



industrial data rf cable series

DH+ 78 Ω Twinax

Data Highway Plus (DH+) 78 Ω Twinaxial Industrial Bus Cable

78 $\Omega \pm 3 \Omega$ 1×2×20 AWG foil+braid screened 'Blue Hose' DH+ & Remote I/O twinaxial cable

78 $\Omega \pm 3 \Omega$ Twinaxial

DH+ & Remote I/O ('Blue Hose')

1×2×20 AWG · 66% VoP

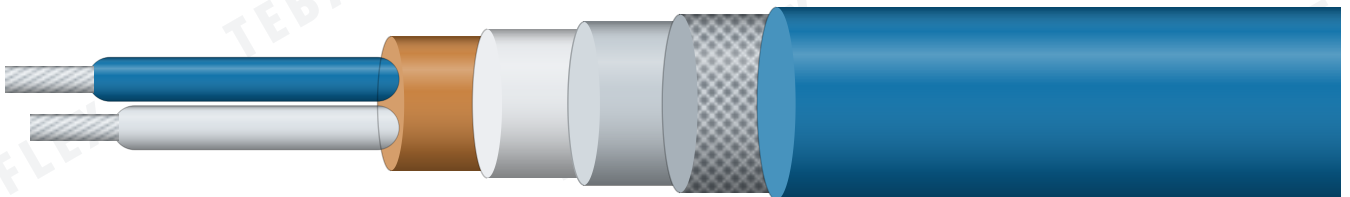


Application

78 Ω 'Blue Hose' twinaxial industrial bus cable (9463) for Allen-Bradley Data Highway Plus (DH+) and Remote I/O (57.6–230.4 kbps) with 1×2×20 AWG tinned copper cores (clear/blue PE), 20 AWG drain wire, 100 % foil plus 55 % tinned braid, and 300 V PVC jacket.

Typical uses: PLC-5 & SLC 500 Brownfield Migrations, Automotive Stamping & Assembly Plants, Pulp, Paper & Converting Lines, Food, Beverage & Bottling Plants, Water & Municipal Pumping Stations

Construction



Cross-section, not to scale

- 1 20 AWG stranded tinned copper twinaxial pair
- 2 Solid polyethylene (PE) core insulation
- 3 100 % aluminum/polyester foil + 20 AWG drain wire
- 4 Tinned copper wire braid screen
- 5 Blue industrial PVC outer jacket ('Blue Hose')

Technical data

Typical values

Characteristic impedance	78 Ω ± 3 Ω	Mutual capacitance (core/core)	64.6 pF/m (19.7 pF/ft) @ 1 kHz
Capacitance (core to shield)	118.1 pF/m (36.0 pF/ft) @ 1 kHz	Velocity of propagation	66 % nominal (inductance 0.39 µH/m)
Conductor / shield DC resistance	31.2 Ω/km (20 AWG) · 13.8 Ω/km shield	Attenuation @ 1 / 10 / 50 MHz	1.97 / 6.89 / 16.4 dB/100m
Operating temperature range	-40 °C to +80 °C (PVC)	Plenum FEP version (89463)	-70 °C to +200 °C (UL CMP)
UL voltage rating	300 V RMS (UL CM / CL2 / AWM 2464)	Conductor stranding	1×2×20 AWG (7×28 AWG, 0.52 mm ²) Sn-Cu
Overall diameter	6.05 mm (0.238 in) nominal	Min. bending radius	60 mm (10 × OD) fixed
Max. pulling tension	200 N (45 lbf)	Flame retardancy	UL 1685 FT4 / CEC CMG FT4 / IEC 60332-1-2
Sunlight & oil resistance	UL Sunlight Resistant & Oil Res I	Termination resistor match	150 Ω (57.6/115.2 kbps) or 82 Ω (230.4 kbps)
Standards	NEC CM, CL2 · UL AWM Style 2464 · CEC CMG FT4		

Sizes

8 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Impedance / size	Conductor & dielectric	Wall ≈ mm	Outer Ø ≈ mm	Metal kg/km	Weight ≈ kg/km	Min. bend R fixed mm
Standard DH+ 9463 configurations 8 sizes							
☐ 9463 Blue Hose PVC	78 Ω · 1×2×20 AWG	7×28 Sn-Cu + PE + Foil/Braid	0.89	6.05	24.5	54.0	60
☐ 9463F High-Flex	78 Ω · 1×2×20 AWG Flex	19×32 Sn-Cu + PE + Foil/Braid	0.90	6.15	25.5	56.0	46
☐ 89463 Plenum FEP	78 Ω · 1×2×20 AWG FEP	7×28 Sn-Cu + FEP + Foil/Braid	0.55	5.28	24.5	48.0	53
☐ 9463DB Direct Burial	78 Ω · 1×2×20 AWG HDPE	7×28 Sn-Cu + Flooded HDPE	1.10	6.80	24.5	64.0	68
☐ 9463NH LSZH	78 Ω · 1×2×20 AWG LSZH	7×28 Sn-Cu + PE + LSZH	0.92	6.10	24.5	57.0	61
☐ 129463 Al-Armored	78 Ω · 1×2×20 AWG AIA	7×28 Sn-Cu + Interlocked Al	1.35	11.40	48.0	138.0	114
☐ 9463-PUR Oil/Flex	78 Ω · 1×2×20 AWG PUR	19×32 Sn-Cu + PE + PUR	0.95	6.20	25.5	55.0	46
☐ 9272 Compact 78 Ω	78 Ω · 1×2×20 AWG	7×28 Sn-Cu + PE + 93% Braid	0.85	5.95	26.0	53.0	60

- Outer diameters and weights are nominal engineering values for DH+ 9463 subject to standard manufacturing tolerances per UL 444 / NEC CM-CL2 (78 Ω Data Highway Plus & Remote I/O Twinaxial).

RF & electrical data

8 sizes

Configuration	Max. DC R @ 20 °C Ω/km	Char. Z0 Ω	Velocity VoP / L (% or nH/m)	Dielectric test V AC rms
9463 Blue Hose PVC (78 Ω · 1×2×20 AWG)	31.20	78.0	66.0	2,000
9463F High-Flex (78 Ω · 1×2×20 AWG Flex)	33.50	78.0	66.0	2,000
89463 Plenum FEP (78 Ω · 1×2×20 AWG FEP)	31.20	78.0	78.0	2,000
9463DB Direct Burial (78 Ω · 1×2×20 AWG HDPE)	31.20	78.0	66.0	2,000
9463NH LSZH (78 Ω · 1×2×20 AWG LSZH)	31.20	78.0	66.0	2,000
129463 Al-Armored (78 Ω · 1×2×20 AWG AIA)	31.20	78.0	66.0	2,000
9463-PUR Oil/Flex (78 Ω · 1×2×20 AWG PUR)	33.50	78.0	66.0	2,000
9272 Compact 78 Ω (78 Ω · 1×2×20 AWG)	31.20	78.0	66.0	2,000

- Characteristic impedance, propagation velocity, DC resistance at +20 °C, and dielectric withstand voltages verified per UL 444 / NEC CM-CL2 (78 Ω Data Highway Plus & Remote I/O Twinaxial).

Standards and approvals

- ✓ UL 444 / NEC CM-CL2 (78 Ω Data Highway Plus & Remote I/O Twinaxial)
- ✓ CE (2014/35/EU) & RoHS 3 (2015/863/EU) Compliant
- ✓ REACH SVHC Compliance Verified

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

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Email

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Typical values for this cable type, based on UL 444 / NEC CM-CL2 (78 Ω Data Highway Plus & Remote I/O Twinaxial). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.