

# CYFA-PB SERIES

## CW YTTERBIUM FIBER AMPLIFIER WITH INTEGRATED PREAMPLIFIER



### KEY FEATURES

- Up to 42 dBm of saturated output power
- Preamplifier built-in for low input power
- Polarization-maintaining (optional)
- Wide choice of optical bandwidth
- Narrow linewidth (<100 kHz) amplification option
- Choice between turnkey benchtop or OEM module
- Low power consumption
- High reliability

### APPLICATIONS



- Helium pumping
- Sensing
- Optical component testing
- Non-linear optics in the visible (green to orange)

### Description

**CYFA-PB series are Keopsys' Ytterbium doped multi stages amplifiers and designed for one channel CW operation.**

The standard bandwidths are from 1060 to 1090 nm and from 1110 to 1114 nm, and other wavelength are available on request. They deliver up to 42 dBm of saturated output power for input seed power above 20 dBm with an excellent output signal to noise ratio.

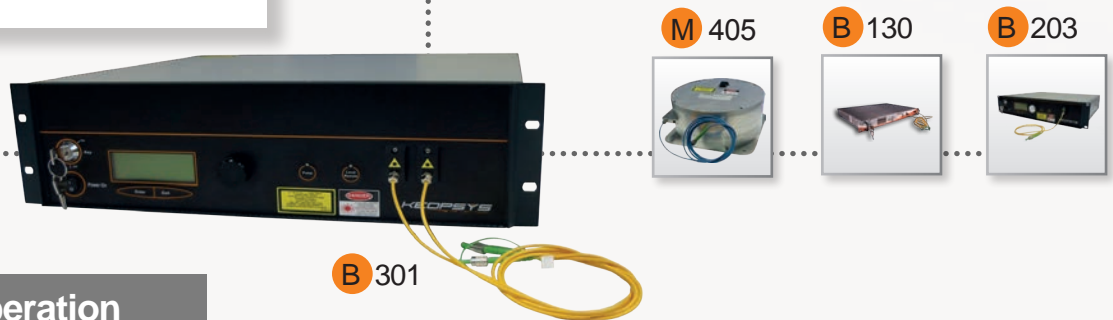
This fiber multi stages amplifier designed by Keopsys operates at low input power down to 0 dBm, thanks to our patented technology, and it is a robust, reliable and maintenance free device.

CYFA-PB series come in random or maintaining polarization, and offer the possibility to amplify narrow linewidth seed source (<100 kHz).

These products are available in user friendly turnkey benchtop instrument or in OEM module for an easily integration.

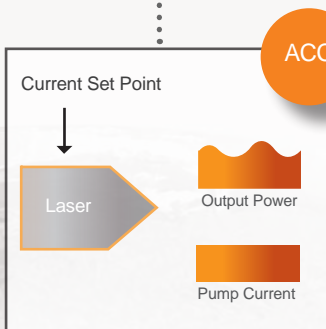
Credit photo plateforme B130 : Wyecs Prod

### 4 Platforms



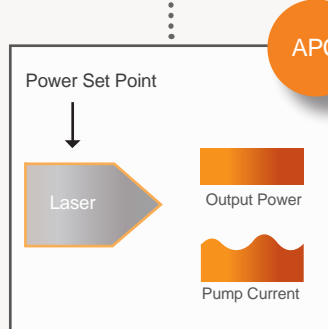
### Modes of operation

The devices offer several modes of operation :



**ACC**

ACC (Automatic Current Control) mode is standard for all devices. The laser is controlled from diodes current set point.



**APC**

APC (Automatic Power Control) mode allows to control the laser at a fixed output power set point. The device maintains a constant optical output power monitored with a photodiode. The current is adjusted automatically.

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### Optical Specifications

@ 25 °C

	CYFA-PB
Mode of operation	CW
Wavelength range *	1060-1090 nm (BW1) or 1110-1114 nm (BW2)
Polarization	Random (SM) or linear (PM with PER>17 dB)
Output power (0 dBm input for BW1, +5 dBm input for BW2)	From 30 to 42 dBm
Input power range	0 to +15 dBm (BW1) +5 to +20 dBm (BW2)
APC Tunability	10 to 100 %
Narrow linewidth (<100 kHz) amplification	Option
Input / output termination	FC/APC or collimated **

\* other wavelength ranges available upon request upto 1120 nm

\*\* ask for diameter beam

**The CYFA-PB series amplifiers are available as benchtop or as OEM module.**

### RELIABILITY

The Keopsys range of fiber amplifiers are manufactured with tested components and are submitted to several inspections during the manufacturing process under a rigorous quality management certified in accordance with the ISO 9001:2008 standard. Our all-in-fiber systems offer maintenance free operation. Countless units are continuously running in demanding environments with no failure.

### GUARANTEE

Our fiber systems are under 1 full year parts and labor guarantee.  
We offer a warranty extension of 1 or 2 years. Please contact us.

## CYFA-PB SERIES

### CW YTTERBIUM FIBER AMPLIFIER WITH INTEGRATED PREAMPLIFIER

#### Optical Specifications

@ 25 °C

	CYFA-PB				
	YPB30	YPB33	YPB37	YPB40	YPB42
Mode of operation	CW				
Wavelength range *	1060-1090 nm (BW1) or 1110-1114 nm (BW2)			1060-1090 nm (BW1)	
Polarization	Random (SM) or linear (PM with PER>17 dB)				
Output power (0 dBm input for BW1, +5 dBm input for BW2)	30 dBm	33 dBm	37 dBm	40 dBm	42 dBm
Input power range	0 to +15 dBm (BW1) +5 to +20 dBm (BW2)				
Input monitoring	Yes				
Output monitoring	Yes		Yes (option)		
Control mode	ACC, APC		ACC, APC (option)		
APC Tunability	10 to 100 %				
Power stability (rms over 1 hr)	<1 %				<2 %
Narrow linewidth (<100 kHz) amplification	Yes	Yes (option)			
Optical port fiber type	HI1060 or PANDA 0.98 µm 10 µm LMA SM/PANDA (for BW2)		10 µm LMA SM/PANDA		
Input / output termination	FC/APC, C1		FC/APC, C2	FC/APC, C3	FC/APC, C4
Power consumption **	15 W	30 W	80 W	120 W	150 W
Associated platform	B130, M405		B203, M405	B203, M405	B301, M405

#### Platform Specifications

	Platform type			
	B130	B203	B301	M405
Voltage	84 to 264 VAC, 47 to 63 Hz			21 to 28 VDC
Control interface	Front Panel, USB, RS232, RJ45	Front panel and RS232		RS232, USB
Optical interface	3mm PVC, 1 m (rugged anti pool pigtail fixing)	3 mm PVC, 1 m, or armored cable, 1 m (C4)		
Warm-up time	< 5 min	<10 min		
Dimensions	443x315x44 mm	448x446x88 mm, 2U	448x446x133 mm, 3U	DxH 200x100 mm with square fixing plate (200x200 mm)
Weight	< 8 kg	< 15 kg		< 3.0 kg
Operating case temperature	+15 °C to +35 °C			0 °C to +50 °C
Storage temperature	-20 °C to +55 °C			-40 °C to +85 °C

\* other wavelength ranges available upon request upto 1120 nm

\*\* Power consumption for modules

#### Ordering information

<b>C</b>	<b>Y</b>	<b>F</b>	<b>A</b>	<b>-</b>	<b>P</b>	<b>B</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Optical bandwidth</b>		<b>B</b>	<b>W</b>	<b>1</b>	1060-1090 nm														
		<b>B</b>	<b>W</b>	<b>2</b>	1110-1114 nm														
<b>Polarization</b>		<b>S</b>	<b>M</b>	Random polarization															
		<b>P</b>	<b>M</b>	Polarization maintaining															
<b>Output power</b>		<b>3</b>	<b>0</b>	30 dBm															
		<b>3</b>	<b>3</b>	33 dBm															
		<b>3</b>	<b>7</b>	37 dBm															
		<b>4</b>	<b>0</b>	40 dBm															
		<b>4</b>	<b>2</b>	42 dBm															
<b>Output PhD + APC</b>		<b>O</b>	<b>M</b>	<b>1</b>	Yes														
		<b>O</b>	<b>M</b>	<b>0</b>	No														
<b>Signal linewidth</b>		<b>N</b>	<b>L</b>	<b>1</b>	Yes														
		<b>N</b>	<b>L</b>	<b>0</b>	No														
<b>Platform</b>		<b>B</b>	<b>1</b>	<b>3</b>	0														
		<b>B</b>	<b>2</b>	<b>0</b>	3														
		<b>B</b>	<b>3</b>	<b>0</b>	1														
		<b>M</b>	<b>4</b>	<b>0</b>	5														
<b>Output termination</b>		<b>F</b>	<b>A</b>	FC/APC															
		<b>C</b>	<b>1</b>	Collimator 1															
		<b>C</b>	<b>2</b>	Collimator 2															
		<b>C</b>	<b>3</b>	Collimator 3															
		<b>C</b>	<b>4</b>	Collimator 4															
<b>Input termination</b>		<b>F</b>	<b>A</b>	FC/APC															