

Optopus Optical Transmitter LX 10



Product information



Applications

- High performance supertrunking links
- High power distribution networks
- Redundant ring architectures
- FTTx networks
- RFoG applications
- SAT-IF transport

Features:

- External modulated transmitter
- Dual optical outputs
- QAM loading to 1006 MHz
- Redundant & hot swappable power supplies
- Management via web interface and SNMP
- Field adjustable SBS suppression

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The L-type/S-type/F-type/K-type LX 10 series product line is a family of state-of-the-art high performance 1550 nm externally modulated CATV fiber optic transmitters optimized for varying network applications. Packaged in a convenient 1RU housing, this line of optical transmitters couples high optical output powers, up to 11.0 dBm, with low optical linewidth resulting in unmatched performance. The optical modulator, combined with proprietary predistortion circuitry, provides superior CTB and CSO performance with SBS suppression levels of greater than 20 dBm. Advanced features such as built in field adjustable SBS control and electronic dispersion compensation allows these transmitters to be quickly optimized in the field for any link or application without the need to procure specifically tuned transmitters. This affords the system designer a level of flexibility previously unknown in the CATV market place.

The L-type series are designed as a high performance solution for applications where the simultaneous transport of CATV and SAT-IF FM signals is required. The SAT-IF signals can be applied anywhere in the 950 to 2800 MHz band.

The S-type series transmitters are designed to be the most versatile model within the LX 10 series family. They can easily be configured to meet most HFC network solutions requiring link lengths in the range of 50 to 70 kilometers with one EDFA as well as links utilizing multiple EDFAs.

The F-type and K-type series transmitters are intended for use in FTTx and RFoG architecture designs requiring high quality transmission over varying transmission lengths and EDFA output powers. These transmitters successfully support very high optical launch powers while controlling the detrimental effects of Stimulated Brillouin Scattering (SBS), group velocity dispersion (GVD), and self phase modulation (SPM).

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General and Mechanical Specifications		
PROPERTY	REQUIREMENT	COMMENTS
Wavelength	1555 +/-5 nm	Various Options + ITU-grid available
Optical Connector	SC/APC	Other styles available
Monitoring Interfaces	100 Base-T Ethernet (SNMP) Rear Panel RS-232 interface VFD Screen Front Panel Controls Web interface	VFD- (Vacuum Fluorescent Display)
Operating Temperature	0°C to 50°C	
Storage Temperature	-20°C to 70°C	
Power Consumption	65W max	
Agency Listings	EMI: EN50083-2:2006 (US CATV) EN55022:2006 (US IT) EN61000-3-2 (Harmonics) EN61000-3-3 (Flicker) FCC: Part 15, Subpart B, class "A" Unintentional Radiators ICES-003 (Canada) AN/NZS 3548, Class A (Australia) VCCI, Class A (Japan)	Safety: FDA/CDRH Laser Safety Governed by Code of Federal Regulations Title 21, Volume 8, Part 1040 IEC 60950-1 IEC 60728-11 Laser IEC 60825-1 CB Certification
Transportation Vibration	GR-2853-CORE	In Shipping package
Transportation Shock	GR-2853-CORE	In Shipping package
Operating Humidity	20% to 85%	Non-condensing
Supply Range	(VAC) 90 to 265 VAC, 50/60 Hz (VDC) +/- (36 – 72) VDC	
Dimensions	19.0"W x 15.0"D x 1.72"H	(width includes 19" front panel ears, depth includes, connectors, fans & front panel)

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PROPERTY	REQUIREMENT	COMMENTS	
Input Power Range	17 +/-1 dBmV/ch 80 NTSC channels	Manual mode	
	15 +/-1 dBmV/ch 110 NTSC channels	Manual mode	
	18 +/-1 dBmV/ch 60 PAL channels	Manual mode	
	16 +/-1 dBmV/ch 89 PAL channels	Manual mode	
	27 +/-1 dBmV/ch SAT-IF channels	Manual mode	
Input Power Range	19 +/-2 dBmV/ch 80 NTSC channels	CW mode	
	17 +/-2 dBmV/ch 110 NTSC channels	CW mode	
	20 +/-2 dBmV/ch 60 PAL channels	CW mode	
	18 +/-2 dBmV/ch 89 PAL channels	CW mode	
	29 +/-2 dBmV/ch SAT-IF channels	AGC mode	
Front Panel RF Gain / OMI Adjustment Range	+2 / -4 dB from nominal setting	CATV Performance can vary slightly	
CATV Frequency Range	45 MHz - 1006 MHz		
CATV Flatness	+/- 0.50 dB	45 MHz - 550MHz	
	+/- 0.75 dB	45 MHz - 1006 MHz	
CATV Input impedance	75 Ω		
CATV Input Return Loss	16 dB min	45 MHz - 1006 MHz	
CATV Front Panel RF Tap	-20 +/- 1 dB	down from RF input	
CATV Front Panel RF Tap Flatness	+/- 1 dB	45 MHz - 1006 MHz	
SAT-IF Frequency Range	950 MHz – 2800 MHz		
SAT-IF Flatness	+/- 2 dB		
SAT-IF Input impedance	75 Ω		
SAT-IF Input Return Loss	10 dB min	950 MHz – 2800 MHz	
SAT-IF Front Panel RF Tap	7 +/- 2.5 dBmV/Ch at 1% OMI/ch		
SAT-IF Front Panel RF Tap Flatness	+/- 1 dB	950 MHz – 2800 MHz	
Test/Link Configuration			
PROPERTY	EDFA	LINK	RECEIVED POWER
L-Type	14 dBm	25 Km	0.0 dBm at the receiver
S-Type	16 dBm	65 Km	0.0 dBm at the receiver
F-Type	21 dBm	20 Km	-5.5 dBm at the receiver
K-Type	21 dBm	40 Km	-5.6 dBm at the receiver

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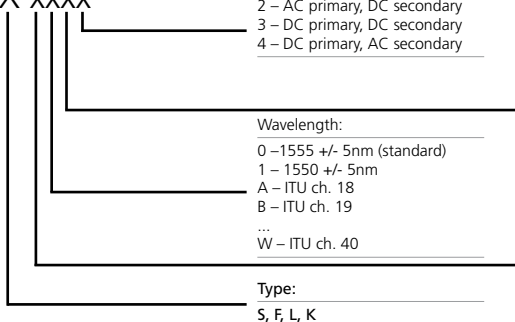


PROPERTY	UNITS	MODELS				
PERFORMANCE <small>Notes 1-8</small>		LX 10 S	LX 10 F	LX 10 L <small>Note 9</small>	LX 10 K	
Specified Link Length <small>Note 5</small>	L (km)	65	20	25	40	
Output Power <small>Note 10</small>	Po (dBm)	7.0/7.0	7.0/7.0	8.5/8.5	7.0/ 7.0	Min.
Noise Bandwidth	BW (MHz)	5	5	5	5	
SBS Suppression	(dBm)	16.0	21.0	14.0	21.0	Min.
Carrier to Noise Ratio	CNR (dB)	53.0	48.0	51.0	48.6	Min.
Composite Second Order	CSO (dBc)	-65	-58	-65	-62	Max.
Composite Triple Beat	CTB (dBc)	-65	-58	-65	-60	Max. @ +25°C
Notes:						
1. Unless stated otherwise all specifications apply over full temperature range with no digital loading.						
2. Unless stated otherwise specifications apply for nominal RF input level as defined above, after 30 minute stabilization period.						
3. Specifications separated by a slash are port1 / port 2.						
4. Units are tested per the Test / Link Configuration Table						
5. In combination with additional EDFA						
6. Noise figure for the EDFA = 4.5 ~ 5.5 dB						
7. Corning SMF-28 single mode fiber						
8. Receiver responsivity is 0.95 mA/mW, Equivalent noise current is 7 pA/(Hz) ^{1/2}						
9. With 36 QPSK modulated SAT-IF signals between 950 ... 2800 MHz. 27 MHz IF bandwidth						
10. Other output options available on request for S and L Type						

Technical Modifications reserved. WISI cannot be held liable for any printing error. 11.11

Order information

LX 10 X xxxx



Power Supply:

- 1 – AC primary, AC secondary
- 2 – AC primary, DC secondary
- 3 – DC primary, DC secondary
- 4 – DC primary, AC secondary

Wavelength:

- 0 – 1555 +/- 5nm (standard)
- 1 – 1550 +/- 5nm
- A – ITU ch. 18
- B – ITU ch. 19
- ...
- W – ITU ch. 40

Type:

- S, F, L, K

Output:

- 0 – Rear SC/APC
- 1 – Rear FC/APC
- 2 – Rear E2000/APC
- 3 – Rear LC

Output Power:

- 7, 8, 9, A (=10), B (=10/10)

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Not all configurations are possible.
Please contact your WISI sales
representative for assistance.

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