

VCL-9025, Optical Multiplexer

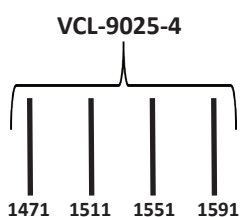
Introduction:

VCL-9025, 4 Channel / 8 Channel Optical Multiplexer is 1U high 19" Rack mountable unit with high-availability, high-performance Optical Multiplexer that can be used to multiplex and carry up to 4 / 8 single-mode optical channels over a single optical fiber pair in a point-to-point connectivity.

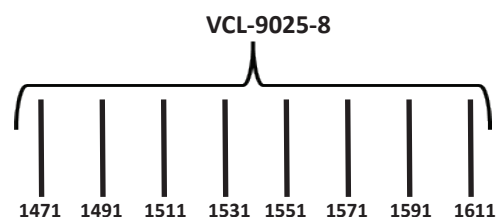


The distinctly separate, four / eight wavelength ports of the VCL-9025 operate using the WDM band channels between 1471nm to 1611nm to provide a high degree of physical isolation between each channel.

The VCL-9025 Optical Multiplexer is best used to fully utilize the upper WDM channels in the region where the SM fiber attenuation is the lowest.



Four Channel Optical Multiplexing Optical Scheme



Eight Channel Optical Multiplexing Optical Scheme

The VCL-9025 works within the operating temperature range of 0°C to +70°C which gives an extended application range without requiring temperature control. The multiplexer is available in a 1 RU chassis with LC connectors.

Features:

- Low Insertion Loss
- Wide Passband
- Very High Channel Isolation. Suitable for multiplexing IT and OT transmission links over a single optical fiber pair without compromising cyber-security.
- High stability and reliability over an extended temperature range.
- Compact size

Application Scenarios:

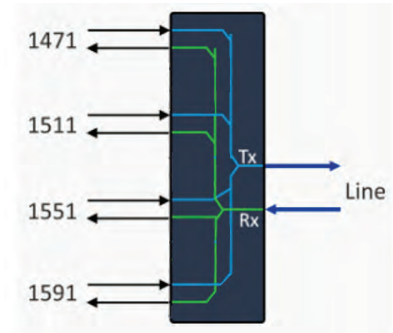
Multiplexing up to 4 / 8, 10G Ethernet, 1G Ethernet, STM-1, STM-4, STM-16, IEEE C37.94 Differential Protection Channels, in any combination, over a single optical fiber pair.

Physical Dimension:

- 19-inch, 1U High Rack Mount
- D x W x H: 177mm x 484mm x 44mm

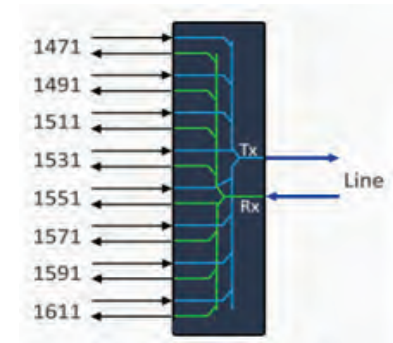
4 CHANNEL MULTIPLEXING OVERVIEW AND PORT ALLOCATION

Line Rx	1471 Tx	1511 Tx	1551 Tx	1591 Tx
Line Tx	1471 Rx	1511 Rx	1551 Rx	1591 Rx

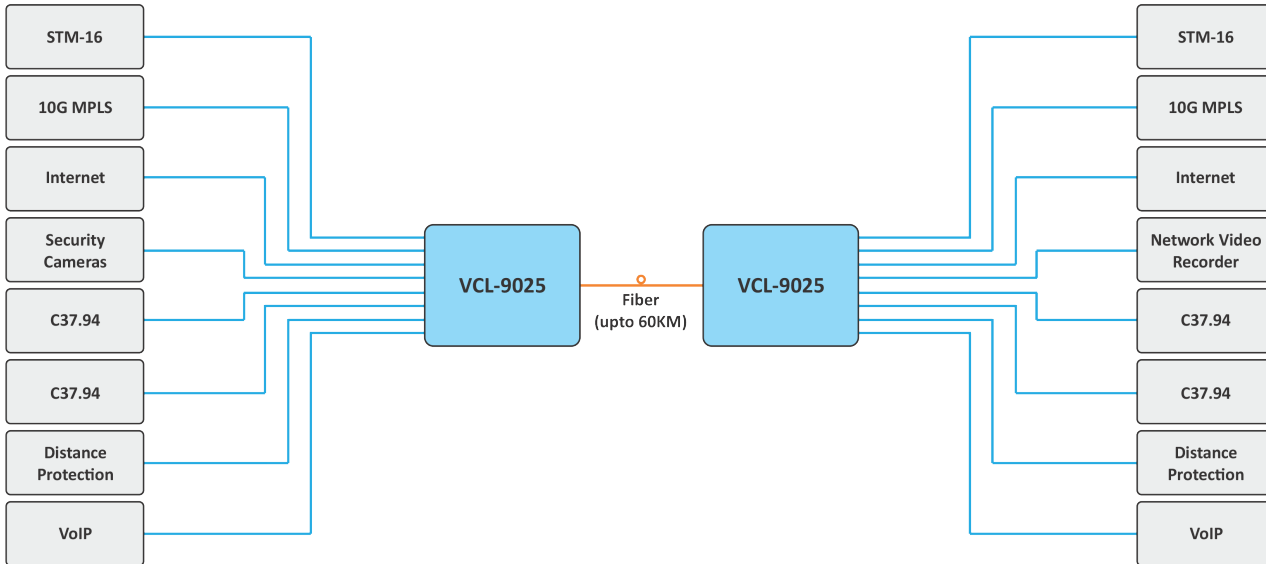


8 CHANNEL MULTIPLEXING OVERVIEW AND PORT ALLOCATION

Line Rx	1471 Tx	1511 Tx	1551 Tx	1591 Tx
Line Tx	1471 Rx	1511 Rx	1551 Rx	1591 Rx
Line Rx	1491 Tx	1531 Tx	1571 Tx	1611 Tx
Line Tx	1491 Rx	1531 Rx	1571 Rx	1611 Rx



Typical Application Block Diagram:



Environmental (Operational):

Operating Temperature	-0C~ 70C
Storage Temperature	-40°C~ 85°C
Operating Humidity	10%~95% relative humidity, non-condensing
Storage Humidity	10%~95% @40°C; non-condensing



Technical Specifications:

Parameter			Unit	Values	
Channels			CH	4 / 8	
Centre Wavelength			nm	1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611	
Passband Channels		Min.	nm	+/-6.5	
Isolation	Mux	Adjacent Channel	Min.	dB	30
		Non-adjacent Channel	Min.		45
	Demux	Adjacent Channel	Min.		30
		Non-adjacent Channel	Min.		45
Insertion Loss		Max.	dB	1.8	
Ripple in Passband		Max.	dB	0.5	
Directivity		Min.	dB	55	
Polarization Dependent Loss		Max.	dB	0.2	
Polarization Mode Dispersion		Max.	ps	0.10 (GD)	
Return Loss		Min.	dB	50	
Power Handling		Max.	mW	500	
Fiber Type			1510n, Single Mode, Corning SMF-28 or Equivalent		
Connector Type			LC		

Note:

1. All specifications include the effect of operating temperature and all states of polarization.
2. Values referenced without connectors and insertion loss for a connector -pair is 0.20dB (typ.) and 0.30dB (max.).

Ordering Information (Base Unit):

Part No.:	Description
VCL-9025-4	<p>VCL-9025, 4 Channels Optical Multiplexer 19-inch, 1U high, Rack Mount version</p> <ul style="list-style-type: none"> - 4 x Optical Inputs: Single Mode 1471nm, 1511nm, 1551nm, 1591nm - 1 x Multiplexed Optical Output - Connector type - LC/UPC - Installation Kit: System Core Cables, Mounting Hardware, Documentation.
VCL-9025-8	<p>VCL-9025, 8 Channels Optical Multiplexer 19-inch, 1U high, Rack Mount version</p> <ul style="list-style-type: none"> - 8 x Optical Inputs: Single Mode 1471nm, 1491nm, 1511nm, 1531nm, 1551nm, 1571nm, 1591nm, 1611nm. - 1 x Multiplexed Optical Output - Connector type - LC/UPC - Installation Kit: System Core Cables, Mounting Hardware, Documentation.

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