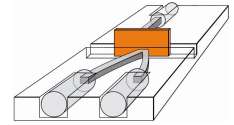


lilix FTTx Reflector 1625/1650 nm Wavelength Selectively Reflecting Connector for Monitoring of FTTx networks



lilix optix series



The connector integrated lilix FTTx Reflector 1625/1650 nm selectively reflects in the wavelength range of either 1625-1675 nm or 1645-1675 nm. With its low insertion loss and high reflectance it is the ideal optical termination for link monitoring of FTTx networks via Central Office based measurements at 1625 or 1650 nm, e.g. with modern OTDR. Since the operating channels remain undisturbed, link monitoring may be executed at any time.

Reflectors are beneficial for both PTP and PTMP (PON) networks. In PONs, for example, if they are installed at the subscriber's homes, the reflector positions are highlighted in the OTDR trace making it possible to assign the links after the splitter to the respective subscribers. The overall OTDR trace represents an individual fingerprint of the PON which can be used as a reference for later troubleshooting. In this way reflectors lay the foundation for an automation of service processes thus enabling faster service turn up and restoration.

The connector integrated reflector is ideal to be integrated into optical termination boxes, patchcords and/or ONUs since for the integration no design or workflow modification is required.

Function

Reflects a test signal at 1625 or 1650 nm without disturbing the transmission channels.

Features

- Connector integrated reflector
- Low insertion loss and high return loss at traffic wavelengths
- High reflectance at test wavelength
- Compliant to Telcordia GR-1209 / GR-1221

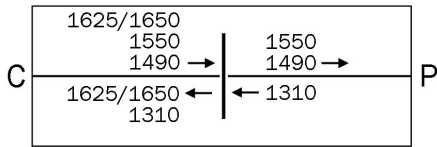
Applications

- Physical layer monitoring of FTTx networks
- Compatible with GPON, EPON, GEPON, 10GEPON, NGPON

Device types and packages

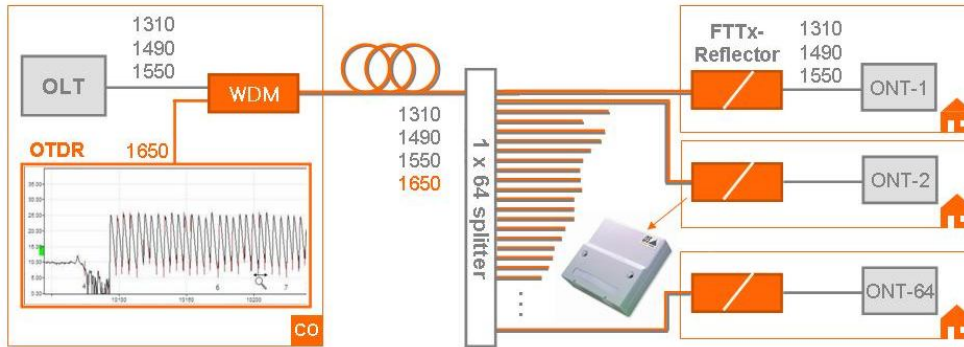
- 1625 nm or 1650 nm test wavelength
- SC, LC or LSH connector type

Schematic diagram



The schematic diagram shows the optical ports and signal flows inside of the reflector. The traffic wavelengths for data/voice upstream (1310 nm) or downstream (1490 nm) pass the reflector undisturbed while the monitoring signal (1625/1650 nm) is reflected.

Application example: 1x64 PON monitoring system



The picture shows a 1x64 PON in which every splitter branch is terminated with an FTTx reflector, so representing the subscribers. The optical line length is 10 km (including launch fiber). Since every reflector is clearly highlighted in the OTDR trace it can be assigned

to one of the 64 ONTs. In order to make the reflector peaks easily distinguishable length differences of 5 m were introduced between two adjacent reflectors. The resolution limit is about 1 m of length difference.

Integration example



Optical parameters

Parameter	Value		
	min.	typ.	max.
Wavelength Range Transmission Channels [nm] ⁽¹⁾	1260..1600 / 1260..1620 ⁽⁴⁾		
Wavelength Range Monitoring Channel [nm]	1625..1675 / 1645..1675 ⁽⁴⁾		
Insertion Loss Transmission Channels [dB] ⁽²⁾			0,5
Reflectance Monitoring Channel [%] ⁽²⁾⁽³⁾	90	95	
Return Loss Transmission Channels [dB] ⁽³⁾		26	
Polarisation Dependent Loss (PDL) [dB]			0,15
Temperature range during operation [° C]	-5		60

⁽¹⁾ other wavelengths on request

⁽²⁾ additional connector loss depending on connector type and quality

⁽³⁾ other parameters on request

⁽⁴⁾ depending on monitoring wavelength

Cabling and patch cable lengths are individually configurable. Further information is provided by our customer service, please contact us via email or call us.

