

4-CHANNEL PDV HUB

GP800, 1U Rackmount, 1 Fiber Probe Per Channel

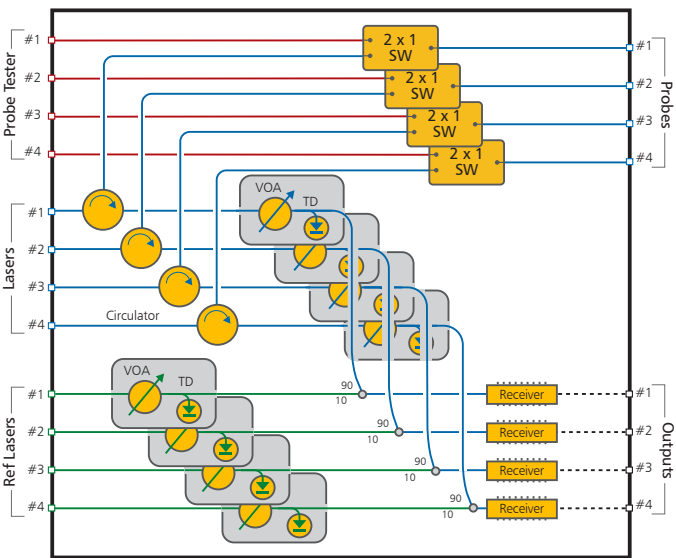


DiCon's **4-Channel PDV HUB** is a 1U rack mount system that integrates many required optical components used in the Photonic Doppler Velocimetry (PDV) technique. This product connects laser sources with 4 fiber optic probes and collects interferometry signatures through 4 high speed receivers. Dynamic power control, probe test, and safety shutoff functions are implemented using DiCon's MEMS attenuators and switches.

- 4 Channels in a Compact 1U Chassis
- Automated Power Monitor and Control
- Probe Test and Safety Shutoff Functions

Applications

- Photonic Doppler Velocimetry (PDV)
- Shock Physics Experiments
- Detonation Wave Study



ORDERING INFORMATION

GP800 - 1U - PDV1 - ☐ - 9 - C - ☐ - N - F

Chassis Type

1U 1U

Product Type

PDV1 PDV

Configuration

4CH10 4Ch, 10GHz Receiver

4CH25 4Ch, 25GHz Receiver

Fiber Type

9 9/125 μ m SMF

Operating Wavelength

C 1530-1570 nm

Connector Type

FC FC/UPC

FC/APC FC/APC

SC SC/UPC

SC/APC SC/APC

LC LC/UPC

LC/APC LC/APC

**Other connector types available upon request*

Connector Key Orientation

N None

Connector Location

F Front

4-CHANNEL PDV HUB

GP800, 1U Rackmount, 1 Fiber Probe Per Channel

OPTICAL SPECIFICATIONS

Fiber Type	9/125 um Single Mode	
Operating Wavelength	1530 to 1570 nm	
Back Reflection	-50 dB max.	
Crosstalk	-50 dB max.	
Attenuation Range	30 dB min.	
Switching Time	20 ms min.	
TD Measurable Power Range	-50 to +22 dBm	
TD Accuracy	+/- 0.3 dB	
TD Resolution	0.01 dB	
Coupler Ratio	90/10	
Input Power Range	Dark to +27 dBm	
	Receiver (10 GHz) ²	Dark to +6 dBm
	Receiver (25 GHz) ²	Dark to +10 dBm
IL ¹	Laser - Probe	1.4 dB max.
	Tester - Probe	0.6 dB max.
	Probe - Receiver	3.4 dB max.
	Ref Laser - Receiver	11.8 dB max.
PDL	Laser - Probe	0.2 dB max.
	Tester - Probe	0.1 dB max.
	Probe - Receiver	0.7 dB max. @ 0 dB Att.
	Ref Laser - Receiver	0.4 dB max. @ 0 dB Att.
Receiver	Thorlabs RX10AF (10 GHz) ³	
	Thorlabs RX25AF (25 GHz) ^{4,5}	

1. Measured at optimized λ (e.g. 1550 nm), 25°C, excluding connectors (Each pair of connectors will add extra 0.2 dB loss.)
2. Do not exceed the maximum input power listed or damage to the receivers can occur. Ensure sufficient attenuation is set on the VOAs during operation.
3. The amplifier and photodetector pins are biased at 3.3 VDC.
4. This assembly operates in a single-ended configuration, using only the non-inverting GPPO output. However, the specification document for Thorlabs' receiver module lists the conversion gain and output swing parameters for differential operation, where both outputs are used. Divide the differential conversion gain and output swing by 2 to determine the single-ended specifications.
5. Peaking Low (PKL) and Peaking High (PKH) are set to float and Gain Control Voltage (GC) is set to 2 V +/- 0.1 V. Contact DiCon for different settings.

ENVIRONMENTAL SPECIFICATIONS

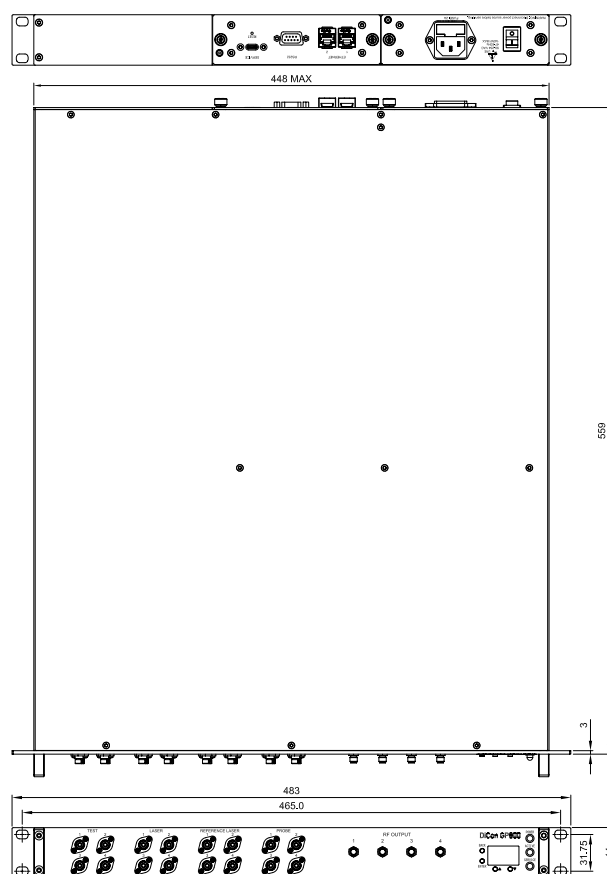
Operating Temperature	0 to 50°C, < 85% RH
Storage Temperature	-40 to 70°C, < 40% RH

ELECTRICAL SPECIFICATIONS

Power Supply	100-240 VAC, 50/60 Hz
Connectors	RJ45 (Ethernet) DB9 (RS232) USB-C (Service)
Control Interface	REST API, Web GUI, RS232, NETCONF, SNMPv2c, TL1, SNMPv3, gNMI, gRPC, Telnet, SSH

MECHANICAL

Dimensions in mm



4-CHANNEL PDV HUB

GP800, 1U Rackmount, 2 Fiber Probes Per Channel

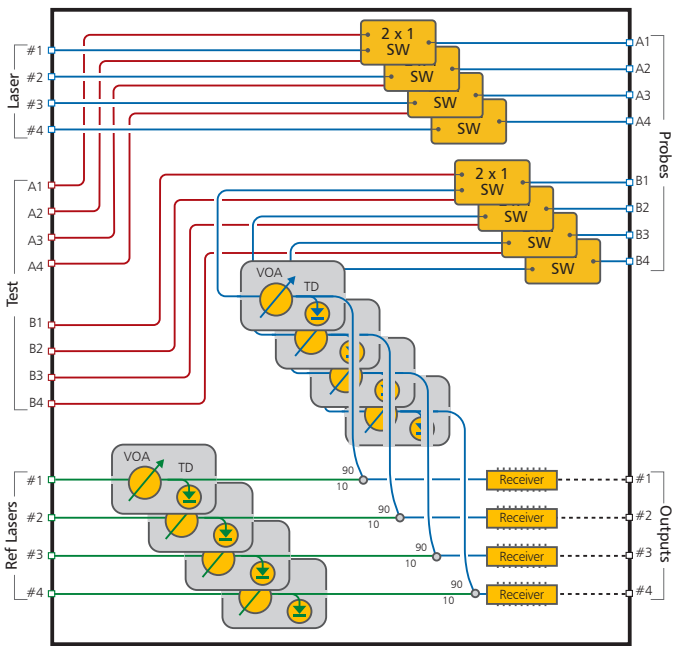


DiCon’s **4-Channel PDV HUB** is a 1U rack mount system that integrates many required optical components used in the Photonic Doppler Velocimetry (PDV) technique. This product connects laser sources with 8 fiber optic probes and collects interferometry signatures through 4 high speed receivers. Dynamic power control, probe test, and safety shutoff functions are implemented using DiCon’s MEMS attenuators and switches.

- 4 Channels in a Compact 1U Chassis
- Automated Power Monitor and Control
- Probe Test and Safety Shutoff Functions

Applications

- Photonic Doppler Velocimetry (PDV)
- Shock Physics Experiments
- Detonation Wave Study



ORDERING INFORMATION

GP800 - 1U - PDV2 - ☐ - 9 - C - ☐ - N - F

Chassis Type

1U 1U

Product Type

PDV2 PDV

Configuration

4CH10 4Ch, 10GHz Receiver

4CH25 4Ch, 25GHz Receiver

Fiber Type

9 9/125 μ m SMF

Operating Wavelength

C 1530-1570 nm

Connector Type

FC FC/UPC

FC/APC FC/APC

SC SC/UPC

SC/APC SC/APC

LC LC/UPC

LC/APC LC/APC

**Other connector types available upon request*

Connector Key Orientation

N None

Connector Location

F Front

4-CHANNEL PDV HUB

GP800, 1U Rackmount, 2 Fiber Probes Per Channel

OPTICAL SPECIFICATIONS

Fiber Type		9/125 um Single Mode	
Operating Wavelength		1530 to 1570 nm	
Back Reflection		-50 dB max.	
Crosstalk		-50 dB max.	
Attenuation Range		30 dB min.	
Switching Time		20 ms min.	
TD Measurable Power Range		-50 to +22 dBm	
TD Accuracy		+/- 0.3 dB	
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Input Power Range		Dark to +27 dBm	
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IL ¹	Laser - Probe A	0.8 dB max.	
	Tester - Probe A	0.6 dB max.	
	Probe B - Receiver	3.4 dB max.	
	Ref Laser - Receiver	11.8 dB max.	
PDL	Laser - Probe A	0.2 dB max.	
	Tester - Probe A	0.1 dB max.	
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MECHANICAL

Dimensions in mm

