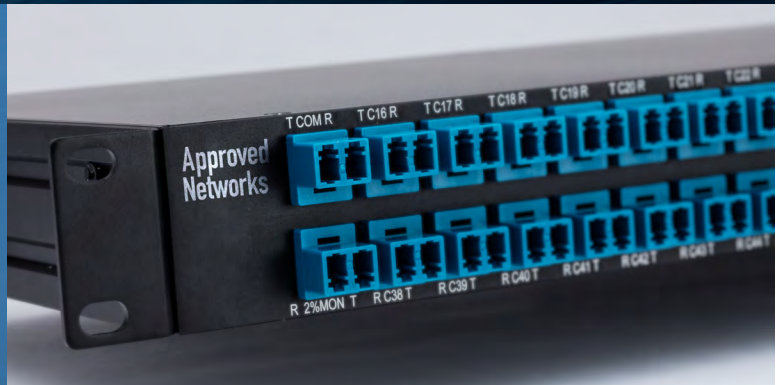


PASSIVE SOLUTIONS

CWDM · DWDM · FTTx

Maximize Existing
Infrastructure
without New Fiber
or Added Costs.



**Approved
Networks**
A brand of **legrand**

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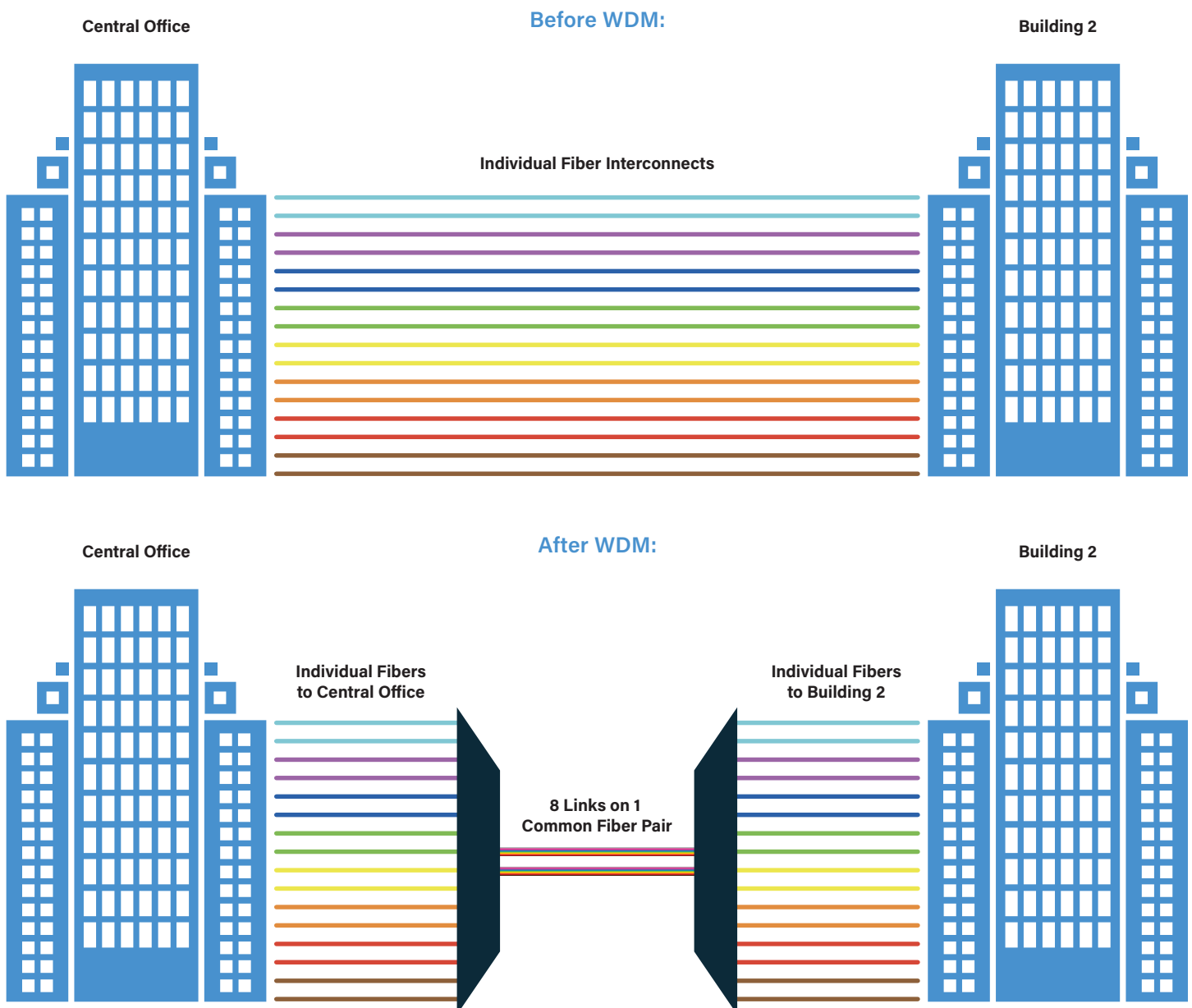
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APPROVED NETWORKS PASSIVE SOLUTIONS

Approved Networks provides comprehensive WDM and FTTx solutions designed for exceptional network performance, flexible density, and a variety of channel and port options for maximum compatibility. Our portfolio supports diverse high-capacity network designs, optimizing IT budgets, simplifying installation, and ensuring efficient fiber use for seamless scalability. As data demands grow, our WDM and FTTx solutions maintain optimal performance and allow easy upgrades, keeping you ahead in today's fast-paced landscape.

WDM Basics

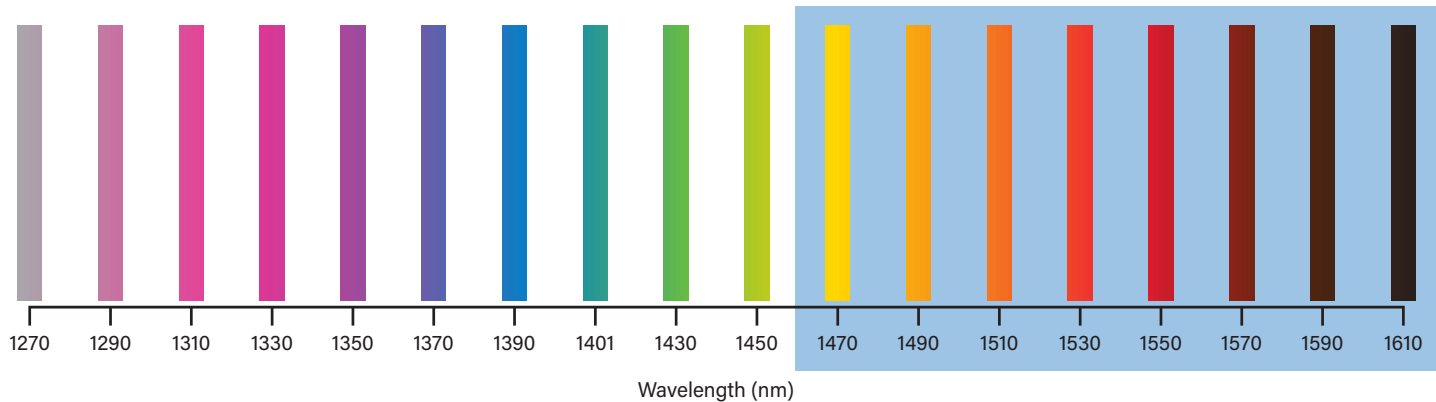
Wave Division Multiplexing (WDM) is a technology that allows for transporting many different data signals over the same fiber at the same time by using different colors (or wavelengths) of light. Before WDM, each service needed its own fiber. WDM maximizes utilization of fiber as well as allows you to increase bandwidth. Since leasing or buying fiber is significant, being able to use a single fiber for many data streams can lead to major cost savings.



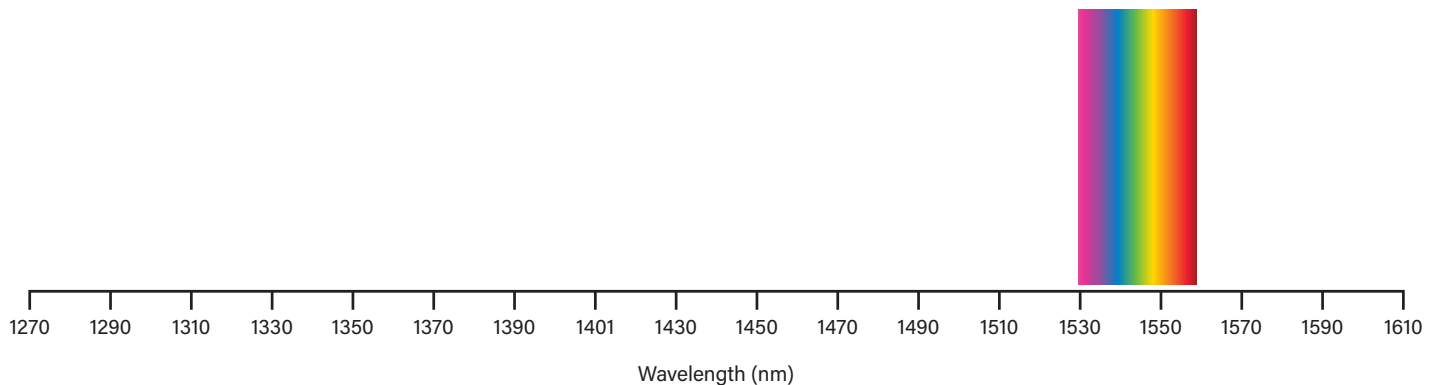
CWDM AND DWDM

WDM comes in either Coarse Wave Division Multiplexing (CWDM) or Dense Wave Division Multiplexing (DWDM).

CWDM wavelength set consists of a series of 18 wavelengths spaced 20nm apart, from 1270nm to 1610nm. However, only the highest 8 wavelengths (1470-1610nm) are commonly used (i.e., those in the shaded region above). This is due to distance limitations, dispersion compensation requirements, and high-water peak fiber issues. In addition, the 1270nm-1450nm wavelengths are a waning technology due to the capability and availability of transceivers.



DWDM technology packs many more wavelengths in a much narrower band of the spectrum than CWDM, as shown below:



Deciding between CWDM and DWDM is a complex issue, with many network and application-specific variables that need to be considered. While we recommend a consultation with an expert to get a definitive answer, here are some preliminary considerations:

CWDM	DWDM
- Your distances are shorter (up to 70km at 10G at the upper 8 channels) - You require 8 or fewer channels - Up to 10G	- You need to cover longer distances (up to 80km) 2-96+ wavelengths - Up to 800G

OPTICAL FILTERS

Optical Filters are essential components in WDM systems. They are used to add, drop, or pass specific wavelengths of light. Each filter is designed to allow certain wavelengths to pass through while blocking or redirecting others. There are two main types of optical filters – Multiplexer/Demultiplexer (Mux/Demux) and Optical Add/Drop Multiplexer (OADM).

MULTIPLEXERS (MUX) :

Combines several different wavelengths (channels) onto a single or pair of optical fiber, allowing multiple data streams to travel together.



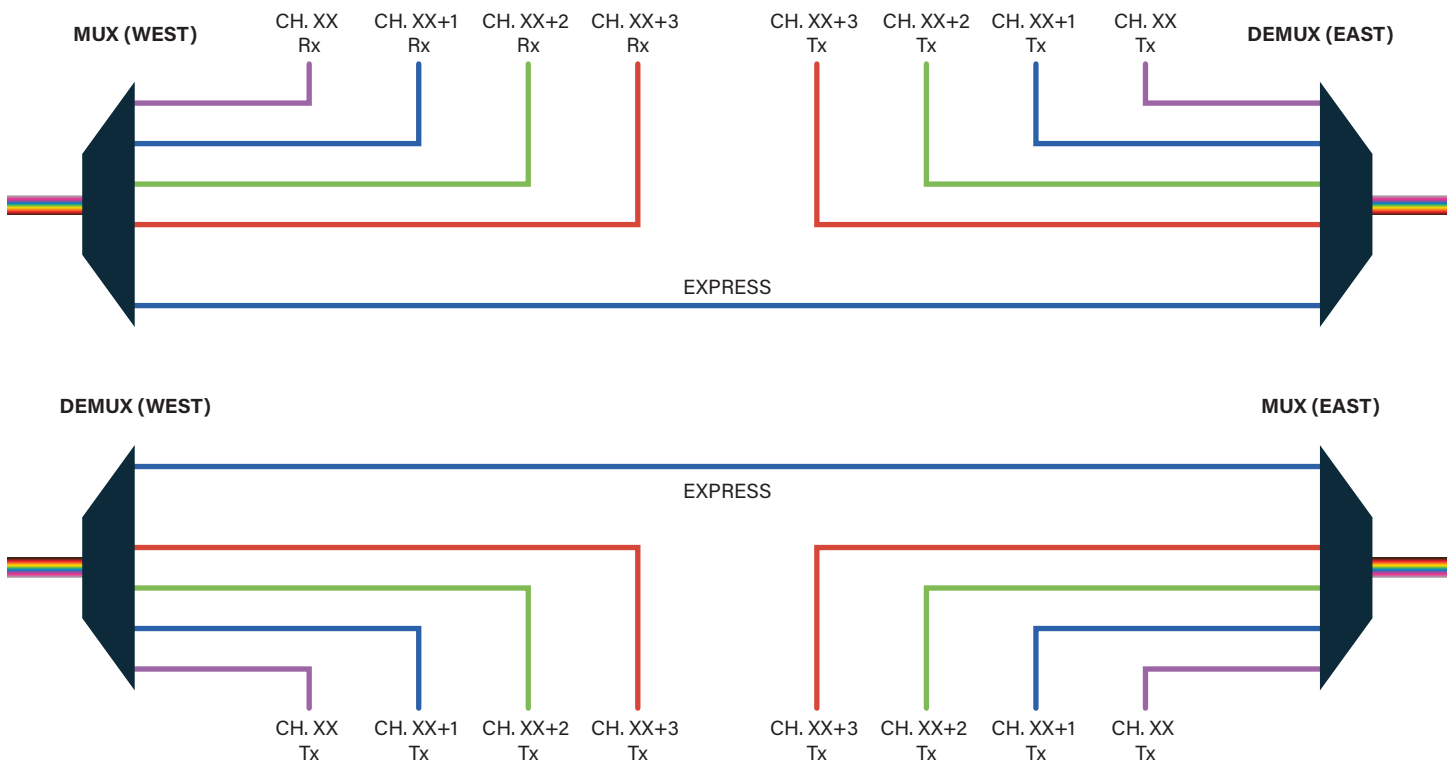
DEMULTIPLEXERS (DEMUX) :

Separates the combined wavelengths back into individual wavelengths at the receiving end.



OPTICAL ADD/DROP MULTIPLEXERS (OADM) :

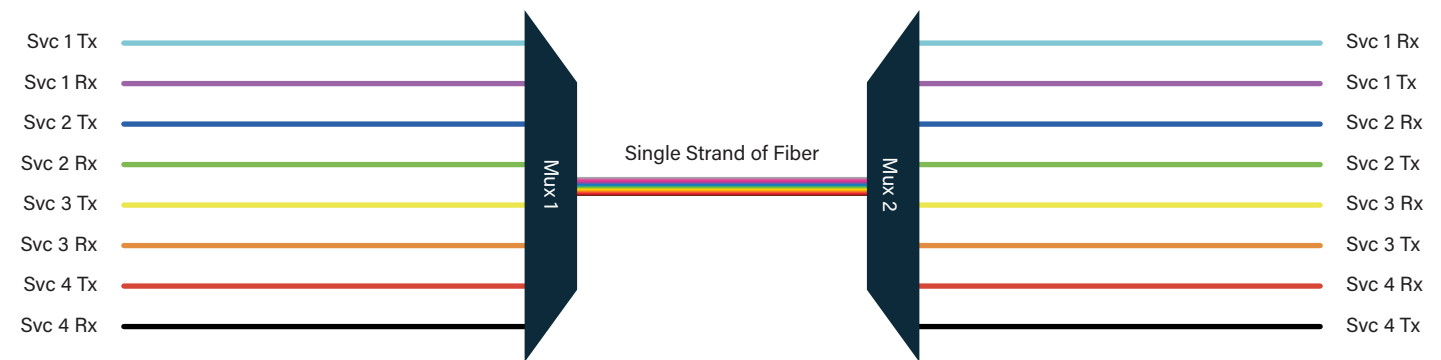
Adds or drops specific wavelengths at intermediate points along the fiber without disturbing the rest of the traffic.



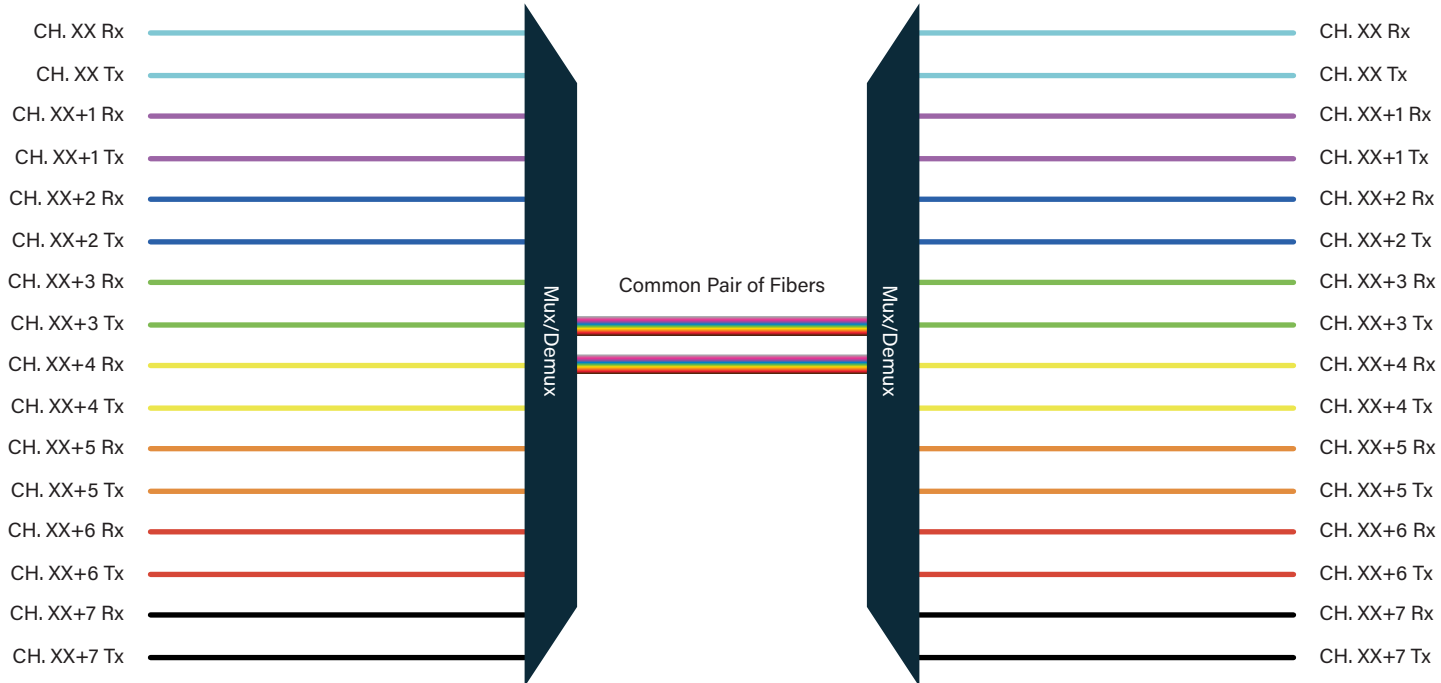
SINGLE FIBER VS DUAL FIBER

WDM solutions are available in single fiber or dual fiber configurations, depending on network design and fiber availability. Both options are available for CWDM and DWDM providing flexible, scalable solutions to meet your capacity and distance needs.

SINGLE FIBER WDM uses one fiber strand for both transmit and receive directions by assigning different wavelengths to each direction. This is ideal for fiber-limited environments.



DUAL FIBER WDM uses one fiber for transmit and a second for receive. This traditional setup supports symmetric traffic and simplifies design for high-capacity links.



FORM FACTORS

All of Approved Networks' passive solutions depending on the operation and channel count - whether CWDM, DWDM or FTTx - are available in one or more of four form factors: LGX module, rackmount module, outside plant module, or compact outside plant enclosure. The appropriate form factor will depend on your specific application requirements and installation environment (Inside Plant or Outside Plant).



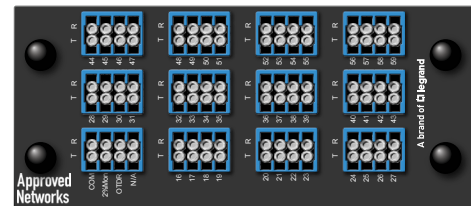
FORM FACTOR	LGX x N Modules	Rackmount Device	Outside Plant Modules	OSP Compact Enclosures
TYPICAL APPLICATIONS	Metro Datacenter Interconnect FTTx Enterprise Campus Hospital	Metro Datacenter Interconnect FTTx Enterprise Campus Hospital	Cell site Backhaul FTTx Rural Broadband	Cell site Backhaul FTTx Rural Broadband
INSTALLATION TYPE	Rackmount Chassis Magnetic/Screw Mount	19 inch rack	Splice Trays Custom Installations	Outside the splice enclosure Hand hole Pole mount
KEY FEATURES	- High-channel density within compact, standardized format - Plug and Play integrations - Mounting option available for seamless rack installation	- Standardized 19-inch format for universal rack compatibility - High-channel density while maximizing space efficiency - Plug and Play integrations	- Rugged Durability - IP68 Rating - Submersible options available - Splice tray mountable - Industrial temp	- Includes 10m of outside plant cable - No Preinstall - Takes the WDM out of the splice case for space saving
MAX # OF CHANNELS	8 Dual Fiber 16 Single Fiber	44 Dual Fiber 88 Single Fiber	Up to 16 channels dual fiber and 32 channels single fiber (Max # channels vary by module size)	44 Dual Fiber M/D 8 Channel OADM
CONNECTOR TYPES	LC/UPC, LC/APC SC/UPC, SC/APC FC/UPC, FC/APC ST/APC, ST/UPC MPO12/APC MPO24/APC MDC/APC, MDC/UPC SN/APC, SN/UPC	LC/UPC, LC/APC SC/UPC, SC/APC FC/UPC, FC/APC ST/APC, ST/UPC MPO12/APC MPO24/APC MDC/APC, MDC/UPC SN/APC, SN/UPC	Bare Fiber (No connectors) 900 um loose tube 900 um Tight tube LC/UPC, LC/APC SC/UPC, SC/APC FC/UPC, FC/APC ST/APC, ST/UPC	Bare Fiber (no connectors)
FILTER TYPE	Gaussian AWG, Thin Film Filter, Flat Top AWG	Gaussian AWG, Thin Film Filter, Flat Top AWG	Thin Film Filter	Thin Film Filter
C-BAND DWDM	Yes	Yes	Yes	Yes
O-BAND WDM	Yes	Yes	No	No
CWDM	Yes	Yes	Yes	Yes
FTTx SPLITTERS	Yes	Yes	Yes	Yes
MONITORING SPLITTERS	Yes	Yes	No	No
COEXISTENCE MODULES	Yes	Yes	Yes	Yes

LGX x N MODULES

Approved Networks' LGX modules are built to industry-standard dimensions and are fully non-proprietary, meaning they can be installed into any LGX-compatible chassis or panel—regardless of manufacturer. This gives you maximum flexibility for integration into existing networks without being locked into specific vendor's ecosystem.



Approved Networks offers LGX modules in different widths. Below is an example of a single wide LGX and a double wide LGX. We also offer triple and quadruple wide LGX solutions.



Approved Networks offers a full suite of mounting options for our passive LGX solutions for seamless integration:



- Feature-rich 1RU and 3RU chassis with reversible mounting brackets for 19" and 23" racks plus integrated fiber management



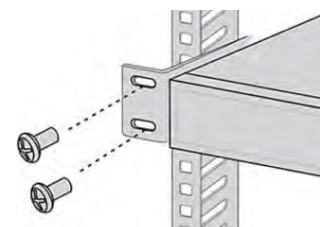
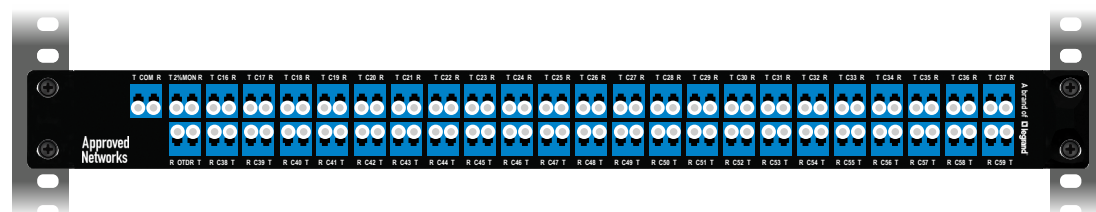
- Faceplates for 1RU rack mounting



- "C" bracket for magnetic and screw-down/bolt-on pedestal and CPE applications

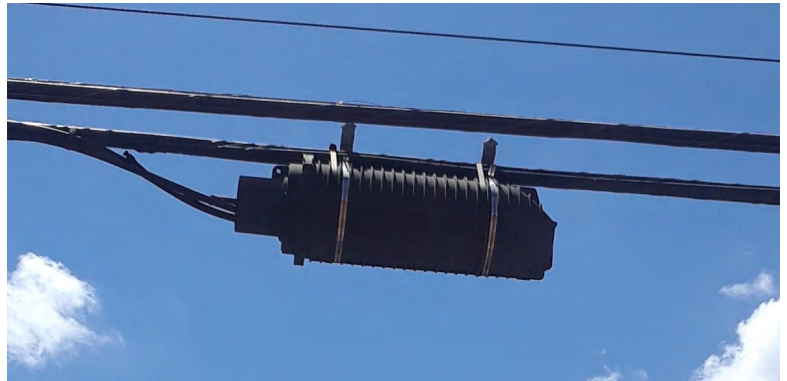
RACKMOUNT MODULES

Approved Networks' rackmount solutions offer a clean, efficient way to deploy CWDM or DWDM filters or Splitters in standard 19" or 23" racks. These solutions are designed to support a wide range of channel counts and configurations. Ideal for central offices, datacenters, and head ends, our rackmount solutions delivery high-density wavelength multiplexing in a space-saving, easily accessible format. All units are designed to be vendor-neutral for seamless integration into existing rack systems.



OUTSIDE PLANT MODULES

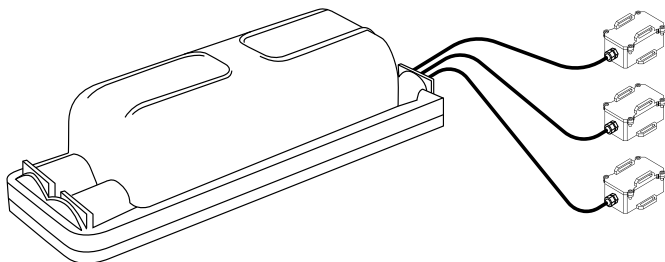
Approved Networks' outside plant modules are rugged, weatherproof enclosures designed for reliable performance in outdoor environments. These passive modules house CWDM and DWDM filters or splitters and are built to withstand extreme temperatures, moisture, and other challenging conditions. Ideal for curbside cabinets, vaults, or aerial installations, they provide a compact, low-maintenance solution for expanding fiber in the field. Available in a variety of channel counts and connector options, our outside plant modules ensure long-term durability and easy integration into any outdoor network architecture.



Splice tray installation

OUTSIDE PLANT COMPACT ENCLOSURE

Approved Networks' outside plant compact enclosure is an outside plant box that comes with 10m of outside plant cable. This innovative enclosure takes the WDM outside of the splice case if there is no space in the splice tray. These can be used in conjunction with other cases. There is no pre-install in these cases for large deployments.



Cable installs directly into OSP splice tray enclosures.





APPROVED NETWORKS WDM SOLUTIONS

ZS SERIES FILTERS

Approved Networks' ZS Series solutions are engineered with a standardized design that optimizes duplex fiber patch cords for effortless connectivity. For custom specifications, our ZC Series provides tailored solutions. Each series is a comprehensive, integrated solution designed to integrate seamlessly with your existing network configurations.

Our ZS Series passives offer a diverse portfolio for various network design configurations and applications, including CWDM, DWDM, O-Band, and FTTx.

Features and Benefits:

- Standardized form factors for easy installation
- Connectors are optimized for duplex fiber patch cords for simple connections
- Bottom row labels flipped for latch access
- Readily available for purchase

ZC SERIES FILTERS

The ZC Series passives offer specialized products tailored for customer-specific applications. These solutions are designed to meet unique project requirements and are not available for general purchase or standard catalog ordering. Contact us for more information on how the ZC Series can support your network needs.

SAMPLE UTILIZATION OF OUR ZC SERIES:

- Military and aerospace applications
- Legacy networks compatibility
- Customized channel configurations
- High density form factors

Customization capabilities:

- Custom Inside Plant
- Custom Outside Plant
- Specific Channel Schemes
- Connectors
- Fiber Types
- Form Factors

ORDERING INFORMATION

When deciding which WDM solution is the best option for you, you should gather your needs in the following order: Operation (Mux, Demux, OADM), Channel Count (How many links do you need to connect), Single vs Dual Fiber, Inside vs Outside Plant (Where will the product need to be installed), Form Factor (LGX, Rackmount, Outside Plant Module, Outside plant compact enclosure).

Dual Fiber Solutions

DWDM - INSIDE PLANT

SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Conn. Type	Start Channel	Other
ZS-M/D-50-96-L-AAWG-13.5-R	50GHz	Mux/Demux Pair	Athermal AWG	96	LC/UPC	13.5	Mon, 2RU
96 CH DWDM M/D, 50GHz, LC, Athermal AWG, CH13.5 start, 2% Mon, 2RU							
ZS-M/D-50-80-L-AAWG-20-R	50GHz	Mux/Demux Pair	Athermal AWG	80	LC/UPC	20	Mon, 2RU
80CH DWDM M/D, 50GHz, LC, Athermal AWG, CH20 start, 2% Mon, 2RU							
ZS-DWDM-MDFO-100-44-L-8-0-16-R	100GHz	Mux/Demux Pair	Flat top AAWG	44	LC/UPC	16	Mon, OTDR
CH DWDM 100GHz spacing, M/D, Flat top AAWG, 44 Channel, LC/UPC, CH 16 Start, Single module, 1RU, OTDR, Skip 0, MON 2% M/D							
ZS-DWDM-MDUO-100-44-L-8-0-16-R	100GHz	Mux/Demux Pair	Thin Film Filter	44	LC/UPC	16	Mon, OTDR
44CH DWDM 100GHz spacing, M/D, Ultra Low Loss, 44 Channel, LC/UPC, CH 16 Start, Single module, 1RU, OTDR, Skip 0, MON 2% M/D							
ZS-DWDM-MDUO-100-44-M-8-0-16-2L	100GHz	Mux/Demux Pair	Thin Film Filter	44	MDC/UPC	16	Mon, OTDR, 2W LGX
44CH DWDM 100GHz spacing, M/D, Ultra Low Loss, 44 Channel, MDC/UPC, CH16 Start, Single module, 2 Wide LGX, OTDR, Skip 0, MON 2% M/D							
ZS-DWDM-MDG-100-44-L-8-0-16-R	100GHz	Mux/Demux Pair	Gaussian AWG	44	LC/UPC	16	Mon
44CH DWDM M/D Gaussian AWG 100GHz, LC, 8 skip 0, Ch 16 start, 2% Mon, 1RU							
ZS-DWDM-M/D-100-44-L-8-0-16-R	100GHz	Mux/Demux Pair	Athermal AWG	44	LC/UPC	16	Mon
44CH DWDM M/D Athermal AWG 100GHz, LC, 8 skip 0, Ch 16 start, 2% Mon, 1RU							
ZS-DWDM-M/D-100-42-L-6-0-14-R	100GHz	Mux/Demux Pair	Thin Film Filter	42	LC/UPC	14	Mon
42CH DWDM M/D 100GHz, LC, 6 skip 0, Ch 14 start, 2% Mon, 1RU							
ZS-DWDM-MDFO-100-40-L-8-1-16-4L	80GHz	Mux/Demux Pair	Flat top AAWG	40	LC/UPC	16	Mon, OTDR, 4W LGX
40CH DWDM 100GHz spacing, M/D, Flat top AAWG, 40 Channel, LC/UPC, CH16 Start, Single module, 4 wide LGX, OTDR, 8 Skip 1, MON 2% M/D, 80Ghz passband							
ZS-DWDM-MDG-100-40-L-8-0-20-R	100GHz	Mux/Demux Pair	Gaussian AWG	40	LC/UPC	20	Mon
40CH DWDM M/D Gaussian AWG 100GHz, LC, 8 skip 0, Ch 20 start, 2% Mon, 1RU							
ZS-DWDM-MDG-100-40-L-8-1-16-R	100GHz	Mux/Demux Pair	Gaussian AWG	40	LC/UPC	16	Mon
40CH DWDM M/D GAWG 100GHz, LC, 8 skip 1, Ch 16 start, 2% Mon, 1RU							
ZS-DWDM-MDGO-100-40-L-8-1-16-R	100GHz	Mux/Demux Pair	Gaussian AWG	40	LC/UPC	16	Mon, OTDR
40CH DWDM 100GHz spacing, M/D, Gaussian GAWG, LC/UPC, CH16 Start, Single module, 1RU, OTDR, 8-skip-1, MON 2% M/D							

DWDM - INSIDE PLANT

SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Conn. Type	Start Channel	Other
ZS-DWDM-M/D-100-40-L-8-0-XX-R	100GHz	Mux/Demux Pair	Thin Film Filter	40	LC/UPC	xx	Mon, 1310
40CH DWDM, 100GHz, Ch XX start, no skips, with 2% Mon, 1310PB, 1RU LC							
ZS-DWDM-M/D-100-40-L-8-1-16-R	100GHz	Mux/Demux Pair	Thin Film Filter	40	LC/UPC	16	Mon, EXP
40CH DWDM 100 GHz spacing, M/D, TFF Thin Film Filter, 40 Channel, LC/UPC, CH16 Start, Single module, 1RU, 8-skip-1, Standard EXP, MON 2% M/D							
ZS-DWDM-M/D-100-40-L-AAWG-AMP-XX-R	100GHz	Mux/Demux Pair	Flat top AAWG	40	LC/UPC	xx	Mon, Amp
40CH DWDM, 100GHz, Ch XX start, Flat top AAWG, Amp compatible with 2% Mon, 1RU, LC							
ZS-DWDM-BPS-100-40-L-8-1-16-L	100GHz	Band Pass Filter	Thin Film Filter	40	LC/UPC	16	
40CH DWDM, 100G spacing, 8 Skip 1, M/D, 5 Band, Band Pass Splitter, LC, LGX							
ZS-DWDM-BPS-100-40-L-8-1-16-L-H	100GHz	Band Pass Filter	Thin Film Filter	40	LC/UPC	16	
40CH DWDM 100 GHz spacing, Band pass filter, TFF, LC/UPC, CH16 Start, Single module, LGX, 8-skip-1							
ZS-DWDM-BPS-100-40-LA-10-0-20-L	100GHz	Band Pass Filter	Thin Film Filter	40	LC/APC	20	
40CH DWDM, Band Pass Filter, 100G Spacing, LC/APC connectors, 10 skip 0, CH20 Start, LGX							
ZS-DWDM-MD6-100-16-L-8-0-21-R	100GHz	Mux/Demux Pair	Thin Film Filter	16	LC/UPC	21	Mon, OTDR
16CH DWDM, 100GHz, CH21 start, no skips, with 2% Mon, 1625nm OTDR, 1RU LC							
ZS-DWDM-MD2-100-16-L-8-1-25-R	100GHz	Mux/Demux Pair	Thin Film Filter	16	LC/UPC	25	Mon, Dual Module
16CH DWDM M/D, Dual Module, DWDM 100GHz, CH25 start, 8 skip 1, with 2% Mon, 1RU LC							
ZS-DWDM-M/D-100-16-L-8-0-XX-R	100GHz	Mux/Demux Pair	Thin Film Filter	16	LC/UPC	xx	Mon, 1310
16CH DWDM 100GHz CH XX start, no skips, with 2% Mon, 1310PB, 1RU LC							
ZS-DWOB-M/D-200-16-L-N-0-1295-R	200GHz	Mux/Demux Pair	Thin Film Filter	16	LC/UPC	O1295	Mon
16CH O-Band DWOB, 200GHz, CH. O-1295 Start, No Skips, With 2% Mon, 1RU LC							
ZS-DWDM-M/D-100-10-LA-10-0-XX-L	200GHz	Mux/Demux Pair	Thin Film Filter	10	LC/APC	xx	
10CH DWDM, Mux/Demux, 100G Spacing, LC/APC, 10 skip 0, CHXX Start, LGX							
ZS-DWDM-ADM-100-8-L-8-1-XX-R	100GHz	OADM	Thin Film Filter	8	LC/UPC	xx	Mon
8CH DWDM OADM 100GHz LC, E/W, 8 Skip 1, Ch XX start, Mon, 1RU							
ZS-DWDM-ADMB-100-8-L-8-1-XX-2L	100GHz	Band Pass OADM	Thin Film Filter	8	LC/UPC	xx	Mon, Dual LGX
8CH DWDM 100GHz spacing, Band pass OADM, TFF, LC/UPC, CHXX Start, Single module, Dual LGX, Skip 0, Bandpass EXP, MON 2% M/D							
ZS-DWDM-ADMB-100-8-L-8-1-XX-R	100GHz	Band Pass OADM	Thin Film Filter	8	LC/UPC	xx	Mon
8CH DWDM OADM 100GHz LC, E/W, 8 Skip 1, Ch XX start, Mon, BPEXpress, 1RU							
ZS-DWDM-M/D-100-8-L-8-0-XX-LL	100GHz	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	xx	
8CH DWDM M/D 100GHz, LC, No Skip, Ch XX start Mon, LGX Mount 1W							

DWDM - INSIDE PLANT

SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Conn. Type	Start Channel	Other
ZS-DWDM-M/D-100-8-L-8-0-25-L	100GHz	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	25	Mon
8CH DWDM 100GHz spacing, M/D, TFF, Skip 0, LC/UPC, CH25 Start, MON 2% M/D							
ZS-DWDM-M/D-100-8-L-8-1-XX-L	100GHz	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	xx	Mon, EXP
8CH DWDM 100GHz spacing, M/D, TFF Thin Film Filter, LC/UPC, CH16 Start, Single module, LGX, Skip 0, Standard EXP, MON 2% M/D							
ZS-DWDM-MD3-100-8-L-8-0-21-L	100GHz	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	21	Mon, 1310
8CH DWDM M/D 100GHz, 1310, LC, No Skip, Ch 21 start Mon, LGX Mount 1W							
ZS-DWDM-MD3E-100-8-L-8-0-XX-LL	100GHz	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	xx	Mon, 1310, EXP
8CH DWDM M/D 1310PB, Express port, 100GHz 8CH, LC, No Skip, Ch XX start, Mon, LGX Mount 1W							
ZS-DWDM-MD6-100-8-L-8-1-21-L	100GHz	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	21	Mon, OTDR
8CH DWDM, 100GHz, Ch 21 start, no skips, with 2% Mon, 1625nm OTDR, LGX, LC							
ZS-DWDM-MDAO-100-8-L-8-1-25-R	100GHz	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	25	Mon, EXP, OTDR, Amp
8CH DWDM M/D AMP ports 1625 OTDR, 100GHz, 8skip 1, LC/UPC, CH25 start, 2% MON, STD EXP port, 1RU							
ZS-DWDM-MDB-100-8-L-8-1-XX-L	100GHz	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	xx	Mon
8CH DWDM 100GHz spacing, M/D, TFF Thin Film Filter, LC/UPC, CHXX Start, Single module, LGX, Skip 0, Bandpass EXP, MON 2% M/D							
ZS-DWDM-MDO-100-8-L-8-1-XX-L	100GHz	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	xx	Mon, EXP, OTDR
8CH DWDM, 100GHz, 1625 OTDR, CH XX Start, 8-skip-1 with 2% MON and EXP port, LGX, LC							
ZS-DWOB-M/D-200-8-L-N-0-1304-L	200GHz	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	O1304	Mon
8CH O-Band DWOB, 200GHz, CH. O-1304 Start, No Skips, With 2% Mon, LGX LC							
ZS-DWDM-ADM-100-6-L-6-0-XX-R	100GHz	OADM	Thin Film Filter	6	LC/UPC	xx	
6CH DWDM OADM 100GHz, LC, E/W, 6 Skip 0, Ch XX start, Mon, Rack Mount							
ZS-DWDM-ADM-100-4-L-N-N-XX-L	100GHz	OADM	Thin Film Filter	4	LC/UPC	xx	Mon
4CH DWDM OADM 100GHz, LC, E/W, No Skip, Ch XX Start, 2% MON, LGX							
ZS-DWDM-M/D-100-4-L-8-1-XX-L	100GHz	Mux/Demux Pair	Thin Film Filter	4	LC/UPC	xx	Mon
4CH DWDM 100 GHz spacing, M/D, TFF Thin Film Filter, LC/UPC, CHXX Start, Single module, LGX, Skip 0, Standard EXP, MON 2% M/D,							
ZS-DWDM-ADM-100-2-L-N-N-XX-L	100GHz	OADM	Thin Film Filter	2	LC/UPC	xx	Mon
2CH DWDM OADM 100GHz, LC, E/W, No Skip, Ch XX start, 2% MON, LGX							
ZS-DWDM-ADM-100-1-L-N-N-XX-L	100GHz	OADM	Thin Film Filter	1	LC/UPC	xx	Mon
1CH DWDM OADM 100GHz, LC, E/W, No Skip, Ch XX start, 2% MON, LGX							

Note: Channel start : xx (xx = various channel starts are available)

DWDM - OUTSIDE PLANT

SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-DW1-BPS140ML-8-1-16-0-2	100GHz	Band Pass Filter	Thin Film Filter	40	No Connectors	16	Mon
40CH DWDM BPS 100GHz, LC/UPC 900um on Mon only, Ch 16 start, 8+1skip, MON, 2M fibers, Module only							
ZS-DW1-BPS140ML-8-1-16-0-2-S	100GHz	Band Pass Filter	Thin Film Filter	40	No Connectors	16	Mon
40CH DWDM 100GHz spacing, Band pass filter, TFF Submersible, No Connector, CH16 Start, Single module, OSP 70x70x8mm, 2m pigtail, 8-skip-1, MON 2% M/D							
ZS-DW1-BPS140ML-8-1-16-0-3-S	100GHz	Band Pass Filter	Thin Film Filter	40	No Connectors	16	Mon, Submersible
40CH DWDM BPS 100GHz, LC/UPC 900um on Mon only, Ch 16 start, 8-1 skip, MON, 3M fibers, Module only, Submersible							
ZS-DW1-BPS140ML9-8-1-16-0-1	100GHz	Band Pass Filter	Thin Film Filter	40	No Connectors	16	Mon
40CH DWDM BPS 100GHz, LC/UPC 900um on all, Ch 16 start, 8-1skip, MON, 1M fibers, Module only							
ZS-DW1-100-8-C31-L-8-0-XX-0-2-S	100GHz	Mux/Demux Pair	Thin Film Filter	8	No Connectors	xx	Mon, EXP, 1310, Submersible
8CH DWDM 100GHz spacing, M/D, TFF Submersible, No Connector, CHXX Start, Single module, OSP 70x70x8mm, 2m pigtail, Skip 0, Standard EXP, MON 2% M/D, 1310							
ZS-DW1-A18CL-8-1-XX-0-2	100GHz	Mux/Demux Pair	Thin Film Filter	8	No Connectors	xx	Mon, EXP
8CH DWDM M/D 100GHz, LC and 900um on Mon only, Ch XX start, 8-1 skip, Express, Mon, 2M fibers, Module only							
ZS-DW1-A18CL-8-1-XX-0-2-S	100GHz	Mux/Demux Pair	Thin Film Filter	8	No Connectors	xx	Mon, EXP, Submersible
8CH DWDM 100GHz spacing, M/D, TFF Submersible, No Connector, CHXX Start, Single module, OSP 70x70x8mm, 2m pigtail, Skip 0, Standard EXP, MON 2% M/D							
ZS-DW1-A18CL-8-1-XX-0-3-S	100GHz	Mux/Demux Pair	Thin Film Filter	8	No Connectors	xx	Mon, EXP, Submersible
8CH DWDM M/D 100GHz, LC and 900um on Mon only, Ch XX start, 8-1 skip, Express, Mon, 3M fibers, Module only, Submersible							
ZS-DW1-A18CL9-8-1-XX-0-1	100GHz	Mux/Demux Pair	Thin Film Filter	8	No Connectors	xx	Mon, EXP
8CH DWDM M/D 100GHz, LC/UPC 900um on all, Ch XX Start, 8-1skip, Express, Mon, 1M fibers, Module only							
ZS-DW1-A18CLO-8-1-XX-0-2-S	100GHz	Mux/Demux Pair	Thin Film Filter	8	No Connectors	xx	Mon, EXP, OTDR
8CH DWDM M/D 100GHz, 1625 OTDR, LC and 900um on Mon only, Ch XX start, 8-1 skip, Express, Mon, 2M fibers, Module only							
ZS-DW1-A18MBPE-8-1-XX-0-2-S	100GHz	Mux/Demux Pair	Thin Film Filter	8	No Connectors	xx	Mon, Submersible, BPE
8CH DWDM M/D 100GHz, TFF, Ch XX Start, 8 Skip 1, BP Express, 2m Fibers, LC 900um 2% Mon Only, OSP 70mm x 70mm x 8mm Mod Only, Submersible							
ZS-DW1-E18MBPE-8-1-XX-0-2-S	100GHz	OADM	Thin Film Filter	8	No Connectors	xx	Mon
8CH DWDM 100GHz spacing, OADM, TFF, Submersible, No Connector, CHXX Start, Single module, OSP 140x70x8mm, 2m pigtail, Skip 0, MON 2% M/D							
ZS-DW1-E18MBPE-8-1-XX-0-3-S	100GHz	OADM	Thin Film Filter	8	No Connectors	xx	Mon
8CH DWDM OADM 100GHz, LC 900um, MON ONLY, CHXX START, 8-1 SKIP, 140X70X8mm, 3M fibers, MOD ONLY, Submersible							

DWDM - OUTSIDE PLANT

SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-DW1-E18MBPE-8-1-XX-TBNT-2-S	100GHz	OADM	Thin Film Filter	8	No Connectors	xx	Mon, BPE
8CH DWDM 100 GHz spacing, OADM, TFF Submersible, No Connector, CHXX Start, Single module, OSP 92x77x8mm, 2m pigtail, Skip 0, Bandpass EXP, MON 2% M/D							
ZS-DW1-A1500-5045-0-1	100GHz	Mux/Demux Pair	Thin Film Filter	5	No Connectors	45	EXP
5CH DWDM, Single Module, M/D, 100G spacing, Express, no connectors, 5 skip 0, CH45 Start, Module only, 1M fibers							
ZS-DW1-A15E0-50XX-0-1	100GHz	Mux/Demux Pair	Thin Film Filter	5	No Connectors	xx	EXP
5CH DWDM, Single Module, M/D, 100G spacing, Express, no connectors, 5 skip 0, Channel XX Start, Module only, 1M fibers, 70x70x8mm							
ZS-DW1-A15E0-50XX-TD-1	100GHz	Mux/Demux Pair	Thin Film Filter	5	No Connectors	xx	EXP
5CH DWDM, Single Module, M/D, 100G spacing, Express, no connectors, 5 skip 0, Channel XX Start, 1M fibers, 70x70x8mm, Tyco D Tray							
ZS-DW1-BPS/A15E0-5020-0-1	100GHz	Band Pass Filter	Thin Film Filter	5	No Connectors	20	EXP
5CH DWDM, Single Module, Band Pass Filter+M/D, 100G spacing, Express, no connectors, 5 skip 0, CH20 Start, Module only, 1M fibers, 100x80x10mm metal box							
ZS-DW1-BPS/A15E0-5020-TD-1	100GHz	Band Pass Filter	Thin Film Filter	5	No Connectors	20	EXP
5CH DWDM, Single Module, Band Pass Filter+M/D, 100G spacing, Express, no connectors, 5 skip 0, Channel 20 Start, 1M fibers, 100x80x10mm metal box, Tyco D Tray							
ZS-DW1-A14CL-8-1-XX-0-2	100GHz	Mux/Demux Pair	Thin Film Filter	4	No Connectors	xx	Mon, EXP
4CH DWDM M/D 100GHz, LC and 900um (Mon only), Ch XX start, 8+1 skip, Express, Mon, 2M							
ZS-DW1-A14CL-8-1-XX-0-2-S	100GHz	Mux/Demux Pair	Thin Film Filter	4	No Connectors	xx	Mon, EXP
4CH DWDM M/D 100GHz, LC and 900um (Mon only), Ch XX start, 8+1 skip, Express, Mon, 2M Submersible							
ZS-DW1-A14E0-NN-XX-00-2	100GHz	Mux/Demux Pair	Thin Film Filter	4	No Connectors	xx	
4CH DWDM 100 GHz spacing, M/D, TFF, EXP, No Connector, CHXX Start, Single module, OSP 70x70x8mm, 2m pigtail, Skip 0, NO MON							
ZS-DW1-BPS14E0-40XX-2	100GHz	Mux/Demux Pair	Thin Film Filter	4	No Connectors	xx	Mon
4CH DWDM BPS 100GHz, No Mon, Ch XX start, 4 skip 0, MON, 2M fibers, Module only							
ZS-DW1-ED1400-NN-XX-00-2	100GHz	OADM	Thin Film Filter	4	No Connectors	xx	
4CH DWDM 100GHz spacing, OADM, TFF, No Connector, CHXX Start, Single module, OSP 70x70x8mm, 2m pigtail, Skip 0, NO MON							
ZS-DW1-A12CL-8-1-XX-0-2-S	100GHz	Mux/Demux Pair	Thin Film Filter	2	No Connectors	xx	Mon, EXP, Submersible
2CH DWDM M/D 100GHz, LC and 900um (Mon only), Ch XX start, 8+1 skip, Express, Mon, 2M fibers, Module only, Submersible							
ZS-DW1-ED1200-NN-XX-00-2	100GHz	OADM	Thin Film Filter	2	No Connectors	xx	
2CH DWDM 100 GHz spacing, OADM, TFF, No Connector, CHXX Start, Single module, OSP 70x70x8mm, 2m pigtail, Skip 0, NO MON							

DWDM - OUTSIDE PLANT

SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-DW1-E12M0-0000-NN21-0000-1	100GHz	OADM	Thin Film Filter	2	No Connectors	21	Mon
2CH DWDM OADM 100GHz CH 21 Start West and East, 900um LC Mon,70x70x8mm, 250um,1M pigtail							
ZS-DW1-ED1100-NN-XX-00-2	100GHz	OADM	Thin Film Filter	1	No Connectors	xx	
1CH DWDM 100 GHz spacing, OADM, TFF, No Connector, CHXX Start, Single module, OSP 60x60x7mm, 2m pigtail, Skip 0, NO MON							
ZS-DW1-E11M0-0000-NNXX-0000-1	100GHz	OADM	Thin Film Filter	1	No Connectors	xx	Mon
1CH DWDM OADM 100GHz CHXX West and East, 900um LC Mon,70x70x8mm, 250um,1M pigtails							
ZS-DW1-E11M0-NNXX-0000-2-S	100GHz	OADM	Thin Film Filter	1	No Connectors	xx	Mon
1CH DWDM 100 GHz spacing, OADM, TFF Submersible, No Connector, CHXX Start, Single module, OSP 60x60x7mm, 2m pigtail, Skip 0, MON 2% M/D							
ZS-DW1-A11E0-N-0-XX-0-2	100GHz	Mux/Demux Pair	Thin Film Filter	1	No Connectors	xx	EXP
1CH DWDM M/D 100GHz, 250um, Ch XX start, Express, NO Mon, 2M fibers, Module only							

Note: Channel start : xx (xx = various channel starts are available)

CWDM - INSIDE PLANT

SKU/Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-CWDM-AF18M-R	20nm	Mux/Demux Pair	Thin Film Filter	18	LC/UPC	1270	Mon
18 CH CWDM M/D, 1270-1610nm, with 2% MON, LC, 19" rack 1RU							
ZS-CWDM-AF16M-R	20nm	Mux/Demux Pair	Thin Film Filter	16	LC/UPC	1470	Mon
16 CH CWDM M/D 1270-1370nm, 1430-1610nm, 2% MON, LC, 19" rack 1RU							
ZS-CWDM-AF03M31-LL-HI	20nm	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	1470	Mon, 1310
8+1CH 1310/CWDM overlay, 1470-1610nm, Single wide LGX with 2% MON, LC, HI ISOLATION							
ZS-CWDM-AF03M-LL	20nm	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	1470	Mon
8CH CWDM M/D, 1470-1610nm, Single wide LGX with 2% MON, LC							
ZS-CWDM-AF03M31-LL	20nm	Mux/Demux Pair	Thin Film Filter	8	LC/UPC	1470	Mon, 1310
8+1CH 1310/CWDM overlay, 1470-1610nm, Single wide LGX with 2% MON, LC							
ZS-CWDM-AF01M-LL	20nm	Mux/Demux Pair	Thin Film Filter	4	LC/UPC	1550	Mon
4CH CWDM Mux/Demux, 1470-1530nm, 20nm spacing, 2%MON, LGX module, LC/UPC							
ZS-CWDM-AF02M-LL	20nm	Mux/Demux Pair	Thin Film Filter	4	LC/UPC	1611	Mon
4CH CWDM Mux/Demux, 1550-1610nm, 20nm spacing, 2%MON, LGX module, LC/UPC							
ZS-CWDM-AF46M-LCL	20nm	Mux/Demux Pair	Thin Film Filter	2	LC/UPC	1270	Mon
2CH CWDM Mux/Demux 1591, 1611nm, 1550PB (1260-1580nm), MON, 1W LGX, LC							

CWDM - INSIDE PLANT

SKU/Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-CWDM-E0XXM-LL	20nm	OADM	Thin Film Filter	1	LC/UPC	1270	Mon
1CH OADM East and West, 1270nm 20nm spacing, 2%MON, LGX module, LC/UPC							
ZS-CWDM-FW010-LL	N/A	Mux/Demux Pair	Thin Film Filter	2	LC/UPC	1330/1550	
2 CH. FWDM MUX/DEMUX 1310nm, 1550nm							

Note: Channel start : xx (xx = various channel starts are available)

CWDM - OUTSIDE PLANT

SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-C1-AFO3-M31-2-3-LP-0-S	20nm	Mux/Demux Pair	Thin Film Filter	8	No Connector	1470	Mon, 1310,Sub
8CH CWDM M/D, 20GHz spacing, TFF Sub, No Connector, CH 1470 Start,70x70x8mm, 2m pigtail, Skip 0, MON 2% M/D, 1310							
ZS-C1-AFO3-M31-2-3-LP-0	20nm	Mux/Demux Pair	Thin Film Filter	8	No Connector	1470	Mon, 1310
8Ch CWDM M/D 1470-1610nm, MON, 1310 Passband, LC and 900um on Mon only, Module only							
ZS-CWDM-EF02M-LL	20nm	OADM	Thin Film Filter	4	LC/UPC	1550	Mon, 1310
4Ch CWDM OADM, E&W, 1550-1610nm, 20nm spacing, 2%MON, LGX module, LC/UPC							

Note: Channel start : xx (xx = various channel starts are available)

Single Fiber Solutions

DWDM - INSIDE PLANT

SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-DWDM-SFB-050-80-L-N-0-20-R-E	50GHz	Single Fiber Mux	Thin Film Filter	80	LC/UPC	20	Mon
80Ch/40Svcs DWDM SF MUX 50GHz, LC, No Skips, CH20 start, Monitor, 1RU, East							
ZS-DWDM-SFB-050-80-L-N-0-20-R-W	50GHz	Single Fiber Mux	Thin Film Filter	80	LC/UPC	20	Mon
80Ch/40Svcs DWDM SF MUX 50GHz, LC, No Skips, CH20 start, Monitor, 1RU, West							
ZS-DWDM-SFB-100-48-L-N-0-16-R	100GHz	Single Fiber Mux	Thin Film Filter	48	LC/UPC	16	Mon
48Ch/24Svcs DWDM SF MUX 100GHz, LC, No Skips, CH16 start, Monitor, 1RU							
ZS-DWDM-SFBO-100-16-8-1-XX-L	100GHz	Single Fiber Mux	Thin Film Filter	16	LC/UPC	xx	Mon, EXP, OTDR
16Ch / 8Svcs DWDM SF MUX 100GHz,LC, 8 Skip 1, Ch XX start, Monitor, Exp, OTDR, LGX							
ZS-DWDM-SFB-100-16-L-8-0-XX-L	100GHz	Single Fiber Mux	Thin Film Filter	16	LC/UPC	xx	Mon, EXP
16Ch / 8Svcs DWDM SF MUX 100GHz, LC, No Skips, Ch XX start, Monitor, Exp, LGX							

DWDM - INSIDE PLANT

SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-DWDM-SFD-100-16-L-8-0-XX-L	100GHz	Single Fiber Demux	Thin Film Filter	16	LC/UPC	xx	Mon, EXP
16Ch / 8Svcs DWDM SF DEMUX 100GHz, LC, No Skips, Ch XX start, Monitor, Exp, LGX							
ZS-DWDM-SFB-100-16-L-8-0-21-L-H	100GHz	Single Fiber Mux	Thin Film Filter	16	LC/UPC	21	Mon, EXP
16Ch / 8Svcs DWDM SF MUX 100GHz, LC, No Skips, Ch 21 start, Monitor, Exp, LGX, I-Temp							
ZS-DWDM-SFDO-100-16-8-1-XX-L	100GHz	Single Fiber Demux	Thin Film Filter	16	LC/UPC	xx	Mon, EXP, OTDR
16Ch / 8Svcs DWDM SF DEMUX 100GHz,LC, 8 Skip 1, Ch XX start, Monitor, Exp, OTDR, LGX							
ZS-DWOB-SFB-200-16-L-N-0-1295-L	200GHz	Single Fiber Mux	Thin Film Filter	16	LC/UPC	O1295	Mon
16Ch / 8Svcs O-Band DWOB SF MUX 200GHz,LC, No Skips, Ch O-1295 Start, 2% M&D Monitor, LGX							
ZS-DWOB-SFD-200-16-L-N-0-1295-L	200GHz	Single Fiber Demux	Thin Film Filter	16	LC/UPC	O1295	Mon
16Ch / 8Svcs O-Band DWOB SF DEMUX 200GHz,LC, No Skips, Ch O-1295 Start, 2% M&D Monitor, LGX							
ZS-DWDM-SFD-100-8-L-8-0-XX-L	100GHz	Single Fiber Demux	Thin Film Filter	8	LC/UPC	xx	Mon, EXP
8Ch / 4Svcs DWDM SF DEMUX 100GHz, LC, No Skips, Ch XX start, Monitor, Exp, LGX							
ZS-DWDM-SFADM-100-8-L-N-N-XX-L	100GHz	OADM	Thin Film Filter	8	LC/UPC	xx	Mon, EXP
8Ch / 4Svcs DWDM SF OADM 100GHz, LC, E/W, Ch XX start ,2% Mon, EXP, LGX							
ZS-DWDM-SFDO-100-8-8-1-XX-L	100GHz	Single Fiber Demux	Thin Film Filter	8	LC/UPC	xx	Mon, EXP
8Ch / 4Svcs DWDM SF DEMUX 100GHz, LC, 8 Skip 1, Ch XX start, Monitor, Exp, OTDR, LGX							
ZS-DWDM-SFB-100-4-L-8-0-21-L	100GHz	Single Fiber Mux	Thin Film Filter	4	LC/UPC	21	Mon, EXP
4Ch / 2Svcs DWDM SF MUX 100GHz, LC, No Skips, Ch 21 start, Monitor, Exp, LGX							
ZS-DWDM-SFD-100-4-L-8-0-XX-L	100GHz	Single Fiber Demux	Thin Film Filter	4	LC/UPC	xx	Mon, EXP
4Ch / 2Svcs DWDM SF DEMUX 100GHz,LC, No Skips, Ch XX start, Monitor, Exp, LGX							
ZS-DWDM-SFD-100-2-L-8-0-XX-L	100GHz	Single Fiber Demux	Thin Film Filter	2	LC/UPC	xx	Mon, EXP
2Ch / 1Svcs DWDM SF DEMUX 100GHz, LC, No Skips, Ch XX start, Monitor, Exp, LGX							
ZS-DWDM-SFADM-100-2-L-N-N-XX-L	100GHz	OADM	Thin Film Filter	2	LC/UPC	xx	Mon, EXP
2Ch / 1Svcs DWDM SF OADM 100GHz, LC, E/W, Ch XX start ,2% Mon, EXP, LGX							

Note: Channel start : xx (xx = various channel starts are available)

DWDM - OUTSIDE PLANT

SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-DW1-D116C0-NNXX-0-1	100GHz	Single Fiber Demux	Thin Film Filter	16	No Connectors	xx	Mon
16CH/8Svcs DWDM, Single Module, Single Fiber DEMUX, 100G spacing, Express, no connectors except 900um LC MON, CHXX Start, Module only, 1M fibers							
ZS-DW1-D116CL-NN21-0-1	100GHz	Single Fiber Mux	Thin Film Filter	16	No Connectors	21	Mon
16CH/8Svcs DWDM, Single Module, Single Fiber MUX, 100G spacing, Express, LC, 900um LC, MON, CH21 Start, Module only, 1M fibers							
ZS-DW1-DBO116C0-81XX-NT-2-S	100GHz	Single Fiber Mux	Thin Film Filter	16	No Connectors	xx	Mon, OTDR, Submersible
16CH/8Svcs DWDM, Single Module, Single Fiber MUX, 100G spacing, Express, no connectors except 900um LC MON and OTDR, 8 skip 1 CHXX Start, Module only, 2m fibers L70xW70xH8 mm, Submersible							
ZS-DW1-DDO116C0-81XX-NT-2-S	100GHz	Single Fiber Demux	Thin Film Filter	16	No Connectors	xx	Mon, OTDR, Submersible
16CH/8Svcs DWDM, Single Module, Single Fiber DEMUX, 100G spacing, Express, no connectors except 900um LC MON and OTDR, 8 skip 1 CHXX Start, Module only, 2m fibers L70xW70xH8 mm, Submersible							
ZS-DW1-D110E0-100XX-0-1	100GHz	Single Fiber Mux	Thin Film Filter	10	No Connectors	xx	Mon, EXP
10CH DWDM, Single Module, Single Fiber MUX, 100G spacing, Express, no connectors, 10 skip 0, CHXX Start, Module only, 1M fibers, 70x70x8mm							
ZS-DW1-D110E0-100XX-TD-1	100GHz	Single Fiber Mux	Thin Film Filter	10	No Connectors	xx	
10CH DWDM, Single Module, Single Fiber MUX, 100G spacing, Express Port, no connectors, 10 skip 0, CHXX Start, 1M fibers, 70x70x8mm, Tyco D Tray							
ZS-DW1-D18C0-NNXX-0-1	100GHz	Single Fiber Demux	Thin Film Filter	8	No Connectors	xx	Mon, EXP
8CH/4Svcs DWDM, Single Module, Single Fiber DEMUX, 100GHz spacing, Express, no connectors except 900um LC MON, CHXX Start, Module only, 1M fibers							
ZS-DW1-DDO118C0-81XX-NT-2-S	100GHz	Single Fiber Demux	Thin Film Filter	8	No Connectors	xx	MON, EXP, OTDR
8CH/4Svcs DWDM, Single Module, Single Fiber DEMUX, 100G spacing, Express, no connectors except 900um LC MON and OTDR, 8 skip 1 CHXX Start, Module only, 2m fibers L70xW70xH8 mm, Submersible							
ZS-DW1-D14C0-NNXX-0-1	100GHz	Single Fiber Demux	Thin Film Filter	4	No Connectors	xx	Mon, EXP
4CH/2Svcs DWDM, Single Module, Single Fiber DEMUX, 100G spacing, Express, no connectors except 900um LC MON, CHXX Start, Module only, 1M fibers							
ZS-DW1-E1400-NN21-0000-1	100GHz	OADM	Thin Film Filter	4	No Connectors	21	
4CH/2Svcs DWDM, Single Module, OADM, 100G Spacing, CH21- CH24, 70x70x8mm, 250um 1M bare fiber							
ZS-DW1-D12C0-NNXX-0-1	100GHz	Single Fiber Demux	Thin Film Filter	2	No Connectors	xx	Mon, EXP
2CH/1Svcs DWDM, Single Module, Single Fiber DEMUX, 100G spacing, Express, no connectors except 900um LC MON, CHXX Start, Module only, 1M fibers							
ZS-DW1-D12C0-NN3447-0-1	100GHz	Single Fiber Mux	Thin Film Filter	2	No Connectors	34 + 47	Mon, EXP
2CH/1Svcs DWDM, Single Module, Single Fiber MUX, 100G spacing, Express, no connectors except 900um LC MON, Channel 34&47, Module only, 1M fibers							

DWDM - OUTSIDE PLANT							
SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-DW1-E1200-NNXX-0000-1	100GHz	OADM	Thin Film Filter	2	No Connectors	xx	
2CH/1Svcs DWDM, Single Module, OADM, 100G Spacing, CHXX start, 70x70x8mm, 250um 1M bare fiber							

Note: Channel start : xx (xx = various channel starts are available)

CWDM - INSIDE PLANT							
SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-CWDM-DF03M-LL	20nm	Single Fiber Mux	Thin Film Filter	8	LC/UPC	1471	Mon
8Ch SFM CWDM MUX 1471 - 1611nm, 2% MON, 1W LGX, LC							
ZS-CWDM-D2F030-LL	20nm	Single Fiber Mux/Demux	Thin Film Filter	8	LC/UPC	1470	Circulator
8Ch 8Svc SFM CWDM M/D+Circulator 1470-1610nm, Single wide LGX, LC							

Note: Channel start : xx (xx = various channel starts are available)

CWDM - OUTSIDE PLANT							
SKU/ Description	Spacing	Module Operation	Filter Type	Ch. Count	Connector Type	Start Channel	Other
ZS-C1-DF180-11-SP-0	20nm	Single Fiber Mux	Thin Film Filter	18	SC/UPC, 900um	1270	
18Ch CCWDM SF MUX 1270-1610nm, 1M pigtails (900um), SC/UPC, 50x50x6mm							
ZS-C1-DF03-M13-0.351-LC-0	20nm	Single Fiber Mux	Thin Film Filter	8	LC/UPC, 900um	1470	1310
8Ch CCWDM SF MUX 1470-1610, 1310 PB, 0.35M pigtails (900um), LC							

Note: Channel start : xx (xx = various channel starts are available)





FTTx SOLUTIONS

FTTX BASICS

FTTx (Fiber to the x) describes various fiber optic broadband network architectures that are categorized according to the termination point of the fiber. The "X" represents different possible endpoints of the fiber connection. Examples: FTTH : Fiber to the home, FTTB : Fiber to the building.

Approved Networks offers a comprehensive range of FTTx solutions designed to support high-performance broadband deployments from the central office to customer premises. Our passive optical components, including splitters, WDM modules, and enclosures, are designed for scalability, reliability, and seamless integration into various network designs, including residential, commercial, and office deployments.

SPLITTERS

Splitters are an essential component of FTTx networks, particularly PON (Passive Optical Networks). A splitter is a technology that splits the same optical signal with the same information into multiple strands of fiber. Splitters are intermediate devices between one OLT (Optical Line Terminal) and multiple ONUs (Optical Network Units). Approved Networks' splitters support a variety of split ratios (1xN or 2xN) and split counts.



COEXISTENCE MODULES

Coexistence modules enable network operators to deploy multiple PON technologies over a single fiber infrastructure. By combining and separating different wavelength bands, these passive modules allow legacy and next generation services such as DWDM, GPON, XGS-PON, 10G-EPON, RF Video, and OTDR monitoring to operate simultaneously without interference.



ORDERING INFORMATION

When deciding which FTTx solution is the best option for you, you should gather your needs in the following order: Operation (Splitter only, WDM, GPON, XGS-PON, etc), Split Count (Nx8, Nx16, Nx32, Nx64, Nx128), Channel Count (How many links do you need to connect if WDM is needed), Inside vs Outside Plant (Where will the product need to be installed), Form Factor (LGX, Rackmount, Outside Plant Module, Outside plant compact enclosure).

INSIDE PLANT SPLITTERS					
SKU/ Description	Spacing	Module Operation	Filter Type	Connector Type	Start Channel
PLCS-L1-XX-SA	Splitter	1xN	PLC	SC/APC	1260nm
FTTx splitter, LGX 1 Svc, 1xN 1260-1650nm, SC/APC, LGX					
PLCS-L2-XX-LA	Splitter	2xN	PLC	LC/APC	1260nm
FTTx Splitter, LGX 2 Svc, 2xN 1260-1650nm, LC/APC, LGX					
PLCS-L1-32-LA-INRF14L	Splitter	1xN	PLC	LC/APC	1260nm
FTTx Splitter, LGX 1 Svc, 1x32 1260-1650nm, LC/APC, 2WLGX, IN Rear Fiber 14M LC/APC					
PLCS-L1-64-SA	Splitter	1xN	PLC	SC/APC	1260nm
FTTx splitter, 1 Svc, 1x64 1260-1650nm, SC/APC, 1RU					
PLCS-L1-128-SA	Splitter	1xN	PLC	SC/APC	1260nm
FTTx splitter, 1 Svc, 1x128 1260-1650nm, SC/APC, 1RU					
ZS-PLCS-L2-XX-LA	Splitter	2xN	PLC	LC/APC	1260nm
FTTx splitter, LGX 2 Svc, 2xN 1260-1650nm, LC/APC, LGX					
ZS-PLCS-C1-XX-SCA	Splitter	1xN	PLC	SC/APC	1260nm
FTTx splitter, cassette 1 Svc, 1xN 1260-1620nm, SC/APC, 80x120x18mm					
ZS-PLCS-R2-XX-LA	Splitter	2xN	PLC	LC/APC	1260nm
FTTx Splitter, 2 Svc, 2xN 1260nm - 1650nm, LC/APC, 1RU					
ZS-2X-PLCS-R2-16-LA	Splitter	2 x 2xN	PLC	LC/APC	1260nm
2x units, FTTx splitter, 2 Svc, 2x16 1260-1650nm, LC/APC, 1RU					

Note: xx = various number of splits available

OUTSIDE PLANT SPLITTERS					
SKU/ Description	Spacing	Module Operation	Filter Type	Connector Type	Start Channel
PLCS-C1-XX-1M-SA	Splitter	1xN	PLC	SC/APC	1260nm
FTTx splitter, 100x80X10mm cassette 1 Svc, 1xN 1260-1650nm, 900um, 1M pigtails, SC/APC					
PLCS-C1-XX-1M	Splitter	1xN	PLC	900um	1260nm
FTTx splitter, cassette 1 Svc, 1xN 1260-1650nm, 900um, 1M pigtails					
ZS-TAP-SM55WB-9010-8-LL	Splitter			LC/UPC	DWDM 1550
Tap, Single Mode fiber, 1550 Wide Band, 90/10, x8 splitters, LGX, LC/UPC					

Note: xx = various number of splits available

INSIDE PLANT COEXISTENCE MODULES						
SKU/ Description	Spacing	Module Operation	Filter Type	Conn. Type	Start Channel	Other
ZS-DWDM-SFM2-100-11GXO-LA-N-N-21-L	CoEX	Single Fiber Mux	Thin Film Filters	LC/ APC	DWDM CH21, GPON center wavelengths: 1290-1330nm / 1480-1500nm XGS-PON center wavelengths: 1260-1280nm / 1575-1580nm	GPON, XGS-PON, OTDR
11CH Dual DWDM SFM, GPON, XGS-PON, OTDR, DWDM CH 21-28, LC/APC, LGX						
ZS-6X-GPON-XGSPON-EXP-LGX	CoEX	Single Fiber Mux	Thin Film Filters	LC/ APC	GPON center wavelengths: 1290-1330nm / 1480-1500nm XGS-PON center wavelengths: 1260-1280nm / 1575-1580nm	GPON, XGS-PON, EXP
6x units, GPON, XGS-PON, Express LC/APC, LGX						

OUTSIDE PLANT COEXISTENCE MODULES						
SKU/ Description	Spacing	Module Operation	Filter Type	Conn. Type	Start Channel	Other
ZS-DW1-D111GXOSA-NN21-0-.5	CoEx	Single Fiber Demux	Thin Film Filters	SC/ APC	DWDM CH21, GPON center wavelengths: 1290-1330nm / 1480-1500nm XGS-PON center wavelengths: 1260-1280nm / 1575-1580nm	GPON, XGS-PON, OTDR
11CH DWDM SFM, GPON, XGS-PON, OTDR, DWDM CH 21-28, L100xW80xH10mm, 900um .5M SCA connectors						
ZS-DW1-D14GXOLA-1550WB-0-.5	CoEx	Single Fiber Mux	Thin Film Filters	LC/ APC	DWDM 1550, GPON center wavelengths: 1290-1330nm / 1480-1500nm XGS-PON center wavelengths: 1260-1280nm / 1575-1580nm	GPON, XGS-PON, OTDR, 1550
4CH OSP SFM, GPON, XGSPON, OTDR, 1550 Wideband, 70mm x 70mm x 8mm, 900um 0.5M LC/ APC Connectors						





NETWORK ACCESSORIES

Approved Networks offers a wide range of network accessories designed to enhance the performance of your optical infrastructure. From LGX chassis and media converters to optical amplifiers, dispersion compensation modules, and bypass switches, our accessories provide the flexibility and functionality needed to support your unique solutions.

Media Converters

An Approved Networks media converter allows different types of network media, such as copper Ethernet and fiber optic cables, to connect and work together. It converts electrical signals from copper cables into light signals for fiber cables, and vice versa.



SKU	Description
FMC-100GQQ-AC	DemarQ 40G/100G QSFP to QSFP Media Converter, AC Power, Not DIN compatible (includes all required power supplies and mounting accessories)
FMC-100GQQ-MUX	1310/1550 MUX for DemarQ, Not DIN compatible
FMC-MRPOE-R2	PoE Media Converter; 1x10/100/1000Base-T(X) P.S.E. Port; 1x1000Base-FX SFP port, DIN compatible
FMC-10GSS3R-H-R2-DC	SFP+ to SFP+ or SFP to SFP Extender, (temp-hardened) One unit, no chassis required 12-48VDC. FMC-10GACDC-R2 required for AC. DIN compatible
FMC-10GACDC-R2	AC converter for FMC-10GSS3R-H-R2-DC, FMC-10GXX3R-H-R2-DC and FMC-10GXS3R-H-R2-DC, DIN compatible
FMC-DINRAIL	Bare DIN Rail
FMC-DIN19RR	Bracket(19-inch DIN-rail Rack Mount) Black Finish
FMC-MRGCS-R2-AC	10/100/1000MB SFP-to-RJ45 Media Converter, Not DIN compatible
FMC-MRGCS-H-R2-DC	DC-Powered 10/100/1000MB SFP-to-RJ45 Media Converter, Not DIN compatible

Circulators

Approved Networks' circulator directs light signals to specific optical fibers based on the direction of travel. It functions like an "optical roundabout," routing light entering one port out through the next port in a one-way sequence. In some cases, it can convert a two-fiber system into a single-fiber solution.



SKU	Description
ZS-3OCI-1P1550-NNLLL-L	1 Circulator, 3 port, 1550nm, premium, LC/UPC, LGX
ZS-3OCI-2P1550-NNLLL-L	2 Circulator, 3 port, 1550nm, premium, LC/UPC, LGX
ZS-3OCI-3P1550-NNLLL-L	3 Circulator, 3 port, 1550nm, premium, LC/UPC, LGX
ZS-3OCI-4P1550-NNLLL-L	4 Circulator, 3 port, 1550nm, premium, LC/UPC, LGX

LGX Mounting Options

Approved Networks' LGX accessories provide a secure and organized solution for housing our modules. The chassis protects equipment while ensuring efficient management. Complementary faceplates offer a streamlined, user-friendly interface with clear labeling for quick maintenance. Together, they enable seamless integration into standard rack systems, allowing flexibility to expand or upgrade as network requirements evolve.



SKU	Description
ZS-LGX3R-14S-CHASSIS-1923	LGX 3RU Chassis for 14 LGX Modules and fiber mgmt. - 19 or 23" rack
ZS-LGX1R-3S-CHASSIS-1923	LGX 1RU Chassis for 3 LGX Modules and fiber mgmt. - 19 or 23" rack
LGX3R-CHASSIS-19	3RU Chassis for 14 LGX Modules and fiber mgmt. - 19" rack
LGX3R-FACEPLATE	3RU Faceplate 19" with Twelve 1W LGX slots
LGX2W-FACEPLATE	2RU Faceplate 19" with 3 Double Wide LGX slots for Passives
LGX-2U2L	2RU Magnetic Bracket with 2 LGX Slots for Passives
LGX1R-FACEPLATE	3-Slot LGX Faceplate for 19" rack
LCM12-D-US	12 Fiber (6 Port) LC Multimode LGX Style Adapter Plate for 12 Fiber Panels
LCM12-D-A	12 Fiber (6 Port) LC Multimode LGX Style Adapter Plate for 12 Fiber Panels
FT-BLANK	Blank LGX Adapter Plate for Rack Panel

Optical Bypass Modules

Approved Networks' Optical Bypass Module is ideal for protecting optical networks during power loss. Operators can select a delay before the module resumes normal operation after power recovery, ensuring stable power before network traffic resumes. Our modules offer reliable performance and low insertion loss, enabling easy integration into high-density optical communication systems. These modules are available in both dual and single fiber versions.



SKU	Description
FMC-S355-N990-LP-R7	Single Mode Dual fiber bypass module, 5V Non-latching, (5-7-10) minute timer, 9/125um, LC, with USB Cable
FMC-S355-N990-LP	Single Mode Dual fiber bypass module, 5V Non-latching, 9/125um, LC, with USB Cable
FMC-1S355-N990-LP	Single Mode Single fiber bypass module, 5V Non-latching, 9/125um, LC, with USB Cable
FMC-1U3L	1RU Faceplate 19" with 3 OPS Slots and covers
FMC-S355-L990-1-LP	Single Mode Dual Fiber Bypass Module, 5V Latching, 9/125um, LC
FMC-S355-N990-LP-R2	Single Mode Dual Fiber Bypass Module, 5V Non-Latching, 180 Second Timer, 9/125um, LC, With USB Cable

Dispersion Compensation Modules

Approved Networks' Dispersion Compensation Module (DCM) is a cost-effective device designed to optimize standard single mode fiber (SMF-28). It counteracts dispersion in the 1525-1565nm wavelength range, which can otherwise limit transmission distance, bandwidth, and increase error rates. This DCM is ideal for long-distance and high-speed links, especially in DWDM networks. The distance ratings are based on 10G dispersion compensation.



SKU	Description
ZS-DCM-1RU-020-C-L-R	Dispersion Compensation Module, 1RU, 20km, C band, LC UPC, 19" rack mount
ZS-DCM-1RU-040-C-L-R	Dispersion Compensation Module, 1RU, 40km, C band, LC UPC, 19" rack mount
ZS-DCM-1RU-060-C-L-R	Dispersion Compensation Module, 1RU, 60km, C band, LC UPC, 19" rack mount
ZS-DCM-1RU-080-C-L-R	Dispersion Compensation Module, 1RU, 80km, C band, LC UPC, 19" rack mount
ZS-DCM-1RU-100-C-L-R	Dispersion Compensation Module, 1RU, 100km, C band, LC UPC, 19" rack mount

Passive Solution Part Number Key

DWDM Inside Plant
ZB-DWDM-AAA-X00-C-T-P-S-WW-F

DWDM Outside Plant
ZB-DWN-MXCOT-PSWW-DD-L

CWDM Inside Plant
ZB-CWDM-MYYYYO-FT

CWDM Outside Plant
ZB-CWN-MYYYYO-LJ-T-DD

B = Product Family
AAA & M = Module Operation
X = Channel Spacing
C = Channel Count
T = Connector Type
P = Channel Plan
S = Channel Skip Plan
WW = Channel Start
F = Form Factor
N = Physical Module Count
O = Optional Ports
DD = Tray Mfg & Type
L = Pigtail Length
YYY = Filter Configuration and Description
J = Extra Jacket

[Click here to learn more about this technology and how it can support your specific applications.](#)

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