Opti Max™ Optical Node Series
OM-FLM-10G
Fiber Link Module 10G EPON Extender

COMMSCOPE®

FEATURES

- Compatible with Opti Max OM2741, OM4100™, OM4120™, and OM6000™ HFC and Fiber Deep nodes and Trans Max® TM4100 hubs
- Extend PON networks beyond typical 10 to 20 km service distance
- Aggregate multiple PONs onto a single fiber utilizing CWDM and DWDM wavelength multiplexing
- Provides maximum network flexibility by supporting 10/10G or 10/1G EPON networks
- Completely vendor agnostic, will work with any 10G EPON OLT and ONU

The CommScope Fiber Link Module (FLM) allows network operators to leverage their existing HFC fiber and node install base to facilitate network migration to FTTx via PON. The FLM resides in the outside plant network between the OLT and the PON optical splitter. This allows for an increase in reach of the PON network and enables the use of pluggable WDM optics to combine multiple PON serving groups onto a single fiber. By combining increased reach, increased OLT port utilization, and PON density per fiber, the MSO is able to leverage much of its current infrastructure to minimize capital investment as the network migrates to a FTTx solution.

The FLM splits the PON network into two different optical links: the Optical Trunk Link (OTL) and the Optical Distribution Network (ODN). The OTL is defined as the optical link between the OLT and the FLM, and the ODN is the optical link between the FLM and the ONUs, including the optical splitter(s). The FLM allows for the use of customer selectable pluggable optics in the trunk link, which provide flexibility in wavelength selection as well as link distance. On the ODN Link, the FLM utilizes standard 10G EPON wavelengths and PR30 class optics.

EPON Fiber Aggregation

As MSOs look to migrate to a FTTx solution, many look at high speed EPON as a data solution. One of the challenges MSOs face when implementing a FTTx solution is the predefined upstream and downstream wavelengths for 10G and 1G EPON. These fixed wavelengths prevent MSOs from servicing multiple PONs on a single fiber. The FLM contains an SFP+ port that allows the MSO to choose from multiple CWDM or DWDM wavelengths and link distances to enable multiplexing of multiple PONs onto a single fiber.

Long Reach, Large Splits

The SFP+ port on the FLM allow the MSO to expand optical reach by choosing link lengths of 40 km or 80 km from the OLT to the fiber node. Since the typical distance from the fiber node to the customer premise is less than 5 km, the FLM will easily support PON splits to 128.

SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions	6 in L x 1.25 in W x 4 in H (15.24 cm x 3.175 cm x 10.16 cm)
Weight	1.2 lb (0.5 kg)
Environmental	
Operating Temperature Range	-40 °C to +60 °C (-40 °F to +140 °F)
Humidity	5% to 95% non-condensing
General	
Physical Layer Compliance/Compatibility	802.3 Clause 75
Operating Wavelength (ODN)	
Downstream 10G EPON	1575–1580 nm
Upstream 10G EPON	1260–1280 nm
Upstream 1G EPON	1260–1360 nm
Interfaces	
Trunk Port	10 Gbps SFP+ (dual LC/UPC connectors)
Optical Distribution Network Port	LC/UPC
Link Budgets	
OTL Link Budget	Up to 22 dB, dependent on CommScope SFP+ selected
ODN Link Budget	PR30/PRX30 Optics, 28 dB Link Budget
Power Requirements	
Power Consumption	7.5 W (typical), < 9 W (max, with 10 Gbps SFP+ port loaded)

ORDERING INFORMATION

Model Name	Description
OM-FLM-10G	Fiber Link Module, 10 Gbps, 1 SFP+ Ready Port

RELATED PRODUCTS

10 Gbps SFP+	Opti Max OM4120
Node MUX	Opti Max OM4100
Opti Max OM6000	Trans Max 4100

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