

**Digitally Encoded One 10-Bit 10 MHz Video with Full Duplex Multi-Protocol Data**



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Full Duplex or  
Combination of:  
*RS 232*  
*RS 422*  
*RS-485 (2-wire & 4-wire)*  
*BI-PHASE*  
*MANCHESTER*

### FEATURES:

- 10 Bit 10MHz Video Digital Encoding
- Real Time Video and Data Transmission
- Low Power Consumption
- High Efficiency, Isolated Power Supply
- Meets RS-250C Short Haul Transmission Specifications
- NTSC, PAL, SECAM Compatible
- Full Duplex Multiprotocol Data Channel Supports RS-232, RS-422 & RS-485 (2 & 4-wire)
- Wide Optical Dynamic Range: Eliminates Need
- For Optical Attenuators
- Laser Based Systems for both Multimode and Singlemode modules
- Surface Mount Technology (SMT) for High
- Reliability and Repeatability
- Local LED Status Indicators to Monitor Critical
- System Parameters
- ST, FC Optical Connector
- Laser Back - Biased Photo Detector Circuitry for Stable Optical Output Over Full Temperature Range.
- 75 Ohm BNC Video Connector (Gold Center Pin)
- Meets EIA RS-170, RS-343A Formats
- Screw Terminal Connector for Data

### DESCRIPTION:

This NTNR-1U1G/1G-x module incorporates an all-digital encoding technology and transmits following signals:

1. One real-time, high quality, 10-bit 10 MHz video
2. One channel of user selectable, full duplex RS-232, RS-485 (2 or 4 wire), RS-422, Manchester, Bi-Phase or in combination

Module belongs to new **DigiCool™** series which features very Low Power Consumption and Isolated High Efficiency Power Supply. NTSC, PAL and SECAM video formats are all seamlessly supported. Standard 5-pin terminal blocks are used for easy connection of the data channel interface. These single fiber, laser based systems are available in both, Multimode and Singlemode modules.

**Note:** See the FT/FR-1U1G/1G-x data sheet for the complementary rack mount card version of this module.

### CONFIGURATIONS:

The NTNR-1U1G/1G-x products are available in small stand-alone modules for easy mounting on walls, shelves and other convenient flat surfaces.

### MARKETS:

- ✓ Intelligent transportation systems (ITS)
- ✓ Security and surveillance
- ✓ Access Control

# SPECIFICATIONS:

Format .....	NTSC, PAL, SECAM
Voltage/Impedance .....	1 Vp-p, 75 Ohm, 1.5 Vp-p max.
Bandwidth .....	5 Hz to 10 MHz @ -3 dB
Differential Gain .....	<0.6%
Differential Phase .....	<0.3°
SNR .....	>67 dB (weighted)*
Return Loss .....	>30 dB
Field Tilt .....	< 0.5%

## Data

Formats .....	RS-232, RS-422, RS-485 (2 & 4-wire) Manchester or Bi-Phase
Data Rate .....	DC to 125 Kb/s
Bit Error Rate .....	10 <sup>-9</sup> *

Fiber Data Rate ..... 270 Mb/s

## Connectors

Video .....	75 Ohm BNC (Gold Center Pin)
Optical .....	ST, FC
Power (module) .....	2-pin Screw Terminal
Data .....	5-pin Screw Terminal

## Power \*\*

Module..... 12-24VAC / DC - 2.8 W

1 - Green .....	Power On
1 - Bi-color .....	TX Carrier/ Laser Over Current
1 - Bi-color .....	RX Carrier - Present / Error
1 - Bi-color .....	Video Present / Overload
1 - Green .....	Video Sync. Present
1 - Green .....	Tx Data Present
1 - Green .....	Rx Data Present

## Physical

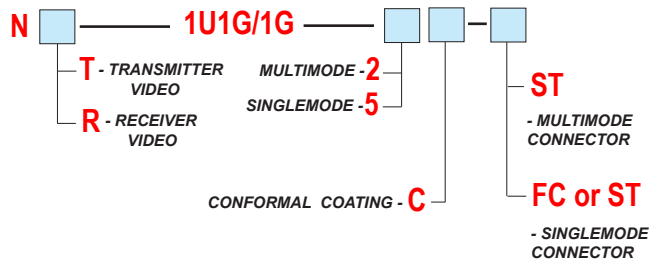
Dimensions (Module) .....	86 mm (3.35") L, 46 mm (1.8") W 19mm (0.735") D
Weight (Module) .....	100 gms (3.52 Oz)

Operating Temperature ...	-40°C to +74°C
Storage Temperature .....	-55°C to +85°C
Relative Humidity .....	0 to 95% Non-condensing

## Quality

MTBF .....	>170,000 hours @ Ground Fix 35°C per MIL217F
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## Part Numbers:



\* measured @ max. optical budget

\*\* Due to variations of drivers and diagnostic options, power shown @ max value

\*\*\* Add 30mm to include mounting flanges



# OPTICAL:

Fiber Type/Size (um)	Optical Output (dBm)	Receiver Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical Connector	Optical Dynamic Range (dB)
Multimode (FP Laser) 62.5 / 125	-5	-28	23	1300 / 850	ST	24
Singlemode (FP Laser) 9 / 125	-5	-28	23	1310 / 1550	ST, FC	24

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