Three High-Speed TTL Data Channels over one fiber

HT/HR-3L-x

HT/HR-3L-xB

TTL 1

TTL 2

TTL 3

FEATURES:

- Three Unidirectional High Speed TTL Data Channel

- Very Low Jitter and Latency

- Suitable for IRIG-B and 1PPS

- DC to 1 Mb/s Data Rate

- Surface Mount Technology (SMT) for High Reliability and Repeatability

- SpectraSmart™ Network Management Compatible

- Local LED Status Indicators to Monitor Critical System Diagnostics and Performance Parameters

- ST, FC Optical Connector

- Hot Swappable Rack Cards

- Back - Biased Photo Detector Circuitry for Stable Optical Laser Output Over Full Temperature Range

- Meets NEMA TS1 / TS2 & CALTRANS Specifications Utilizes Internal Switching Power Supplies

- Automatically Resettable Solid-State Current Limiters on All Power Lines: Provides Equipment Protection

- Wide Optical Dynamic Range: Optical Attenuators are Never Needed

- Screw Terminal or BNC Type Connectors for Data

DESCRIPTION:

The HT/HR-3L-x series products incorporate a new digital encoding technology. This fiber optic system transmits Three Unidirectional High-speed TTL data signals with a maximum data rate of 1 Mb/s. Both, multimode or single-mode, one fiber versions are available (See "Part Numbers" section).

The functionality this system is further enhanced by its compatibility with Meridian's PC based SpectraSmart™ Network Management & Diagnostic Software system. SpectraSmart™ supervises the operating parameters of the transmission system such as the status on Digital carrier detect, voltages, temperatures, optical levels etc. See SpectraSmart™ brochure for further details.

CONFIGURATIONS:

The HT/HR-3L-x products are available as rack mount cards that can be installed in Meridian's card chassis, desk chassis and 19" racking frames. This system can be configured in either star (module to rack) or trunking (rack to rack) configurations. These systems can be made a standalone system by using the SR-500/s, 1 slot desk / wall mount chassis (87VAC-264VAC).

MARKETS:

√ Security and surveillance
√ Access control systems
√ Intelligent transportation systems (ITS)
√ SCADA

SPECIFICATIONS:

Data

Formats	TTL Data
Rate	DC to 1Mb/s
Bit Error Rate	10^{-9*}
Jitter	20ns max.
TX/RX Latency	200ns max.

Data	Screw Terminals
Optical	ST - MM(default), FC - SM(default)
Power	See SR-500 Spec. Sheet

Optical

Fiber Data Rate	100 Mb/s

Environmental

Operating Temperature	-34°C to +74°C
Storage Temperature	-55°C to +85°C
Relative Humidity	0 to 95% Non-condensing

Power **

Card	3 Watts**

Indicators (LEDs)

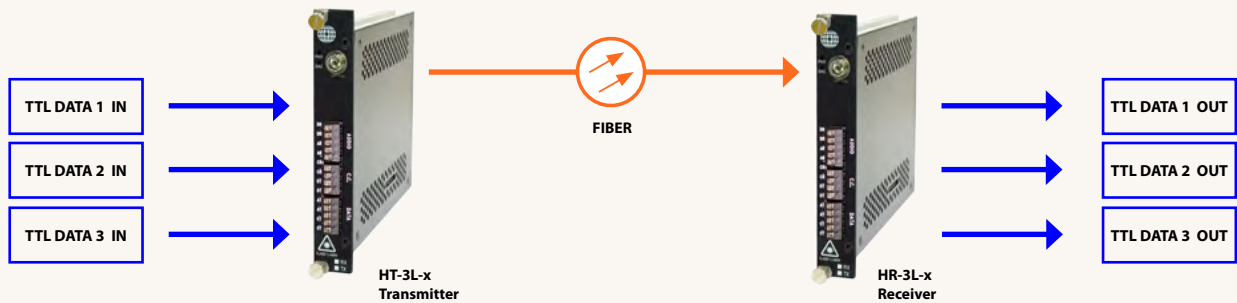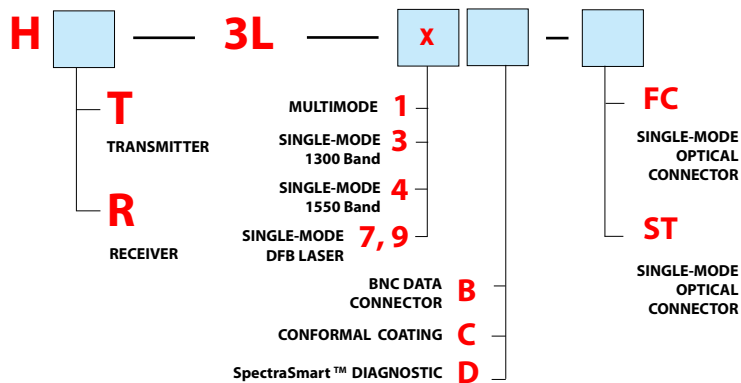|	
1 - Green	Power On
1 - Bi-color	TX Carrier/ Laser Over Current
1 - Bi-color	RX optical signal - Present / Error
3 - Green	TX / RX Data Present
1 - Bi-color (Optional)	Card Diagnostics

Physical

Dimensions (Card)	20 (W) x 127 (H) x 160 (D) mm (0.8 x 5.0 x 6.3 inch)
Weight (Card)	450 gms (16 Oz)
No. of Slots	1
Module	See SR-500 Brochure

Quality

MTBF	>200,000 hours, @ 35°C Ground Fix as per MIL 217F

*   measured @ max. optical budget
** Due to variations of drivers and diagnostic options, power shown @ max value

Part Numbers:

H ⬚ — 3L — x ⬚ – ⬚   FC

- **T** TRANSMITTER
- **R** RECEIVER

- **1** MULTIMODE
- **3** SINGLE-MODE 1300 Band
- **4** SINGLE-MODE 1550 Band
- **7, 9** SINGLE-MODE DFB LASER

- **B** BNC DATA CONNECTOR
- **C** CONFORMAL COATING
- **D** SpectraSmart ™ DIAGNOSTIC

- **FC** SINGLE-MODE OPTICAL CONNECTOR
- **ST** SINGLE-MODE OPTICAL CONNECTOR

TTL DATA 1 IN	→	**HT-3L-x** Transmitter	FIBER →
TTL DATA 2 IN	→		
TTL DATA 3 IN	→	**HR-3L-x** Receiver	→ TTL DATA 1 OUT
			→ TTL DATA 2 OUT
			→ TTL DATA 3 OUT

OPTICAL:

Meridian Optical Code	Fiber Type/Size (um)	Optical Output (dBm)	Receiver Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical Connector	Optical Dynamic Range (dB)	Max Distance (Km)
1	Multimode (Laser) 62.5 / 125	-5	-27	22	1300	ST	27	7
3	Singlemode (FP Laser) 9 / 125	-5	-27	22	1310	ST, FC	27	60
4	Singlemode (FP Laser) 9 / 125	-5	-27	22	1550	ST, FC	27	60
7, 9	Singlemode (DFB Laser) 9 / 125	+1	-27	28	1310, 1550	ST, FC	27	80

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