

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 Kentec DNP-R-2F/FC-K Passive Dual Port Optic Fibre/RS485 Medium Converter.

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 DNP-R-2F/FC-K converter 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 mode 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	V _{cc}	-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	V _{cc}	3.13	3.3	3.47	V
Power Supply Current	I _{cc}			280	mA
Data Rate - GBE					Mbps (Tx/Rx Rate)
Transmitter					
Centre Wavelength	λ_c	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 - P _A	0.5		6	dB