

# High Reliability USB 2.0 Cordsets



General construction: this is a USB-2.0 cable containing one 28 AWG 90Ω characteristic impedance data pair, two 24 AWG power conductors, overall SFTP shields (SFTP = double shielding, braid and foiled), 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
  - Motion control
  - Railways
  - CNC machines
  - Battelfield communication
  - Industrial process

Data  
for cable alone only  
(without USB plug)

PHYSICAL CHARACTERISTICS	
<b>DATA CONDUCTORS</b>	bare copper, 7/0.12 mm nom (28 AWG)
<b>DATA INSULATION</b>	0.9 mm nom
<b>COLOR DATA PAIR</b>	Green & white
<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>	Foil: providing 100% coverage, in contact with tinned copper drain wire and an overall braid providing 65% nom. coverage made of 16x5/0.1 mm tinned copper strands
<b>JACKET</b>	PU compound
<b>COLOR JACKET</b>	Black
<b>WEIGHT</b>	26 lbs/mft (38 kg/km)
<b>OUTSIDE DIAM.</b>	0.20 inch (5.1 mm nom. +/- 0.15)
<b>MIN BEND RADIUS</b> <i>(During installation)</i>	45.9 mm (9x O. D.)
<b>MIN BEND RADIUS</b> <i>(During operation)</i>	25.5mm (5 x O.D.)
<b>TEMPERATURE installation</b>	Plus 60°C, minus 5°C
<b>TEMPERATURE operational</b>	Plus 85°C, minus 40°C

CORDSETS WITH A USB A PLUG OVERMOLDED ON EACH END (OUT OF USB SPECIFICATION > 5 M)	
Length (m/ft)	Part number
6 m / 19.68 ft	USB2 AA 600 PU HFFR
7 m / 22.96 ft	USB2 AA 700 PU HFFR
8 m / 26.24 ft	USB2 AA 800 PU HFFR
9 m / 29.52 ft	USB2 AA 900 PU HFFR
10 m / 32.80 ft	USB2 AA 1000 PU HFFR

REEL OF DRUM (WITHOUT USB PLUG ON ENDS)	
Length	PN
300 m / ~ 984 ft	190-040567-00

ELECTRICAL CHARACTERISTICS	
<b>DC RESISTANCE</b>	94 Ohms/Km @ 20°C
<b>IMPEDANCE</b>	90 +/- 13 Ohms 1-400 MHz
<b>ATTENUATION</b>	
<b>1 KHZ</b>	8 db/100m max.
<b>4 MHZ</b>	15,6 db/100m max.
<b>24 MHZ</b>	38 db/100m max.
<b>96 MHZ</b>	76 db/100m max.
<b>200 MHZ</b>	128 db/100m max.
<b>400 MHZ</b>	232 db/100m max.
<b>CAPACITANCE 2X28 AWG</b>	54pF/m nom. @ 1KHz
<b>CAPACITANCE UNBALANCE</b>	2.0 pF/m max. @ 1KHz (wire to ground)
<b>DIELECTRIC STRENGTH</b>	VAC/1 min - 500 V/Min
<b>RESISTANCE UNBALANCE</b>	2% max. @ 20°C
<b>VELOCITY OF PROPAGATION</b>	65% min. 68% max.

CORDSETS WITH A USB A PLUG OVERMOLDED ON EACH END (UNDER USB SPECIFICATION ≤ 5M)	
Length (m/ft)	Part number
0.5 m / 1.64 ft	USB2 AA 050 PU HFFR
1 m / 3.28 ft	USB2 AA 100 PU HFFR
1.50 m / 4.92 ft	USB2 AA 150 PU HFFR
2 m / 6.56 ft	USB2 AA 200 PU HFFR
2.50 m / 8.2 ft	USB2 AA 250 PU HFFR
3 m / 9.84 ft	USB2 AA 300 PU HFFR
3.50 m / 11.48 ft	USB2 AA 350 PU HFFR
4 m / 13.12 ft	USB2 AA 400 PU HFFR
4.5 m / 14.76 ft	USB2 AA 450 PU HFFR
5 m / 16.40 ft	USB2 AA 500 PU HFFR

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