

Prism Switch Module: 2x2

This document summarizes the performance specifications of a 2x2 Prism Switch Module with SMF-28 fiber operated at 1310 nm, 1550 nm (C or C/L), and dual bands (1290 - 1330 and 1525 – 1575 nm or 1290 - 1330 and 1525 – 1610 nm). Target parameters are referenced without any connector.

Features

- Fast Switching Speed
- Low Insertion Loss, Low Cross Talk, and High Return Loss
- Wide Wavelength Range
- Status Feedback of Optical State
- Energy Efficient with Latching Operation
- Excellent Repeatability and Mechanical Stability
- Long Life Cycles
- High Optical Power
- Optional Electronic Interface Driver

Applications

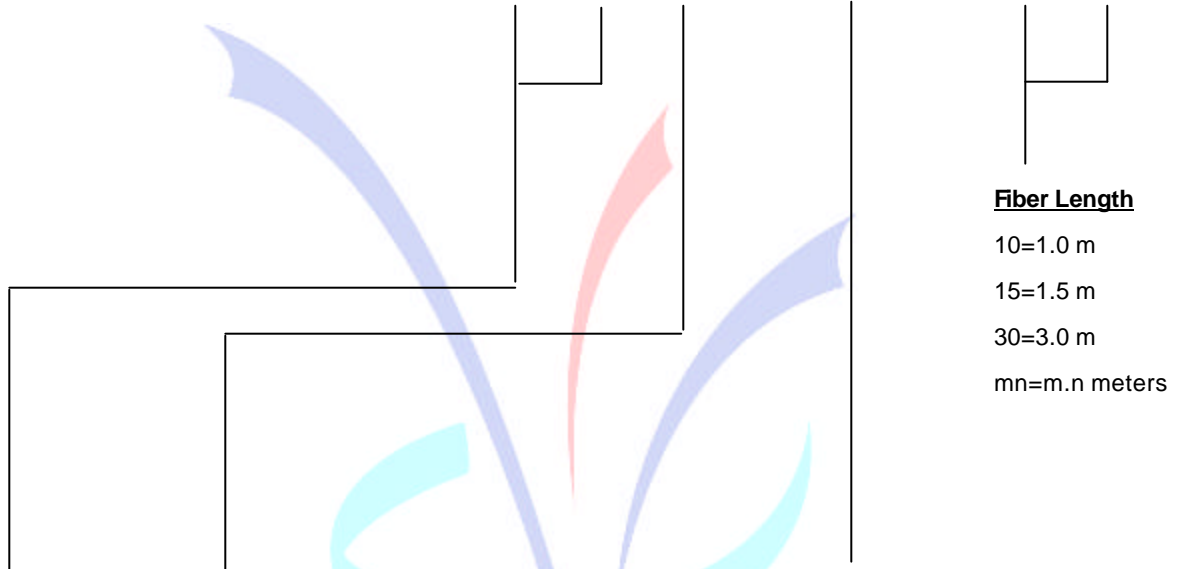
- Active Optical Add/Drop Multiplexing
- Network Route Switching
- Laboratory R&D

| Optical Switch Parameters | Symbol | Performance Specifications | | Unit |
|---|----------|--------------------------------|--|------|
| Wavelength Range | C_L | 1290 - 1330 and/or 1525 - 1610 | | nm |
| Switching Time | T_{SW} | Typical | 5 | ms |
| | | Maximum | 7.5 | |
| Insertion Loss in room temperature (23 ± 3 °C) measured at 1310 nm and/or 1550 nm, respectively for corresponding wavelength range | IL | Maximum | 0.8 for 1290 - 1330 nm 0.8 for 1525-1610 nm (C/L) 1.0 for dual bands | dB |
| Wavelength Dependent Loss for 1290 - 1330 and for 1525 – 1610 nm | WDL | Maximum | 0.4 for 1290-1330 nm 0.3 for 1525-1575 nm (C) 0.4 for 1525-1610 nm (C/L) | dB |
| Cross Talk | CT | Typical | -60 | dB |
| | | Maximum | -55 | |
| Polarization Dependent Loss | PDL | Typical | 0.05 | dB |
| | | Maximum | 0.10 | |
| Repeatability (100 cycles) | RP | Typical | ± 0.02 | dB |
| | | Maximum | ± 0.05 | |
| Optical Return Loss | RL | Typical | 60 | dB |
| | | Minimum | 55 | |
| Polarization Mode Dispersion | PMD | Maximum | 0.10 | ps |
| Temperature Dependent Loss over 0 ~ +65 °C | TDL | Maximum | 0.30 | dB |
| Input Optic Power | P | Maximum | 500 | mW |
| Control Pulse Width | PW | Minimum | 20 | ms |
| Cycle Rate | Max | Maximum | 10 | Hz |
| Life Cycles (Durability) | | 10 Millions | | |
| Operating Temperature | T_{OP} | 0 ~ +65 | | °C |
| Storage Temperature | T_{ST} | -40 ~ +85 | | °C |
| Switching Voltage | V | 4.5 – 5.5 | | V |
| Switching Current | | 45 – 55 | | mA |
| Dimension | PKG | 43.5 (L) x 18 (W) x 10 (H) | | mm |

* Patent pending technology

P/N Scheme: Prism Switch Module

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|--|--|--|---|--|---|--|--|--|
| S | W | M | S | M | L | | | | 1 | | N | | | |
|---|---|---|---|---|---|--|--|--|---|--|---|--|--|--|



| <u>Configuration</u> | <u>Wavelength</u> | <u>Fiber Type</u> | <u>Connectors</u> |
|----------------------|-------------------------------------|----------------------|----------------------|
| 11 = 1x1 | A = 1290 – 1330 nm | A =250 μm bare fiber | 0=none A=FC/PC |
| 12 = 1x2 | B = 1525 – 1575 nm | B =900 μm loose tube | 2=FC/UPC B=SC/SPC |
| 22 = 2x2 | C = 1525 – 1610 nm | | 3=FC/APC C=SC/PC |
| | I = 1290 – 1330 nm & 1525 – 1575 nm | | 4=SC/UPC D=ST/SPC |
| | K = 1290 – 1330 nm & 1525 – 1610 nm | | 5=SC/APC E=ST/PC |
| | | | 6=ST/UPC F=LC/SPC |
| | | | 7=LC/UPC G=LC/PC |
| | | | 9=FC/SPC H=MU/UPC |
| | | | I=MU/PC |
| | | | J=LC/APC |