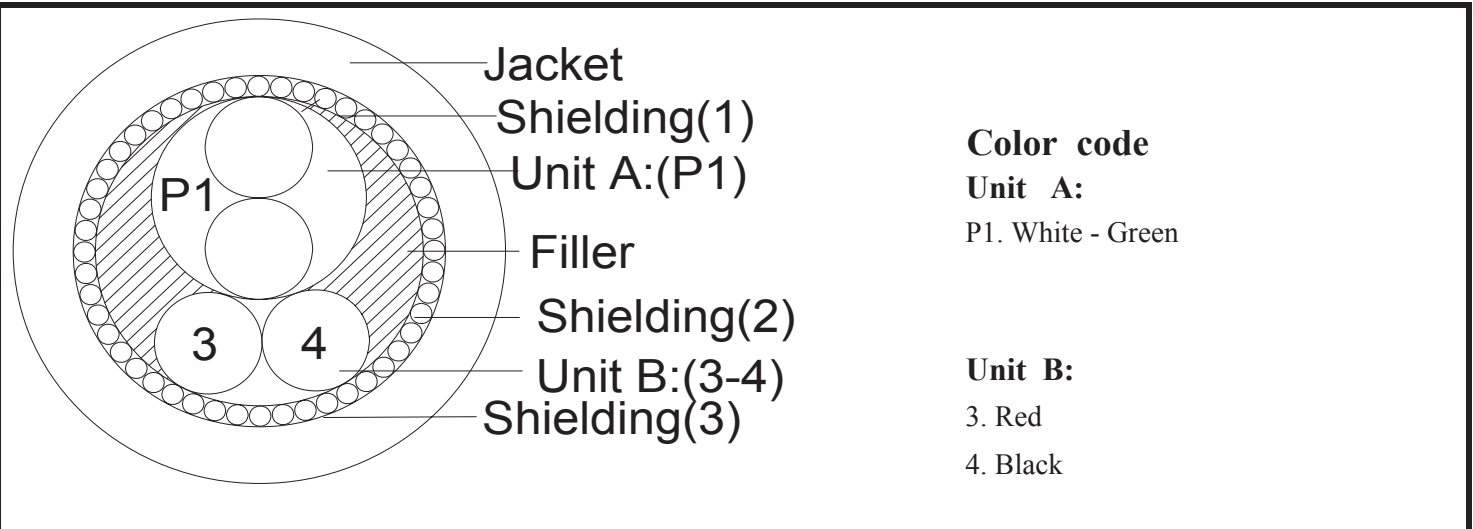


PROFILE 5



REV. C

# USB2 Type #1



**Color code**

**Unit A:**

P1. White - Green

**Unit B:**

3. Red

4. Black

ITEM		UNIT A	UNIT B
No.of Cond		1 Pair	2 Conductors
Conductor	Material	Tinned Copper Wire Stranded	Tinned Copper Wire Stranded
	Construction	28AWG ; 19 strands / 0.08 ± 0.008mm	26AWG ; 19 strands / 0.10 ± 0.008 mm
Insulation	Material	Polyethylene	SR-PVC
	Nom. Diameter	0.75 ± 0.05 mm	1.0 ± 0.05 mm
Shielding(1)	Material	Aluminum Mylar Spirally Wrapped	
	Coverage	100% coverage with 25% overlapping	
Shielding(2)	Material	Tinned Copper Wire	
	Coverage	90% coverage	
Shielding(3)	Material	Foam PP Spirally Wrapped	
	Coverage	100% coverage with 25% overlapping	
Jacket	Material	80°C PVC	
	Nom. Thickness	0.30 mm	
	Nom. Diameter	4.5 ± 0.20 mm	

Marking: E74020-C  AWM STYLE 20276 80°C 30V VW-1 DER AN

DRWN.	<i>Yuan</i>	SPEC NO:	<b>H7304R</b>	REV.	A	Construction:  <b>28AWG × 1Pair + 26AWG × 2C + AM+SP+FPP</b>
CHKD.		Customer.		DATE	Jan.-24-2008	
APPD.		Customer.P/N		SHEET	1 of 2	

# USB2 Type #1

## ELECTRICAL PROPERTIES(電氣特性)

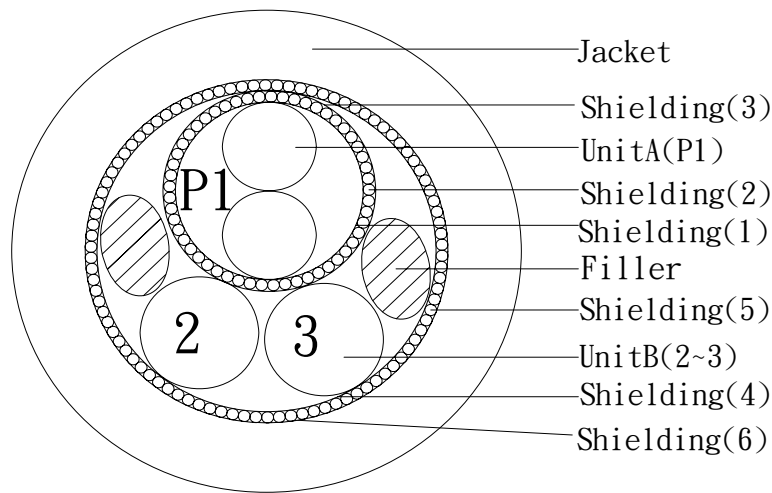
- 1.Voltage rating (額定電壓) : 30V
- 2.Temperature rating (額定溫度) : 80°C
- 3.Spark Test (火花電壓) : Min. AC-1000V
- 4.Dielectric Strength (耐壓強度) : Min. AC-500V/Min
- 5.Insulation resistance (絕緣電阻) : Min. 10 Mega ohms-km at 20°C
- 6.Conductor resistance (導體電阻): Max. 376 ohms/km at 20°C ;
- 7.Impedance (阻抗): Differential mode (TDR) : 90±10 Ohms
- 8.Common Mode Impedance(同模阻抗) :30 ± 9Ohms
- 9.Time Delay(延遲) :Max. 5.2 ns/m
- 10.Time Delay Skew(延遲差):Max.100 ps
- 11.Attenuation(衰減) : Max. 0.13 dB(0.512 MHz); 0.15dB(0.772MHz); 0.20dB(1MHz); 0.39dB(4MHz); 0.57dB(8MHz); 0.76dB(12MHz); 0.95dB(24MHz); 1.35dB(48MHz) 1.90dB(96MHz);3.2dB(200MHz);5.8dB (400MHz)/Cable

## PHYSICAL PROPERTIES(物理特性)

- 1.Flame Test of Cable (耐燃測試) :
  - 1-1.Sheath : VW-1(外被通過垂直燃燒)
- 2.Tensile Strength test before aging (老化前抗張強度) :
  - 2-1.Sheath (外被):> 1.05Kg/mm<sup>2</sup>;溫度:113°C;時間: 168H
- 3.Tensile Strength test after aging (老化後抗張強度) :
  - 3-1.Sheath (外被) :>70% Tensile strength after aging( 老化后抗張強度70%)
- 4.Elongation (老化前伸長率):
  - 4-1.Sheath (外被) :>100%
- 5.Elongation test aging (老化後伸長率) :
  - 5-1.Sheath (外被) :>65% Elongation before aging(老化前伸長率65%)

DRWN.	Yuan	SPEC NO:	<b>H7304R</b>	REV.	A	Construction:  <b>28AWG × 1Pair + 26AWG × 2C + AM+SP+FPP</b>
CHKD.		Customer.		DATE	Jan.-24-2008	
APPD.		Customer.P/N		SHEET	2 of 2	

# USB2 Type #2



**Color code**

**Unit A:**

P1. White - Green

**Unit B:**

2. Red

3. Black

ITEM		UNIT A	UNIT B
No.of Cond		1 Pair	2 Conductors
Conductor	Material	Tinned Copper Wire Stranded	Tinned Copper Wire Stranded
	Construction	28AWG ; 19 strands / 0.08 ± 0.008mm	26AWG ; 19 strands / 0.10 ± 0.008 mm
Insulation	Material	Polyethylene	SR-PVC
	Nom. Diameter	0.79 ± 0.05 mm	1.0 ± 0.05 mm
Shielding(1)	Material	Aluminum Mylar Spirally Wrapped	
	Coverage	100% coverage with 25% overlapping	
Shielding(2)	Material	Tinned Copper Wire	
	Coverage	90% coverage	
Shielding(3)	Material	Teflon	
	Coverage	100% coverage with 25% overlapping	
Shielding(4)	Material	Aluminum Mylar Spirally Wrapped	
	Coverage	100% coverage with 25% overlapping	
Shielding(5)	Material	Tinned Copper Wire	
	Coverage	90% coverage	
Shielding(6)	Material	Teflon	
	Coverage	100% coverage with 25% overlapping	
Jacket	Material	PVC	
	Nom. Thickness	0.30 mm	
	Nom. Diameter	5.0 ± 0.20 mm	
	Color	VIOLET	

Marking: E74020-C  AWM STYLE 20276 80°C 30V VW-1 DER AN

DRWN.	Lumin	SPEC NO:	Construction: <b>(28AWG×1P+AM+SP+Teflon)×1PCS+26AWG × 2C+AM+SP+Teflon</b>
CHKD.		<b>H7304V</b>	
APPD.		DATE:Oct.-27-2011	

# USB2 Type #2

PG 2

## **ELECTRICAL PROPERTIES(電氣特性)**

- 1.Voltage rating (額定電壓) : 30V
- 2.Temperature rating (額定溫度) : 80°C
- 3.Spark Test (火花電壓) : Min. AC-1000V
- 4.Dielectric Strength (耐壓強度) : Min. AC-500V/Min
- 5.Insulation resistance (絕緣電阻) : Min. 10 Mega ohms-km at 20°C
- 6.Conductor resistance (導體電阻) : Max. 376 ohms/km at 20°C;

## **PHYSICAL PROPERTIES(物理特性)**

- 1.Flame Test of Cable (耐燃測試) :
  - 1-1.Sheath : VW-1(外被通過垂直燃燒)
- 2.Tensile Strength test before aging (老化前抗張強度) :
  - 2-1.Sheath (外被): > 1.05Kg/mm<sup>2</sup>;溫度:113°C;時間: 168H
- 3.Tensile Strength test after aging (老化後抗張強度) :
  - 3-1.Sheath (外被) : > 70% Tensile strength after aging( 老化后抗張強度70%)
- 4.Elongation (老化前伸長率):
  - 4-1.Sheath (外被) : > 100%
- 5.Elongation test aging (老化後伸長率) :
  - 5-1.Sheath (外被) : > 65% Elongation before aging(老化前伸長率65%)

**SPEC NO: H7304V**