Protocol Independent, Data Rate Variable, 850 nm to DWDM Optical Transponder

ITU WaveShifter 400/850

Key Features

- **Low cost**
- **Compact, simple-to-install, ruggedized, plug-and-play module**
- **Low power consumption (5 W typical)**
- **Convection cooled, no fans**
- **100 GHz ITU spaced variants**
- **Data rate independent (2R: up to 1.25 Gb/s)**
- **High transmit power**
- **Good sensitivity**
- **Supports redundant -48 volt supplies**

Applications

- DWDM reach extension
- Wavelength services
- Metro optical access overlay
- Point to Point Gigabit Ethernet services

Compliance

- NEBS Level 3

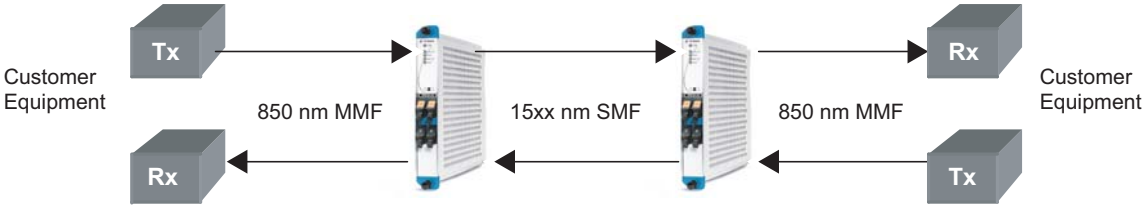
The WaveReady™ 3000 series ITU WaveShifter 400/850 is a ruggedized, plug-and-play, bi-directional optical transponder. This compact module translates optical signals between short-reach multimode interfaces and long-reach DWDM interfaces. Thirteen of these modules can be used in conjunction with the thirteen channel Multiplexer/Demultiplexer to support up to thirteen channels per fiber. Terminal equipment that uses protocols such as Gigabit Ethernet, ESCON, Fibre Channel, and others are easily transported and multiplexed over large distances.

On the input multimode side, 850 nm multi-mode signals are converted to specific DWDM C-Band wavelengths and retransmitted with high launch power into single-mode fiber. On the output multimode side, incoming 15xx signals are converted back to 850 nm for transport by customer equipment.

Front panel LEDs show the status of the module, while the integrated electronics provide simple alarm and control functionality. An RS-232 interface and Ethernet port, through a WaveReady™ shelf and communications module, allow for remote management.

The flexible package design allows the ITU WaveShifter 400/850 to be deployed in either theWaveReady™ 3500 or 3100 systems which mount into standard 19- or 23-inch telecommunications racks.

Reach Extension



WaveReady™ 3500 Shelf (DenseMount) with Modules

Performance Specifications

Parameter[1]	Minimum	Typical	Maximum
Optical Characteristics for Single-Mode Fiber (SMF) Interfaces			
Output wavelength	1260 nm	-	1580 nm
Input sensitivity at BER 10^{-10} at 1250 Mb/s (1260-1335 nm)	-27 dBm	-30 dBm	-
Input sensitivity at BER 10^{-10} at 1250 Mb/s (1500-1580 nm)	-28.5 dBm	-31 dBm	-
Input overload power at BER 10^{-10}	-8 dBm	-7 dBm	-
Wavelength stability	-110 pm	-	110 pm
Output power level (BOL)	-0.5 dBm	-	0.5 dBm
Dispersion penalty	-	-	2 dB
Optical Characteristics for Multimode Fiber (MMF) Interfaces			
Input wavelength	770 nm	850 nm	860 nm
Output wavelength	830 nm	850 nm	860 nm
Input sensitivity at BER 10^{-10} at 1250 Mb/s	-14 dBm	-	0 dBm
Output power level (BOL)	-10 dBm	-8 dBm	-4 dBm
Data Rate			
Input and output	45 Mb/s	-	1250 Mb/s
Electrical Characteristics			
DC supply voltage	-	-48 V	-
Power dissipation	-	5 W	8.5 W
Alarm relay signals	Dry contacts. Relay closed when alarm is active.		
Physical Dimensions			
Size (H x W x L)	-	6.8 x 1.0 x 8.8 inches (17.27 x 2.54 x 22.35 cm)	-
Weight (approximate)	-	1.5 lbs (0.68 kg)	-
Environmental Characteristics			
Operating ambient temperature	-5 °C	-	55 °C
Storage temperature	-40 °C	-	85 °C
Relative humidity (non-condensing)	5 %	-	95 %

1. Unless otherwise noted, all specifications are guaranteed over the life, operating temperatures, wavelength range, and input voltage range specified.

Interface Specifications

Parameter	Specification
Optical	SC/PC bulkheads, MMF on input A and output B, SMF on output C and input D
Electrical (to DenseMount Shelf)	96-pin connector (power, alarms, craft/remote interface)
Alarms	Relay, dry contact. Major Alarm (MAJ A/B, MAJ C/D); Loss of input signal (LOS A, LOS D). Relay closed when alarm is active.
Craft	Menu and TL1 interfaces through RS-232. Access depends on the mounting solution.
Front panel	5 LEDs: Card (CARD); Major alarm (MAJ A/B, MAJ C/D); Loss of input (LOS A, LOS D)

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

Sample: 10129125-017

Product Code	Frequency/Wavelength λ	Product Code	Frequency/Wavelength λ	Product Code	Frequency/Wavelength λ
10129125-017	191.7 THz / 1563.86 nm	10129125-033	193.3 THz / 1550.92 nm [1]	10129125-048	194.8 THz / 1538.98 nm
10129125-018	191.8 THz / 1563.05 nm	10129125-034	193.4 THz / 1550.12 nm	10129125-049	194.9 THz / 1538.19 nm [1]
10129125-019	191.9 THz / 1562.23 nm	10129125-035	193.5 THz / 1549.32 nm [1]	10129125-050	195.0 THz / 1537.40 nm
10129125-020	192.0 THz / 1561.42 nm	10129125-036	193.6 THz / 1548.51 nm	10129125-051	195.1 THz / 1536.61 nm
10129125-021	192.1 THz / 1560.61 nm	10129125-037	193.7 THz / 1547.72 nm [1]	10129125-052	195.2 THz / 1535.82 nm
10129125-022	192.2 THz / 1559.79 nm	10129125-038	193.8 THz / 1546.92 nm	10129125-053	195.3 THz / 1535.04 nm [1]
10129125-023	192.3 THz / 1558.98 nm [1]	10129125-039	193.9 THz / 1546.12 nm	10129125-054	195.4 THz / 1534.25 nm
10129125-024	192.4 THz / 1558.17 nm	10129125-040	194.0 THz / 1545.32 nm	10129125-055	195.5 THz / 1533.47 nm [1]
10129125-025	192.5 THz / 1557.36 nm [1]	10129125-041	194.1 THz / 1544.53 nm	10129125-056	195.6 THz / 1532.68 nm
10129125-026	192.6 THz / 1556.55 nm	10129125-042	194.2 THz / 1543.73 nm	10129125-057	195.7 THz / 1531.90 nm
10129125-027	192.7 THz / 1555.75 nm [1]	10129125-043	194.3 THz / 1542.94 nm	10129125-058	195.8 THz / 1531.12 nm
10129125-028	192.8 THz / 1554.94 nm	10129125-044	194.4 THz / 1542.14 nm	10129125-059	195.9 THz / 1530.33 nm [1]
10129125-029	192.9 THz / 1554.13 nm	10129125-045	194.5 THz / 1541.35 nm [1]	10129125-060	196.0 THz / 1529.55 nm
10129125-030	193.0 THz / 1553.33 nm	10129125-046	194.6 THz / 1540.56 nm	10129125-061	196.1 THz / 1528.77 nm
10129125-031	193.1 THz / 1552.52 nm [1]	10129125-047	194.7 THz / 1539.77 nm [1]	10129125-062	196.2 THz / 1527.99 nm
10129125-032	193.2 THz / 1551.72 nm				

1. Wavelengths available in the JDSU LGX 15 SC Cassette DWDM products. For more information, please refer to the LGX 15 XC DWDM Cassette product bulletin.

Associated Part

Product Code	Description
10129126	WaveReady™ 3500 DenseMount Shelf