

Single Channel EDFA Preamp



The FRM220-OAP17 is a single channel optical amplifier/preamp module that provides multi-function, low noise, Erbium-Doped Fiber Amplifier (EDFA) solutions for metro Dense Wavelength Division Multiplexing (DWDM) applications. The FRM220-OAP17 operates at the receiving end of an optical link. It features medium to low input power sensitivity, medium output power, and medium gain and is designed for optical amplification to compensate for losses in a De-multiplexer located near the optical receiver. The FRM220-OAP17 provides Automatic Gain Control (AGC) via rack management or RS-232 console interface. Its fast-transient suppression feature allowing the output power to be kept at a constant level when there are fast changes in input power.

Features

- Automatic Gain Control (AGC)
- Advanced performance monitoring
- Input and output power levels
- Up to 17 dBm output power
- Gain flattening filters (GFF) assure flat gain (<1dB variance) over the entire amplified C-band
- LC/UPC connector
- Hot-swap support
- Single channel EDFA with FRM220 chassis rack management

Applications

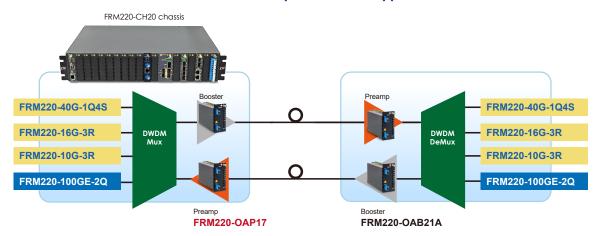
- Metropolitan WAN network system
- C-Band DWDM network systemInput and output power levels
- CATV transmission system

Specifications	S	pe	cifi	cal	tio	ns
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Operating wavelength Input power -35~ -10dBm Signal gain 25 ~ 35dB Total saturated output power +17dBm Gain flatness (Max.) ≤ ±1.0dB Noise figure 5.5dB (Typ) Polarization dependent gain (Max.) 0.5dB Polarization mode dispersion (Max.) 0.5ps Output power stability (Max.) ±0.1dB Return loss (Min.) 45dB Connector LC/UPC Control mode AGC Operation case temperature 0 ~ 65°C Relative humidity (non-condensing) 5 ~ 85% Laser Class Class 1M Power consumption 10W	Specifications	
$ \begin{array}{lll} \textbf{Signal gain} & 25 \sim 35 \text{dB} \\ \hline \textbf{Total saturated output power} & +17 \text{dBm} \\ \hline \textbf{Gain flatness (Max.)} & \leq \pm 1.0 \text{dB} \\ \hline \textbf{Noise figure} & 5.5 \text{dB (Typ)} \\ \hline \textbf{Polarization dependent gain (Max.)} & 0.5 \text{dB} \\ \hline \textbf{Polarization mode dispersion (Max.)} & 0.5 \text{ps} \\ \hline \textbf{Output power stability (Max.)} & \pm 0.1 \text{dB} \\ \hline \textbf{Return loss (Min.)} & 45 \text{dB} \\ \hline \textbf{Connector} & \text{LC/UPC} \\ \hline \textbf{Control mode} & \text{AGC} \\ \hline \textbf{Operation case temperature} & 0 \sim 65^{\circ}\text{C} \\ \hline \textbf{Relative humidity (non-condensing)} & 5 \sim 85\% \\ \hline \textbf{Laser Class} & \text{IM} \\ \hline \textbf{Power consumption} & 10 \text{W} \\ \hline \end{array} $	Operating wavelength	1528 ~ 1563nm
Total saturated output power Gain flatness (Max.) ≤ ±1.0dB Noise figure 5.5dB (Typ) Polarization dependent gain (Max.) 0.5dB Polarization mode dispersion (Max.) 0.5ps Output power stability (Max.) ±0.1dB Return loss (Min.) 45dB Connector LC/UPC Control mode AGC Operation case temperature 0 ~ 65°C Relative humidity (non-condensing) 5 ~ 85% Laser Class Class 1M Power consumption 10W	Input power	-35~ -10dBm
$ \begin{array}{lll} \textbf{Gain flatness (Max.)} & \leq \pm 1.0 \text{dB} \\ & \textbf{Noise figure} & 5.5 \text{dB (Typ)} \\ & \textbf{Polarization dependent gain (Max.)} & 0.5 \text{dB} \\ & \textbf{Polarization mode dispersion (Max.)} & 0.5 \text{ps} \\ & \textbf{Output power stability (Max.)} & \pm 0.1 \text{dB} \\ & \textbf{Return loss (Min.)} & 45 \text{dB} \\ & \textbf{Connector} & \text{LC/UPC} \\ & \textbf{Control mode} & \text{AGC} \\ & \textbf{Operation case temperature} & 0 \sim 65^{\circ}\text{C} \\ & \textbf{Relative humidity (non-condensing)} & 5 \sim 85\% \\ & \textbf{Laser Class} & \text{Class 1M} \\ & \textbf{Power consumption} & 10 \text{W} \\ \end{array} $	Signal gain	25 ~ 35dB
Noise figure 5.5dB (Typ) Polarization dependent gain (Max.) 0.5dB Polarization mode dispersion (Max.) 0.5ps Output power stability (Max.) ±0.1dB Return loss (Min.) 45dB Connector LC/UPC Control mode AGC Operation case temperature 0 ~ 65°C Relative humidity (non-condensing) 5 ~ 85% Laser Class Class 1M Power consumption 10W	Total saturated output power	+17dBm
Polarization dependent gain (Max.) 0.5dB Polarization mode dispersion (Max.) 0.5ps Output power stability (Max.) ±0.1dB Return loss (Min.) 45dB Connector LC/UPC Control mode AGC Operation case temperature 0 ~ 65°C Relative humidity (non-condensing) 5 ~ 85% Laser Class Class 1M Power consumption 10W	Gain flatness (Max.)	≤ ±1.0dB
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Noise figure	5.5dB (Typ)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Polarization dependent gain (Max.)	0.5dB
Return loss (Min.) 45dB Connector LC/UPC Control mode AGC Operation case temperature 0 ~ 65°C Relative humidity (non-condensing) 5 ~ 85% Laser Class Class 1M Power consumption 10W	Polarization mode dispersion (Max.)	0.5ps
Connector LC/UPC Control mode AGC Operation case temperature 0 ~ 65°C Relative humidity (non-condensing) 5 ~ 85% Laser Class Class 1M Power consumption 10W	Output power stability (Max.)	± 0.1 dB
	Return loss (Min.)	45dB
	Connector	LC/UPC
Relative humidity (non-condensing) 5 ~ 85% Laser Class Class 1M Power consumption 10W	Control mode	AGC
Laser Class 1M Power consumption 10W	Operation case temperature	0 ~ 65°C
Power consumption 10W	Relative humidity (non-condensing)	5 ~ 85%
·	Laser Class	Class 1M
	Power consumption	10W
Dimension $159.5 \times 42.1 \times 88$ mm (D×W×H)	Dimension	$159.5 \times 42.1 \times 88$ mm (D×W×H)

Application

EDFA booster/Preamp DWDM P to P application



Ordering Information

Model Name	Description
FRM220-0AP17	DWDM C -band EDFA preamp card 17dBm with automatic gain control (AGC)

■ Chassis Option

Model Name	Description
FRM220-CH20(HS)	2U 19", 20 slots rack mount chassis with high speed cooling fan and rack mounting kit
FRM220-AC(HP)	Chassis power module 90 ~ 264 VAC, IEC connector, 300W
FRM220-DC48(HP)	Chassis power module 36 ~ 60 VDC, 3 pin terminal block, 300W
FRM220-CH02M-AC/DC/AD	2-slot chassis with console port and AC, DC or AD power, with fan
FRM220-CH04A-AC/DC/AD	4-slot chassis with built-in AC, DC or AD power