

# InGaAs Ultra-Low Noise Balanced Detector

## 400M



### ● Product Description

The UBD series ultra-low noise balanced detector module are upgraded products based on the previous MBD series. Compared to the original MBD series, the background noise is significantly reduced under the same conditions. With the same bandwidth and gain, the background noise of the UBD series is approximately one-third of that of the MBD series modules, resulting in higher sensitivity and better signal-to-noise ratio.



- **Product features**

Ultra-low noise、 High Gain、 High bandwidth、 Compact structure、 Built-in low-noise isolation power supply

- **Part Number**

MP-UBD-M-I-400-F/S-D/A

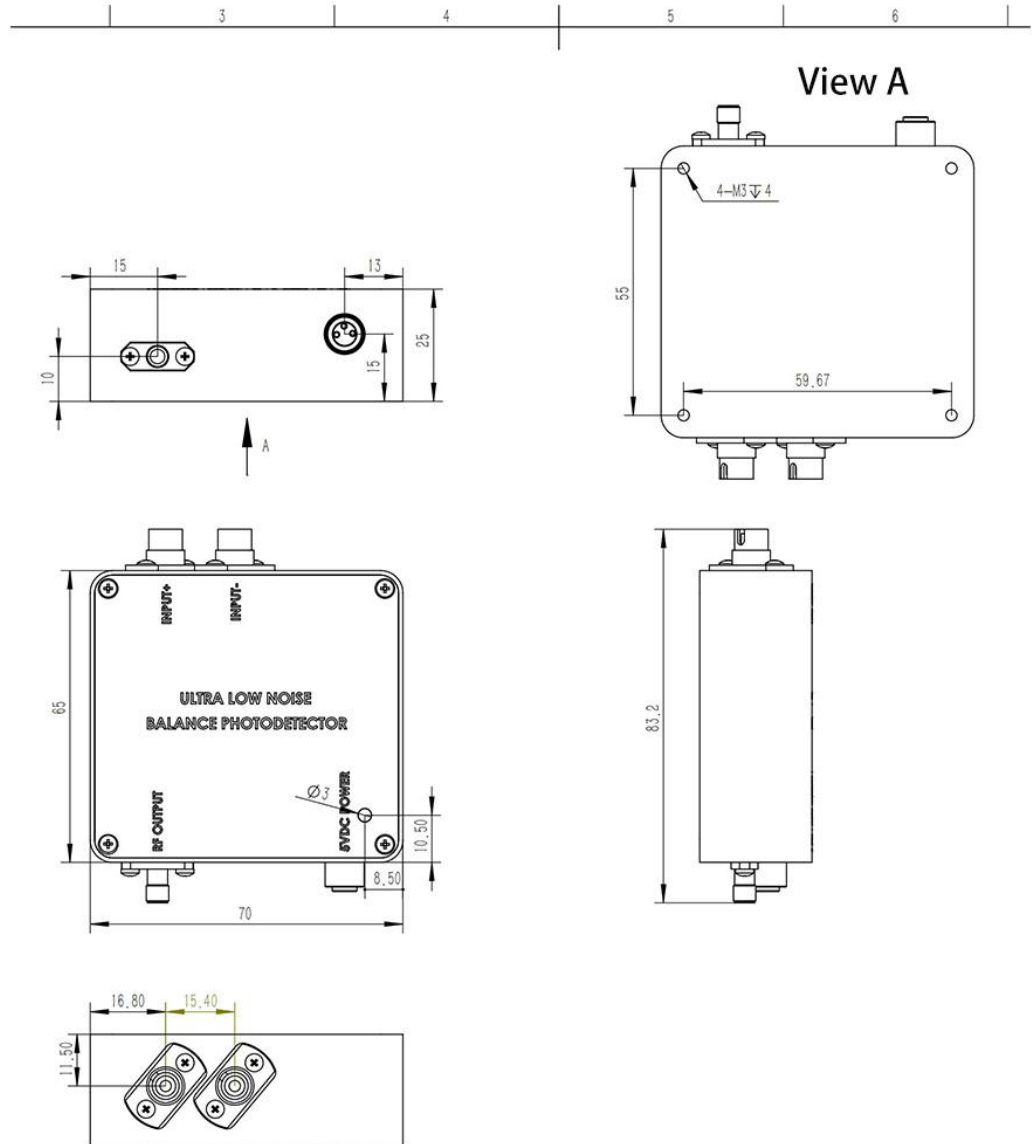
- **Application area**

Distributed fiber optic sensing、 Laser wind radar、 Optical coherence tomography、 Spectral measurement、 Pulsed light detection

- **Core parameters**

Wavelength	Bandwidth	Responsivity
800-1700nm	400MHz	0.95A/W

● **Dimension Drawing**



## ● General Parameters

### Parameter

Detect or type	InGaAs											
Wavelength	800~1700											nm
Bandwidth	100 M	200 M	300 M	400 M	500 M	800 M	1G	1.2 G	1.5 G	2G	2.5 G	Hz
Detect or responsivity	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	A/W@1550nm
Transimpedance gain	30K	30K	30K	20K	10K	30K	30K	30K	30K	30K	30K	V/W
Maximum input optical power	140	140	140	210	420	140	140	140	140	140	140	μW
NEP	2.5	2.5	2.5	2.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	pW/S

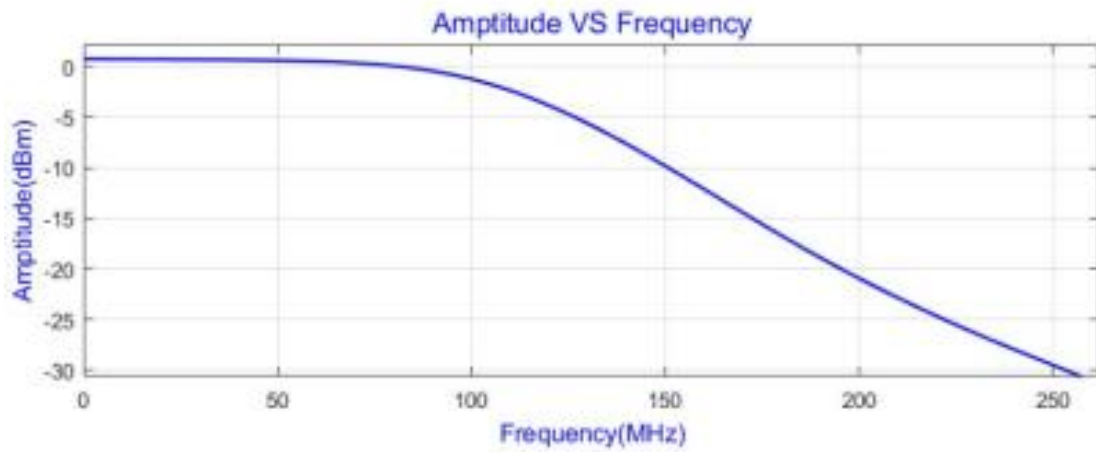


												qrt(H z)
Comm on mode rejecti on ratio	>30	>30	>30	>30	>30	>30	>30	>30	>30	>30	>30	dB
Output imped ance	50	50	50	50	50	50	50	50	50	50	50	Ω
Output coupli ng mode	DC/ AC	DC/ AC	DC/ AC	DC/ AC	DC	AC	AC	AC	AC	AC	AC	
Supply voltage	5	5	5	5	5	12	12	12	12	12	12	V
Supply current	0.5( ma x)	0.5( ma x)	0.5( ma x)	0.5( ma x)	0.5( ma x)	0.5( ma x)	0.5( ma x)	0.5( ma x)	0.5( ma x)	0.5( ma x)	0.5( ma x)	A
Optical	FC/APC (Free space optional)											

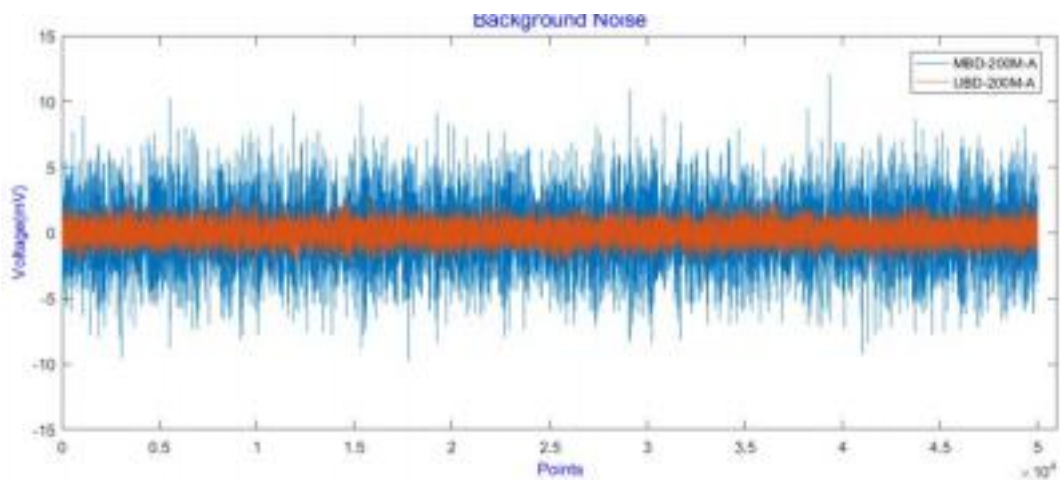


input		
RF output	SMA	
Dimensions	80*90*25	mm

## Test result



300 MHz bandwidth response curve





**Comparison of the baseline noise between ultra-low noise balanced detectors  
and conventional balanced detectors**