MILCOMM™ USB2-101N/1001N

InTalTech's **MILCOMM™** USB2-101N and USB2-1001N are compact, rugged, military grade USB-to-FAST-ETHERNET and USB-to-GIGABIT converters. The USB2-101N/1001N are high performance and highly integrated single port solutions that support USB 2.0 Hi-Speed 480 Mbps data conversion to 10/100/1000Mbit Ethernet data based on IEEE802.3/802.3u/802.3ab LAN standards. The USB2-101N/1001N units are externally powered by the host computer through the USB bus connector. The units are an easy to install 1U² ™ modules fitting into a standard 19" 1U height rack. They are also suitable for direct mounting on vehicle or vessel. The products are designed for airborne, naval and ground mobile applications, while providing high levels of performance and reliability in the harshest environments.

Product Highlights

- 1-port USB-to-Fast/Gigabit Ethernet converter
- High performance converter fully complying with MIL-STD-810F, MIL-STD-461F
- Sealed casing and connectors, complying with IP65
- Rugged USB & ETHERNET connectors
- Operating temperature range of -35 to 70°C

USB & Ethernet Performance

- Hi-Speed USB 2.0 for up to 480 Mbps
- Fast/Gigabit 10BaseT/100BaseTX/1000BaseT
- Plug-n-Play operation
- Full/Half duplex operation
- Auto negotiation/Auto polarity correction

Flexible Mounting

- 1U² ™ Direct mounting on vehicle or vessel
- 1U² ™ Fitting into standard 19" 1U height

Rugged Military Solution

- Compact, tough, corrosion proof Aluminum casing
- Conductively cooled unit – no moving parts
- Olive drab epoxy painting per MIL-C-22750F

Product Customization

- The product is open for customization, based on project volume

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Technical Specification

General	
Description	USB 2.0-to-FAST ETHERNET converter (USB2-101N) USB 2.0-to-GIGABIT ETHERNET converter (USB2-1001N)
USB Interface	
Description	1-port Upstream USB from Host Computer
Speed	Hi-Speed USB 2.0 up to 480 Mbps and full speed USB up to 12Mbps
Standard Compliance	USB 1.1/2.0 compliant
Plug-n-Play	Supported
Fast/Gigabit Int.	
Description	1-port Fast/Gigabit Ethernet
Speed	10BaseT/100BaseTX/1000BaseT Ethernet
Standards	Fully Compliant with **IEEE 802.3/802.3u/802.3ab**
Full/Half Duplex	10/100Mbps/ Flow control - supported 1000Mbps - only full duplex supported
Auto Negotiation	Supported
Auto Polarity	Supported
Connectors	
Upstream Conn.	Vertical Female Mini USB B Connector
Serial conn.	Vertical Female RJ45 Connector
Electrical (USB Upstream Bus power)	
Input Voltage	5 VDC
Input Power	2.5 W
Mechanical	
Weight	~90 gram
Length	43.5 mm
Width	43.6 mm
Height	36.5 mm
Case Cooling	No moving parts, Passive Conductively cooled unit
Case Material	Corrosion proof Aluminum casing
Case Sealing	IP65 dust, oil, and water sealing
Case Painting	Olive drab epoxy painting per MIL-C-22750F
Accessories (Not supplied with the product)	
Mech. Accessories	for fitting into a 19' rack (see accessories Data Sheet)

Mating Connectors (Not supplied with the product)

Description	P/N
Upstream Conn.	Male Mini USB B on cable*
Downstream Conn.	Male RJ45 on cable*

(*) For ITT Rugged connection solutions see accessories data sheet

Ordering Information

Model	Description
USB2-101N	Rugged USB & RJ45 conn. (Fast Ethernet)
USB2-1001N	Rugged USB & RJ45 conn. (Gigabit Ethernet)

Note 1: **Preliminary version**, Specification subject to change without notice
Note 2: Images are for illustration purposes only
Note 3: 1U□means 1U width x 1U height; 10U□fully fits 19" 1U slot

EMC (Designed to Meet)

MIL-STD-461F	Description	Freq. Range
Method CE102	Conducted Emission, Power lines (army)	10 KHz-10 MHz
Method CS101	Conducted Susceptibility, Power lines (curve #2)	30 Hz-150 KHz
Method CS114	Conducted Susceptibility, Bulk cable Inj. (curve #4)	10 KHz-30 MHz
Method CS115	Conducted Susceptibility, Bulk cab. Inj.+ Imp. Exc.	
Method CS116	Conducted Susceptibility, Damped Sin. Transients	10 KHz-100 MHz
Method RE102	Radiated Emission, Electric field (army & navy)	2 MHz-18 GHz
Method RS103	Radiated Susceptibility, Electric field	2 MHz-18 GHz

Environmental (Designed to Meet)

MIL-STD-810F	Operating	Storage
Temperature Method 501.4&502.4 Proc. I & II	-35 to 70°C	-40 to 71°C
Temperature Shock Method 503.4, Proc. I		-40 to 71°C
Altitude Methode 500.4, Proc. I & II	15000 ft for 1h min.	40000 ft for1h min.
Solar Radiation Methode 505.4, Proc. I cat. A1	3 cycles of 24h on each angle	
Rain Methode 506.4, Proc. I	Rain rate 1.7lit/m□/min. Wind velocity 64km/h For 30 min.	
Humidity Method 507.4,	30°C to 60°C 85% to 95% rel. humidity 10 cycles of 24h	
Dust & Sand Method 510.4, Proc. I		
Salt Atmosphere Method 509.4,	2 Cycles of 48 hours	
Fungus Method 508.5,		
Vibration Method 514.5, Proc. I cat. 20	Tracked & wheeled vehicles	
Loose cargo Method 514.5, Proc. II Cat. 5	Test period - 3 hours	
Functional shock Method 516.5 Proc. I	40g, 11msec. Saw tooth peak pulse	

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