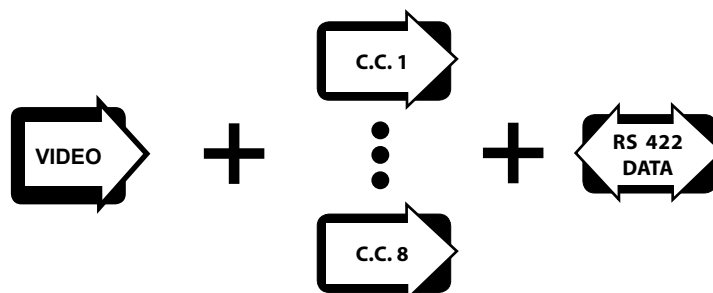# MERIDIAN
T E C H N O L O G I E S

Digital One Channel 10-Bit Video with Eight Contact Closures and One Bi-directional RS 422 Data channel using the Industry Standard Small Form Pluggable (SFP) Optical Device

FEATURES:

- 10 Bit Video Digital Encoding

- Real Time Video & Data Transmission

- 8 Uni-Directional Contact Closure Channels

- 1 Bi-Directional RS-422 Data channel

- 7 MHz Video Bandwidth

- Meets RS-250C Short Haul Transmission Specifications

- NTSC, PAL, SECAM Compatible

- Wide Optical Dynamic Range: Eliminates Need For Optical Attenuators

- Multimode, Singlemode and CWDM fiber options via SFP modules

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

- *SpectraSmart*™ Network Management Compatible

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

- ST, FC Optical Connector

- Hot Swappable Cards

- 75 Ohm BNC Video Connector (Gold Center Pin)

- Meets EIA RS-170, RS-343A Formats

- DB 9 Type Connectors for Data

- DB15 (HD) connector for Contacts

DESCRIPTION:

The DT/DR-1W8C1F/1F-SFP series are Meridian's newest products incorporating industry standard SFP optical modules for exceptional product versatility and performance. This fiber optic module transmits one real-time, simplex 10-bit video, eight Uni-Directional channels of contact closure, 1 Bi-directional RS-422 data using the industry standard Small Form Pluggable (SFP) optical device. This SFP gives you the option for either singlemode, multimode or CWDM wavelength selections by simply plugging in the appropriate SFP module. RS-422 data format are also compatible with Bi-phase & Manchester encoding schemes. Both Multimode and Singlemode fiber versions are available. Meridian's digital product line incorporates plug-in personality signal cards to easily configure a wide variety of module types. The functionality of the DT/DR-1W8C1F/1F-SFP product is enhanced by their 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 video levels, sync, digital carrier detect, voltages, temperatures, optical levels etc. See SpectraSmart brochure for further details.

This card is also available in CWDM wavelengths for high-density transport systems.

CONFIGURATIONS:

The DT/DR-1W8C1F/1F-SFP product family is available as rack mount 2 slot cards and modules that can be installed in either Meridian's desk chaises or in 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-1000/s, 2 slot Desk/Wall mount chassis (87 VAC- 264VAC)

MARKETS:

√ Intelligent Transportation Systems (ITS)
√ Security and Surveillance
√ Access Control

SPECIFICATIONS:

Video

Format	NTSC, PAL, SECAM
Voltage/Impedance	1 Vp-p, 75 Ohm, 1.5 Vp-p max.
Bandwidth	5 Hz to 6.8 MHz @ -3 dB
Differential Gain	<0.6%
Differential Phase	<0.3º
SNR	>67 dB (weighted)*
Return Loss	>30 dB
Field Tilt	< 0.5%

Data

Formats	RS-422
Data Rate RS-422	DC to 1Mb/s
Bit Error Rate	10^{-9*}

Contact Closure

Rate	10 Hz.(Per Channel)
Contact Rating	0.3A, 30V AC / DC
Contact Bounce Time	5 ms

Connectors

Video	75 Ohm BNC (Gold Center Pin)
Optical	LC, SC
Power (module)	See SR-1000 Brochure for details
Data	DB9 Female
Contacts	DB15 (HD) Female

Optical

Fiber Data Rate	1 Gb/s
Fiber Type and Wavelength	SFP dependent

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

Power **

Card	7 Watts

Indicators (LEDs)

1 - Green	Power On
1 - Bi-color	TX Carrier/ Laser Over Current
1 - Bi-color	RX Carrier - Present / Error
1 - Green	RX Optical Signal -Present/Absent
2 - Bi-color	Video Present / Overload
2 - Green	Video Sync. Present
2 - Green	Data Present
8 - Green	Transmit Contact Closure
8 - Green	Receive Contact Closure

Physical

Dimensions (Card)	44 (W) x 127 (H) x 160 (D) mm (1.74 x 5.0 x 6.3 inch)
Weight (Card)	450 gms (16 Oz)
No. of Slots	2

Enviromental

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

Quality

MTBF	>170,000 hours @ Ground Fix 35ºC per MIL217F

Model No.
DT-1W8C1F/1F-SFP .... Transmitter
DR-1W8C1F/1F-SFP .... Receiver

For SrectraSmart Diagnostics option add "D" suffix. For example : DR-1W8C1F/1F-SFP-D
Must be used with SpectraSmart compatible subrack.

CAMERA → VIDEO → DT-1W8C1F/1F-SFP Transmitter ← FIBER → DR-1W8C1F/1F-SFP Receiver → VIDEO → MONITOR

1 FULL DUPLEX RS-422 DATA IN/OUT — 8 CONTACT CLOSURE IN
1 FULL DUPLEX RS-422 DATA IN/OUT — 8 CONTACT CLOSURE OUT

SFP OPTIONS:

Meridian Model #	Speed	Optical								Distance
		Fiber*	Wavelength Tx (nm)	Launch Power (dBm)	Wavelength Rx (nm)	Rx Sensitivity (dBm)	Budget (dBm)	Fibers	Connector	
MM8585G	1.25Gbps	MM	850	-9	850	-17	8	2	LC	550 Meters**
MM1315G	1.25Gbps	MM	1310	-10	1550	-17	7	1	SC	550 Meters**
MM1513G	1.25Gbps	MM	1550	-10	1310	-17	7	1	SC	550 Meters**
SM1313G20	1.25Gbps	SM	1310	-6	1310	-22	16	2	LC	20km
SM1313G40	1.25Gbps	SM	1310	-2	1310	-24	22	2	LC	40km
SM1313G60	1.25Gbps	SM	1550	-5	1550	-24	19	2	LC	60km
SM1315G20	1.25Gbps	SM	1310	-8	1550	-22	14	1	SC	20km
SM1513G20	1.25Gbps	SM	1550	-8	1310	-22	14	1	SC	20km
SM1315G40	1.25Gbps	SM	1310	-3	1550	-23	20	1	SC	40km
SM1513G40	1.25Gbps	SM	1550	-3	1310	-23	20	1	SC	40km
SM1315G60	1.25Gbps	SM	1310	-1	1550	-26	25	1	SC	60km
SM1513G60	1.25Gbps	SM	1550	-3	1310	-26	23	1	SC	60km
SM1514G20	1.25Gbps	SM	1550	-5	1490	-24	19	1	SC	20km
SM1415G20	1.25Gbps	SM	1490	-5	1550	-24	19	1	SC	20km