

1.1.1.6 Integrating Spheres

1.1.1.6.2 VIS 1.5" High Speed Response, Multi-functional Integrating Sphere

400nW – 4W

Features

- Fast photodiode for pulse shape characterization of VCSELs
- Built in SMA fiber adapter for connection to a spectrometer
- Large, 20mm input port enabling long working distance
- Accepts beams with divergence angles up to $\pm 60^\circ$
- Small integrating sphere with short time constant

IS1.5-VIS-FPD-800



Model	IS1.5-VIS-FPD-800
Use	Multi-functional Integrating Sphere

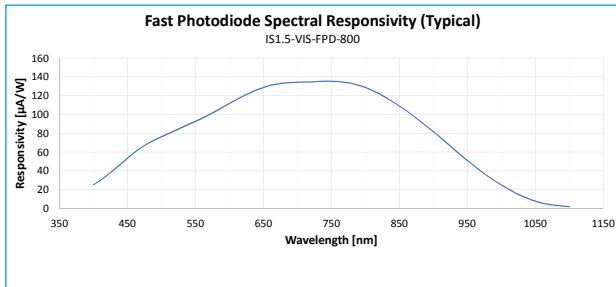
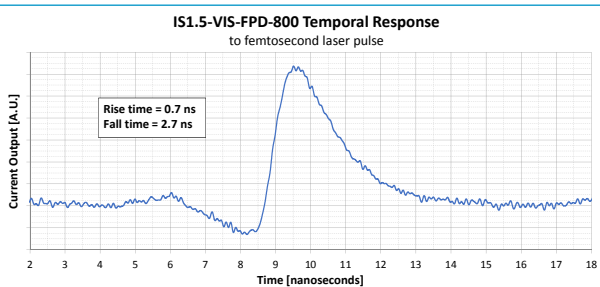
Specifications	
Input Port Aperture mm	Ø20
Maximum Beam Divergence ^(a) , ^(b) deg°	±60
Damage Threshold on Integrating Sphere Surface W/cm ²	200 (average power)
Integrating Sphere Time Constant nsec	0.7 typ.
Fiber Optic Port	SMA connector, maximum NA 0.44
Outputs	Smart Head for power measurement, BNC (50Ω) for temporal pulse shape detection SMA for optical fiber
Cooling	Convection
Operating Temperature Range °C	+15 to +40
Storage Temperature Range °C	-20 to +60
Humidity	The product must not be exposed to high humidity. Range 20% ~ 70% RH non-condensing

Detector 1	
Type	Si photodiode, calibrated
Function	Average power
Spectral Range μm	0.4 – 1.1
Power Range	400nW – 4W
Power Scales	4W to 40μW
Power Accuracy ^(b)	±3% 430nm – 1000nm, ±4% < 430nm, ±7% > 1000nm
Linearity with Power ±%	2
Power Noise Level nW	20 typ.
Saturation Pulse Energy mJ	2 typ.
Calibration Uncertainty nm	±1.1% 430-1000 ^(c)
Output	Smart Head, D15

Notes: (a) For central 2 mm diameter of entrance aperture
 (b) Power Accuracy and Sensitivity to Beam Size and Angle specifications apply to beam divergence up to $\pm 45^\circ$ and central 5.6 mm diameter of entrance aperture, for larger divergence and/or area of entrance aperture these specifications increase by 2%
 (c) For calibration uncertainty of wavelengths outside of this range see table on page 24
 (d) Responsivity data provided with sensor

Detector 2	
Type	Fast Si photodiode
Function	Temporal pulse shape detection
Spectral Range μm	0.4 – 1.1
Rise Time nsec	0.8
Fall Time nsec	2.8
Bias Voltage Input VDC	12
Peak CW Responsivity @ 740nm μA/W ^(d)	135 typ.
CW Responsivity @ 940nm μA/W ^(d)	55 typ.
Saturation Current Output mA	2.7 (for 10 ns pulse)
Dark Current nA	0.3 typ., 1 max
Noise Current fA/√Hz	18 typ.
Output	Analog current, BNC

General	
Weight g	530
Compliance	CE, UKCA, China RoHS
Part number	7Z02491



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