

# DAS/ DVS Integration Module

## 1.Product Description

The DAS/DVS module integrated the Ultra-Narrow Line width Laser, Pulse- EDFA, Raman amplifier with own patent protected. The module integrated the AOM and other optical passive components, especially the O/E transfer module. The module has a smart dimension, high level integration and increase the system sensing distance due to the all optical part combine technology. Also this increased the SNR of the whole sensing system. We could provide perfect product and solution for the Fiber Vibration Sensing and Perimeter Security Equipment customers.

## 2.Features

- High Level integration (UNL&AOM&EDFA&RAMAN)
- Modular design depends on the sensing distance
- Flexible control mode
- High Stability and Reliability
- Working temperature: -10 to 55°C
- Outline dimension support customize design



## 3. Application

- BOTDR
- φOTDR
- Distributed fiber grating sensing
- Non-linear optical research

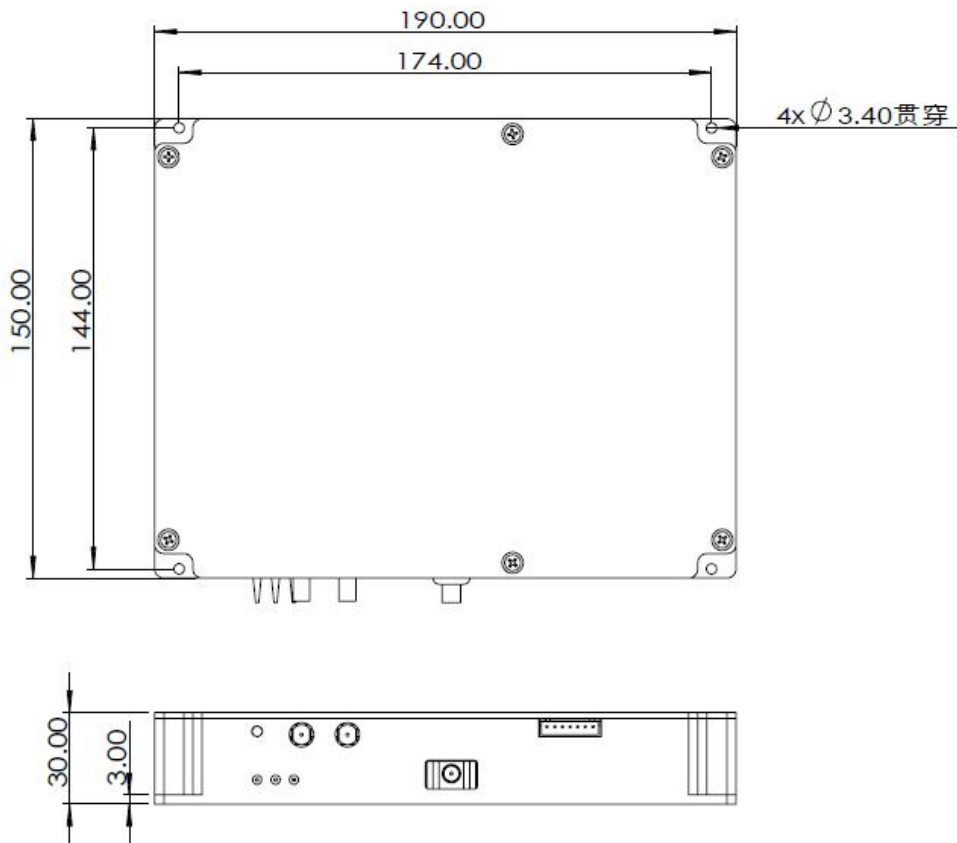
## 4.Optical performance parameters

Module Parameters	Min	Typ	Max	Unit
Sensing Distance		40	60	km
Pulse width	20	100		ns
Pre-heat time		<15		Min
Power Supply		12		V
Power Consumption		15	30	W
Working Current*		1.5	2.5	A
Working temperature	-10	25	55	°C
Communication		RS232		
<b>Ultra-Narrow-Line width</b>				

Center wavelegth		1550.12		nm
Optical power		13	15	dBm
Line width		<3		KHz
RIN		<-100		dB/Hz
Wavelength Stability		<±0.5		pm
Optical power Stability		0.2%		
SMSR		>55		dB
<b>Pulse EDFA</b>				
Wavelength		1550.12		nm
Input peak average power		10		dBm
Input average power	-35	-30		dBm
Output peak average power		23		dBm
Output average power			0	dBm
Pulse width	20	100		ns
Repeat Frequency			100	KHz
Noise Feature		5.5		dB
<b>Raman Amplifier</b>				
Wavelength		1450		nm
Output optical power		25	27	dBm
<b>AOM</b>				
Wavelength	1530	1550	1560	nm
Average optical power			1	W
Peak (pulse) optical power handling:		1		kW
Insertion loss:		5	6	dB
PDG		0.2	0.5	dB
Extinction ratio (1 <sup>st</sup> order on / off)	50			dB
Rise-time / fall-time: (10% - 90%)			10	ns
Frequency		200		MHz
VSWR			1.5:1	

Input impedance:		50		Ohm
RF power:		2.5		W
Frequency shift:		200		MHz
<b>PD</b>				
PD module				
Bandwidth		200		MHz
TIA gain		120		K
VPP		2.4		V
Output impedance		50		oHm

### 5.Mechanical Outline



### 6.Electrical Properties

Structure Type	Parameter	Specification	Unit	Remarks
Module	Power supply voltage	DC +12V/GND		
	Power consumption	<15	W	Room Temperature

## 7. Communication Type

Structure Type	Parameter	Specification
Module	Communication interface	7 Pin Connector
	Protocol	RS232
	GUI	Own GUI by C++

## 8. Order information

