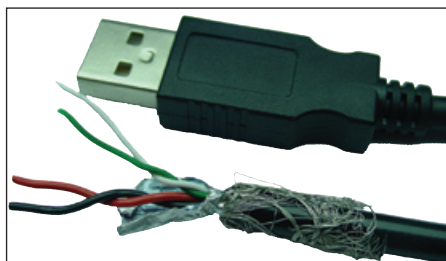


# High Reliability USB 2.0 Cordsets



## Applications

- Robotics
- Motion Control
- Railways
- CNC Machines
- Battelfield communication
- Industrial Process

**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 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.

**ROHS COMPLIANT**

## 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>          | 45.9 mm (9x O. D.)                                                                                                                                                 |
| <i>(During installation)</i>    |                                                                                                                                                                    |
| <b>MIN BEND RADIUS</b>          | 25.5mm (5 x O.D.)                                                                                                                                                  |
| <i>(During operation)</i>       |                                                                                                                                                                    |
| <b>TEMPERATURE installation</b> | Plus 60°C, minus 5°C                                                                                                                                               |
| <b>TEMPERATURE operational</b>  | Plus 70°C, minus 30°C                                                                                                                                              |

## ELECTRICAL CHARACTERISTICS

|                      |                          |
|----------------------|--------------------------|
| <b>DC RESISTANCE</b> | 94 Ohms/Km @ 20°C        |
| <b>IMPEDANCE</b>     | 90 +/- 13 Ohms 1-400 MHz |

## ATTENUATION

|                |                   |
|----------------|-------------------|
| <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</b> | 2.0 pF/m max. @ 1KHz |
|--------------------|----------------------|

|                  |                  |
|------------------|------------------|
| <b>UNBALANCE</b> | (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 (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 |

## 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 |