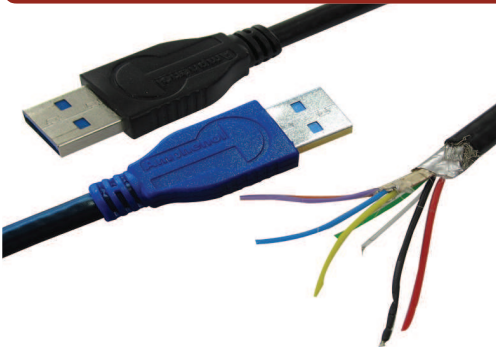




# High Reliability USB 3.0 Cordsets



General construction: this is a USB-3.0 cable containing two 28 AWG 90Ω USB3.0 parallel shielded pair, one 28 AWG USB2.0 pair, and two 24 AWG power conductors, overall SFTP shields (SFTP = double shielding, braid and foil), jacketed in black UV resistant Polyurethane HFFR\*. Designed for fixed or portable applications in industrial and harsh environments.  
\*HFFR: Halogen Free Flame Retardant.

**Jacket compound specification:**  
Halogen Free Flame Retardant Polyether-based Polyurethane. Glossy finish. Excellent hydrolysis resistance. High microbial resistance. UV resistant. High flexibility.

- Applications**
- Robotics
  - Railways
  - Battelfield communication
  - Motion control
  - CNC machines
  - Industrial process

PHYSICAL CHARACTERISTICS	
<b>DATA CONDUCTORS</b>	Tinned stranded copper, 7/0.13 mm nom (28 AWG)
<b>DATA INSULATION</b>	1 mm nom
<b>COLOR DATA PAIR</b>	Green & white (USB2.0) Yellow & blue, orange & violet (USB3.0)
<b>POWER CONDUCTORS</b>	Tinned copper, 7/0.2 mm (24 AWG)
<b>POWER INSULATION</b>	1.1 mm nom
<b>COLOR POWER WIRE</b>	Red & Black
<b>SHIELDS</b>	USB 3.0 pair: foil + stranded tinned copper drain wire. Overall: foil + shield braiding of tinner copper wires (coverage 85%).
<b>JACKET</b>	PU compound
<b>COLOR JACKET</b>	Black
<b>WEIGHT</b>	31 lbs/1000ft (46 kg/km)
<b>OUTSIDE DIAM.</b>	0.20 inch (5.7 mm nom. +/- 0.2)
<b>MIN BEND RADIUS (During operation)</b>	57 mm (10 x O. D.)
<b>MIN BEND RADIUS (During installation)</b>	28.5mm (5 x O.D.)
<b>TEMPERATURE installation &amp; operational</b>	Plus 85°C, minus 40°C

ELECTRICAL CHARACTERISTICS			
<b>USB3.0 Parallel pair</b>			
<b>Conductor resistance</b>	≤ 210 Ohm/km		
<b>Insulation resistance</b>	≥ 200 MOhm/km		
<b>Capacitance (1 kHz)</b>	nom. 43 nF/km		
<b>Time delay</b>	nom. 5.0 ns/m		
<b>Time delay skew</b>	≤ 150 ps/10m		
<b>Operating voltage (peak)</b>	≤ 100 V		
<b>Impedance</b>	90 ±7 Ohm		
<b>Test voltage</b>	500 V		
<b>USB2.0 Pair</b>			
Electrical requirements acc. to USB2.0			
<b>Impedance</b>	90 ±15 Ohm		
<b>Test voltage</b>	500 V		
<b>Attenuation</b>			
<b>USB3.0 pair-db/10m</b>		<b>USB2.0 pair-db/100m</b>	
<b>625 MHZ</b>	10	<b>1 MHZ</b>	4
<b>1250 MHZ</b>	15	<b>4 MHZ</b>	7.8
<b>2500 MHZ</b>	25	<b>8 MHZ</b>	11.4
<b>5000 MHZ</b>	36	<b>12 MHZ</b>	13.4
<b>7000 MHZ</b>	47	<b>24 MHZ</b>	19
		<b>48 MHZ</b>	27
		<b>96 MHZ</b>	38
		<b>200 MHZ</b>	64
		<b>400 MHZ</b>	116

Datas for cable alone only (without USB plug)

	CORDSETS WITH A USB3 PLUG OVERMOLDED ON EACH END		
	Length (m/ft)	<u>CROSSED</u> wiring part number <i>Black overmolding</i>	<u>STRAIGHT</u> wiring part number <i>Blue overmolding</i>
<b>IMPORTANT NOTE</b> ⇒for PC to PC application, use a <b>CROSSED</b> cable ⇒for PC to peripheral application use a <b>STRAIGHT</b> cable <i>see page 87</i>	0.5 m / 1.64 ft	USB 3 A A CROSSED 050 PU HFFR	USB 3 A A STRAIGHT 050 PU HFFR
	1 m / 3.28 ft	USB 3 A A CROSSED 100 PU HFFR	USB 3 A A STRAIGHT 100 PU HFFR
	1.5 m / 4.92 ft	USB 3 A A CROSSED 150 PU HFFR	USB 3 A A STRAIGHT 150 PU HFFR
	1.8 m / 5.91 ft	USB 3 A A CROSSED 180 PU HFFR	USB 3 A A STRAIGHT 180 PU HFFR
<b>UNDER USB3 SPECIFICATION</b> ≤1.8 M	2 m / 6.56 ft	USB 3 A A CROSSED 200 PU HFFR	USB 3 A A STRAIGHT 200 PU HFFR
	2.5 m / 8.20 ft	USB 3 A A CROSSED 250 PU HFFR	USB 3 A A STRAIGHT 250 PU HFFR
	3 m / 9.84 ft	USB 3 A A CROSSED 300 PU HFFR	USB 3 A A STRAIGHT 300 PU HFFR
	3.5 m / 11.48 ft	USB 3 A A CROSSED 350 PU HFFR	USB 3 A A STRAIGHT 350 PU HFFR
	4 m / 13.12 ft	USB 3 A A CROSSED 400 PU HFFR	USB 3 A A STRAIGHT 400 PU HFFR
	4.5 m / 14.76 ft	USB 3 A A CROSSED 450 PU HFFR	USB 3 A A STRAIGHT 450 PU HFFR
	5 m / 16.40 ft	USB 3 A A CROSSED 500 PU HFFR	USB 3 A A STRAIGHT 500 PU HFFR
<b>OUT OF USB3 SPECIFICATION</b> >1.8 M			