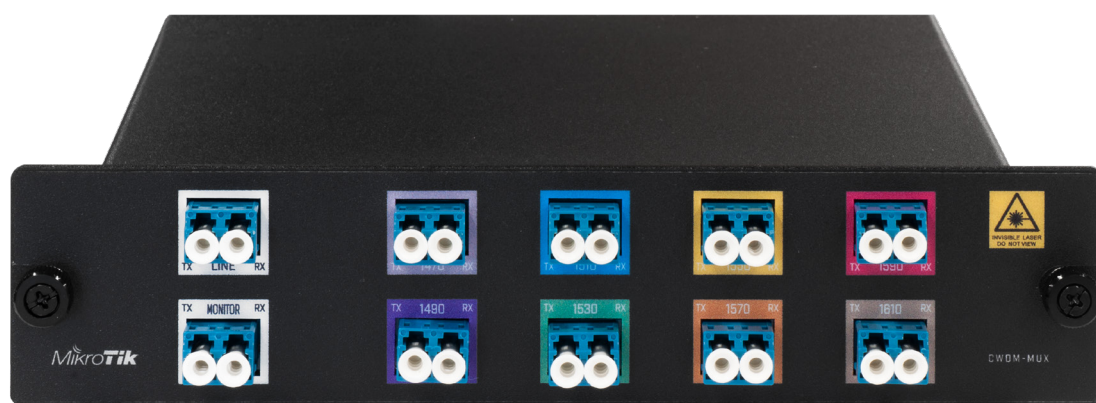


# CWDM

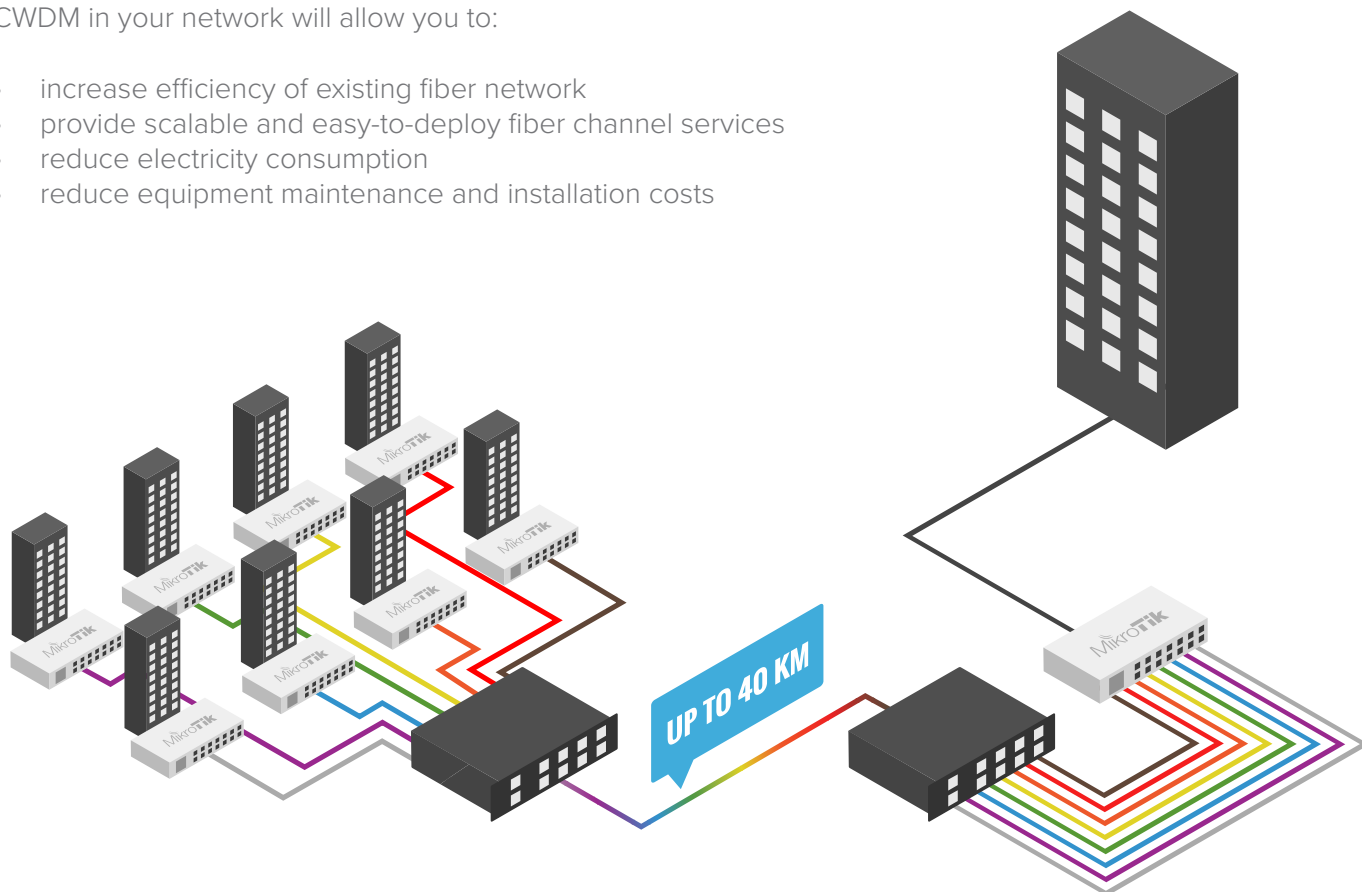
The Coarse Wavelength-Division Multiplexing (CWDM) technology offers a solution which will increase capacity of existing fiber infrastructure by enabling multiple channels/wavelengths over the same fiber cabling and will reduce costs for a new fiber optic deployment.

The MikroTik CWDM is a passive MUX/DEMUX unit, which allows to combine up to eight fiber links into one, to simplify and reduce the cost of long distance fiber installations. At the other location, the combined line is split back up again, so that instead of eight long fiber lines, you would only need one.



CWDM in your network will allow you to:

- increase efficiency of existing fiber network
- provide scalable and easy-to-deploy fiber channel services
- reduce electricity consumption
- reduce equipment maintenance and installation costs



Our CWDM solution enables up to 8 channels for transmitting and receiving signals, with the wavelengths from 1470 nm to 1610 nm. A duplex fiber cable links two dual-fiber CWDM MUX/DEMUXs units, supporting the same wavelengths installed on each end of the fiber optic network. In each CWDM unit is a filter, which is tuned for a specific wavelength which is why it is important to connect the correct wavelength to the corresponding port.

You can use a single optical fiber cable to create up to eight independent 1.25Gbps SFP (up to 40 km) or 10Gbps SFP+ (up to 10 km) links, offering more affordable alternative to installing more fiber or leasing additional fibers. You can even use 1.25Gbps modules and 10Gbps modules at the same time.

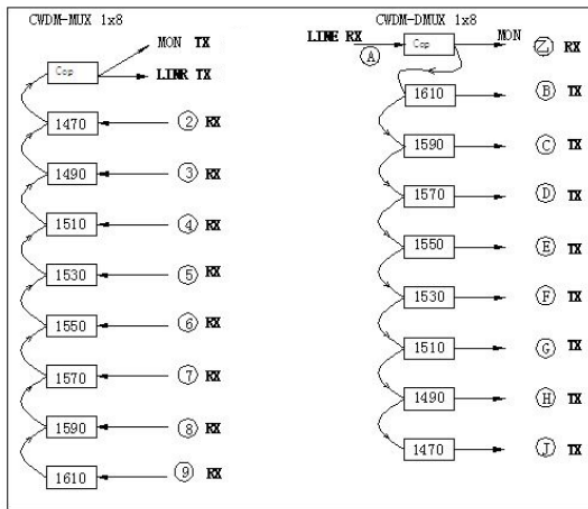
CWDM MUX/DEMUX modules are passive devices and there is no power source required.



Our product range includes CWDM-MUX8A, the 8-port CWDM MUX/DEMUX unit (supports both SFP and SFP+ which can be mixed at the same time), CWDM-CHASSIS-2, a 1U Chassis bracket (can hold two CWDM-MUX8A units). Eight different SFP CWDM transceivers (1.25G, Single Mode, 40km range, Dual LC-connector DDM, range from 1470-1610nm, same wavelength pair required for a link) and eight different SFP+ CWDM transceivers (10G, Single Mode, 10km range, Dual LC-connector DDM, range from 1470-1610nm, same wavelength pair required for a link).



# Principle of operation



Port Insertion Loss

	PORT		Wavelength(nm)		Insertion Loss (MAX)		
MUX	MON TX	←	1470 RX	dB	21		
		←	1610 RX	dB	23		
	LINE TX	←	1470 RX	dB	1.3		
		←	1490 RX	dB	1.5		
		←	1510 RX	dB	1.7		
		←	1530 RX	dB	1.9		
		←	1550 RX	dB	2.1		
		←	1570 RX	dB	2.3		
		←	1590 RX	dB	2.5		
		←	1610 RX	dB	2.7		
		DEMUX	LINE RX	→	MON RX	dB	21
				→	1610 TX	dB	1.3
				→	1590 TX	dB	1.5
				→	1570 TX	dB	1.7
→	1550 TX			dB	1.9		
→	1530 TX			dB	2.1		
→	1510 TX			dB	2.3		
→	1490 TX			dB	2.5		
		→	1470 TX	dB	2.7		

# Product list

Product code	Description	List price
CWDM-CHASSIS-2	1U Chassis bracket for CWDM 8-port MUX/DEMUX unit	\$39
CWDM-MUX8A	CWDM MUX/DEMUX 8-port unit	\$299
S-C47DLC40D	SFP CWDM module 1.25G SM 40km 1470nm Dual LC-connector DDM	\$34
S-C49DLC40D	SFP CWDM module 1.25G SM 40km 1490nm Dual LC-connector DDM	\$34
S-C51DLC40D	SFP CWDM module 1.25G SM 40km 1510nm Dual LC-connector DDM	\$34
S-C53DLC40D	SFP CWDM module 1.25G SM 40km 1530nm Dual LC-connector DDM	\$34
S-C55DLC40D	SFP CWDM module 1.25G SM 40km 1550nm Dual LC-connector DDM	\$34
S-C57DLC40D	SFP CWDM module 1.25G SM 40km 1570nm Dual LC-connector DDM	\$34
S-C59DLC40D	SFP CWDM module 1.25G SM 40km 1590nm Dual LC-connector DDM	\$34
S-C61DLC40D	SFP CWDM module 1.25G SM 40km 1610nm Dual LC-connector DDM	\$34
S+C47DLC10D	SFP+ CWDM module 10G SM 10km 1470nm Dual LC-connector DDM	\$129
S+C49DLC10D	SFP+ CWDM module 10G SM 10km 1490nm Dual LC-connector DDM	\$129
S+C51DLC10D	SFP+ CWDM module 10G SM 10km 1510nm Dual LC-connector DDM	\$129
S+C53DLC10D	SFP+ CWDM module 10G SM 10km 1530nm Dual LC-connector DDM	\$129
S+C55DLC10D	SFP+ CWDM module 10G SM 10km 1550nm Dual LC-connector DDM	\$129
S+C57DLC10D	SFP+ CWDM module 10G SM 10km 1570nm Dual LC-connector DDM	\$129
S+C59DLC10D	SFP+ CWDM module 10G SM 10km 1590nm Dual LC-connector DDM	\$129
S+C61DLC10D	SFP+ CWDM module 10G SM 10km 1610nm Dual LC-connector DDM	\$129