INST-SFP-BIDI-10K-AB-1/ INST-SFP-BIDI-10K-BA-1

iNS SFP Bi-Directional Single Mode Fibre Optic Transceivers

Features

- 'AB-1: 1550nmFP transmitter/1310nm receiver
- 'BA-1: 1310nmFP transmitter/1550 receiver
- Operating data rates up to 1.25Gbps
- 10km reach for 9/125µm Single Mode Fibre
- Single 3.3V power supply and TTL Logic Interface
- Low power dissipation
- Hot-pluggable SFP footprint
- BIDI LC/UPC type pluggable optical interface
- Class 1 FDA and IEC60825-1 laser safety compliant
- Built in digital diagnostic functions, including optical power monitoring
- RoHS compliant and lead-free
- Compliant with SFP MSA
- Compliant with SFF-8472
- Compliant with IEEE 802.3z

Description

INST-SFP-BiBi-10K-AB-1/INST-SFP-BiBi-10K-BA-1 are fibre optic transceivers for use with multi mode fibre optic cable and operate at a nominal wavelength of 850nm.This dongle is locked and pre-configured for use with DNX-R-2F/FC-K RS485/Fibre & Dual Fibre Dynamic Network Analyser.

Transceivers are hot-pluggable making them quick & easy to replace and also swap between alternate fibre optic modes. Maximum range will be dependent upon the fibre optic cable used 62.5/125µm range of 550m, 50/125µm can extend the range up to 1km. The transmitter section uses a Vertical Cavity Surface Emitted Laser and is Class 1 laser compliant according to International Safety Standard IEC60825.

The receiver section uses an Integrated Gas detector pre-amplifier (IDP) mounted in an optical header and a limiting post-amplifier IC. 'AB-1/'BA-1 are designed to be compliant with SFF-8472 MSA.

Built in digital diagnostic functions allow monitoring of the transceiver by the DNX-R-2F/FC-K analyser module and subsequently the IVIEW software tool. This allows performance monitoring along with early warning of a potential issue to enable preventative maintenance.

iNS Product	
INST-SFP-BiDi-10K-AB-1	iNS SFP Bi-directional single sode fibre optic transceiver [1550nm TX/1310nm RX]
INST-SFP-BiDi-10K-BA-1	iNS SFP Bi-directional single mode fibre optic transceiver [1310nm RX/ 1550nm TX]

Specifications

General Product Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Bit Rate	BR			1.25	Gb/s
Max. Supported Link Length	L(max)			10	km

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	$T_{(case)}$	-40	+85	°C
Supply Voltage	Vcc	-0.5	4	V
Storage Ambient Humidity	H_A	5	95	%

Optical Characteristics					
Parameter	Symbol	Min.	Typ	Max.	Unit
9/125µm Diameter SMF	L		10		km
Power Supply Voltage	Vcc	3.13	3.3	3.47	V
Power Supply Current	Icc			280	mA
Data Rate - GBE					Mbps (Tx/Rx Rate)
Transmitter					
Centre Wavelength	λc	1260	1310	1360	nm
		1530	1550	1570	
Spectral Width (RMS)	σ			3.5	Nm(FP Laser Tx:1310nm)
Average Output Power	P out	-9		-3	dBm
Extinction Ratio	ER	9			dB
Side Mode Suppression Ratio	SMSR	30			dB(DFB Laser Tx:1550nm)
Total Jitter	T_J			0.1	UI
Output Optical Eye	IEEE802.3z Compliant (Class 1 laser safety)				
Spectrum Bandwidth (-20dB)	σ				
P out@Tx Disable Asserted	P_{off}			-45	dBm
Receiver					
Optical Input Wavelength	$λ_{IN}$	1550	1550	1600	nm
		1290	1310	1330	
Receiver Sensitivity	P_{IN}			-23	dBm
Receiver Overload	P_{SAT}	-3			dBm
LOS De-assert	P_D			-22	dB
LOS Assert	P_A	-45			dBm
LOS Hysteresis	P_D - PA	0.5		6	dB

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