

High-Speed Digital Data Cables

Gigabit, NETflight®, and Maxflite™ Series



Gigabit Series Ethernet Cables | NETflight® Series Ethernet Cables | Maxflite™ Series Cables

INTRODUCTION

We manufacture a wide variety of high-performance data cables designed to meet the needs of aerospace, defense, military, ground transportation, industrial, and RF communication applications like:

- » Ethernet Backbone
- » Cabin Management Systems
- » Avionics
- » IFEC
- » High-Definition Video
- » Bus

High-Speed Digital Data Cable Series:

Gigabit Ethernet cables have been developed in a wide variety of configurations to provide 1 and 10 Gb performance in the most demanding applications.

NETflight® Ethernet cables in single pair, dual pair, and quad pair configurations are widely used throughout the aerospace industry and provide superior electrical and mechanical performance.

Maxflite™ cables provide high-speed performance for the popular video and data bus protocols:

- » HDMI
- » USB
- » DVI
- » Firewire

In addition to the standard protocols, we also offer:

- » Custom Designs
- » Assembly Services

FEATURES & BENEFITS

- » Exceptional electrical and mechanical performance
- » Operating performance from -55 °C to as high as 200 °C
- » Meets the requirements of aerospace and other harsh environments including FAR 25.853 flammability and Boeing/Airbus smoke and toxicity requirements
- » Multiple configurations to meet the needs of almost any application
- » Lightweight versions to address weight and space requirements
- » Advanced technologies, including bonded pairs and an innovative X-Web, reduce crosstalk and ensure installable performance

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Gigabit Series

Gigabit Series		Gigabit-Flexx™		Gigabit-Plus™			Gigabit-10-HP™	Gigabit-10*		Gigabit-STP™
		24 AWG	26 AWG	24 AWG		26 AWG	24 AWG	24 AWG	26 AWG	26 AWG
Part Number		10-646360-10R	10-646360-18R	10-646360-09R	10-646360-19R	10-646360-14R	10-646360-00R	10-646360-20R	10-646360-21R	10-646360-22R
Impedance		100 Ω		100 Ω			100 Ω	100 Ω		100 Ω
DC Resistance @ 100ft		2.76 Ω	4.38 Ω	2.76 Ω	2.76 Ω	4.38 Ω	2.76 Ω	2.43 Ω	4.38 Ω	4.38 Ω
Velocity of Propagation		70%		70%			70%	77%		77%
Attenuation @ 100 m	@ 100 MHz	26.4 dB	31.6 dB	24 dB	24 dB	29 dB	22.0 dB	24.1 dB	27.2 dB	38 dB
	@ 250 MHz	N/A	N/A	40 dB	40 dB	48 dB	32 dB	39.2 dB	44.3 dB	62 dB
	@ 500 MHz	N/A	N/A	N/A	N/A	N/A	48 dB	57.2 dB	64.6 dB	90.6 dB
Weight lb/1000 ft (kg/1000 m)		35 (52)	28 (42)	50 (74)	45 (67)	35 (52)	55 (82)	45 (66.6)	33 (48.8)	50 (74)
Size in (mm)		0.245 (6.22)	0.195 (4.95)	0.270 (6.86)	0.270 (6.86)	0.220 (5.59)	0.290 (7.36)	0.282 (7.16)	0.232 (5.89)	0.300 (7.62)
Min. Bend Radius in (mm)		1 (25.4)	0.75 (19.05)	2 (50.8)	2 (50.8)	1.75 (44.45)	0.5 (12.7)	2.82 (71.6)	2.32 (58.9)	3 (76.2)
Operating Temp**		-55 to 200 °C		-55 to 150 °C			-55 to 150 °C	-55 to 150 °C		-55 to 150 °C
ROHS Compliant		✓		✓			✓	✓	✓	✓
Meets FAR 25.853 Flammability Requirements		✓		✓			✓	✓	✓	✓
Meets Boeing/Airbus Smoke & Toxicity Requirements		✓		✓			✓	✓	✓	✓

*Gigabit-10 cables are redesigned specifically for use with an Octonet connector. **Available at -65 °C. Contact us for details
Please contact us for additional/custom configurations

Gigabit-Flexx™



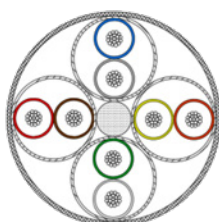
Gigabit-Plus™



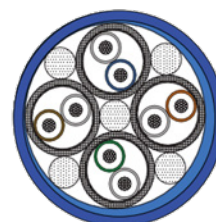
Gigabit 10-HP™



Gigabit-10



Gigabit-STP™



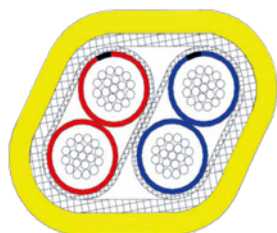
High-Speed Digital Data Cables

NETflight® Series

NETflight®		100 Base-T Shielded Twisted Pair		100 Base-T Shielded Quad					100 Base-T Single Twisted Pair		
		22 AWG	24 AWG	22 AWG	24 AWG			26 AWG	22 AWG	24 AWG	26 AWG
Part Number		10-646353-20R	10-646353-13R	10-646307-00R	10-646061-00R	10-646353-21R	10-646353-22R	10-646058-00R	10-646355-31R	10-646355-23R	10-646355-07R
Impedance		100 Ω		100 Ω					100 Ω		
Velocity of Propagation		78%		78%					78%		
Attenuation @ 100MHz	Nom dB/100 ft	5.6	6	6.4	8	8	8	9.3	5.8	6.6	8.5
	Max dB/100 ft	6.7	7.1	7.3	9.2	9.2	9.2	11	6.7	7.7	9.9
Nom. Weight lb/1000 ft (kg/1000 m)		42 (63)	35 (51)	35 (51)	24.5 (37)	24.5 (36.4)	20.5 (30.5)	19 (28)	26 (38)	18.5 (28)	15.5 (23)
Nom. Size in (mm)		0.195 x 0.306 (4.95 x 7.37)	0.175 x 0.276 (4.45 x 7.01)	0.190 (4.83)	0.160 (4.06)	0.160 (4.06)	0.160 (4.06)	0.137 (3.45)	0.180 (4.57)	0.145 (3.68)	0.132 (3.35)
Bend Radius in (mm)		1.95 (49.5)	1.75 (44.5)	1.90 (48.3)	1.60 (40.6)	1.60 (40.6)	1.60 (40.6)	1.37 (34.5)	1.80 (45.7)	1.45 (36.8)	1.32 (33.5)
Operating Temp**		-55 to 150 °C		-55 to 150 °C		-55 to 200 °C	-55 to 150 °C		-55 to 150 °C		
Meets FAR 25.853		✓		✓					✓		
Meets Boeing/Airbus Smoke & Toxicity		✓		✓					✓		

**Available at -65 °C. Contact us for details
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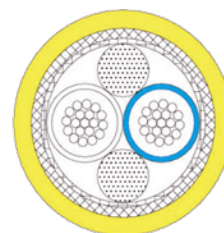
100 Base-T
Shielded Twisted Pair



100 Base-T
Shielded Quad



100 Base-T
Single Twisted Pair



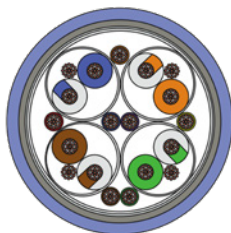
High-Speed Digital Data Cables

Maxflite™ Series

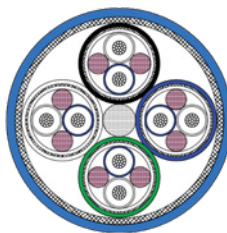
Maxflite™ Series	HDMI (1.3)	HDMI (2.0)	DVI	IEEE 1394 Firewire	USB 2.0 26/22 AWG	USB 3.0 24/26/22 AWG + Drain	USB 3.1
Part Number	10-646363-02R	10-646363-03R	10-646355-22R	10-646390-00R	10-646361-22R	10-646361-23R	10-646361-24R
Nom. Impedance	100 Ω	100 Ω	100 Ω	110 Ω	90 Ω	90 Ω	90 Ω
Nom. Velocity of Propagation	70%	75%	75%	79%	70%	70%	75%
Nom. Attenuation	17 dB/100 ft @ 300 MHz	30 dB/100 ft @ 1 GHz	N/A	11 dB/100 ft @ 200 MHz	2 dB/5m @ 100 GHz	1.4 dB/m @ 1.25 GHz	4.9 dB/3m @ 1.25 GHz
	42 dB/100 ft @ 1.6 GHz	50 dB/100 ft @ 2 GHz		17 dB/100 ft @ 400 MHz	3.2 dB/5m @ 200 MHz	2.4 dB/m @ 2.5 GHz	6.9 dB/3m @ 2.5 GHz
	70 dB/100 ft @ 4.1 GHz	70 dB/100 ft @ 3 GHz		24 dB/100 ft @ 800 MHz	5.8 dB/5m @ 400 MHz	4.1 dB/3m @ 5 GHz	10.8 dB/3m @ 5 GHz
						5.1 dB/3m @ 7.5 GHz	14.8 dB/3m @ 7.5 GHz
							19.7 dB/3m @ 10 GHz
Nom. Weight lb/1000 ft (kg/1000 m)	72 (107)	64 (95.1)	105 (156)	78 (116)	19 (28)	50 (74.41)	73 (108.8)
Nom. Diameter in (mm)	0.315 (8)	0.295 (7.49)	0.4 (10.16)	0.34 (8.64)	0.133 (3.4)	0.27 (6.8)	0.295 (7.49)
Min. Bend Radius in (mm)	1.89 (48)	1.5 (38.1)	4 (102)	3.4 (86)	1.3 (33)	2.7 (68.6)	1.5 (38.1)
Operating Temp **	-55 to 150 °C	-55 to 135 °C	-55 to 150 °C	-55 to 150 °C	-55 to 150 °C	-55 to 150 °C	-55 to 200 °C
Meets FAR 25.853	✓	✓	✓	✓	✓	✓	✓
Meets Boeing/Airbus Smoke & Toxicity	✓	✓	✓	✓	✓	✓	✓

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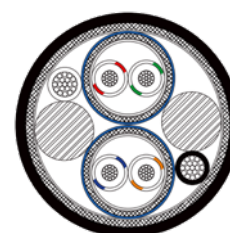
HDMI



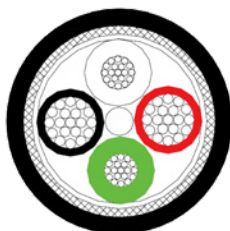
DVI



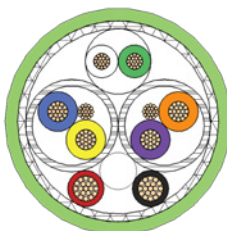
IEEE 1394 Firewire



USB 2.0



USB 3.0



USB 3.1

