

HAT

Hermetic Neutral Density (ND) Attenuator

DiCon's HAT is a fiber optic variable attenuator that uses a motorized graded neutral density filter — precisely positioned in the optical path — to control the level of attenuation.

This product is ideal for multimode fiber applications given that its unique neutral density filter attenuates the entire light beam diameter, thus minimizing the effect of different mode fills.

The product's compact size and simple interface make it a convenient drop-in alternative for many fiber optic applications.



FEATURES

- 0 to 60 dB attenuation range
- Stable attenuation independent of mode fill
- Hermetically sealed for long term reliability
- User friendly control

APPLICATIONS

- Bit error rate (BER) testing
- System characterization
- Loss simulation

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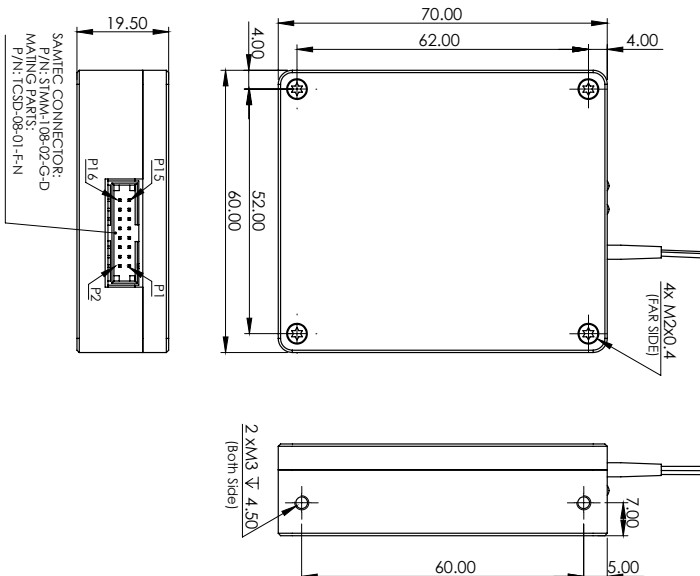
OPTICAL SPECIFICATIONS^{1,2,3}

PARAMETER		SPECIFICATION
Attenuation Range		0 - 60 dB max.
Excess Loss ⁴		0.6 dB typ., 0.8 dB max.
PDL ⁵		0.2 dB max. (0 - 30 dB)
Back Reflection	Singlemode	-50 dB max.
	Multimode	-30 dB max.
Repeatability ⁶		±0.05 dB max.
Attenuation Accuracy		±0.2 dB Max. (0 - 30 dB) ±0.3 dB Max. (30 - 40 dB)
Tuning Speed ⁷	0 - 30 dB	170 ms min. / 1400 ms max.
	0 - 60 dB	170 ms min. / 2600 ms max.
Optical Power		500 mW max.
Operating Temperature		0°C to +50°C
Storage Temperature		-20°C to +70°C
Humidity		40°C / 90% RH / 5 days

- Specifications are without connector loss. IL adds 0.2 dB for one pair connector loss.
- Multimode fiber specifications are based on LED light source.
- All measurements are taken at room temperature using the appropriate calibration wavelength setting (if applicable); the most approximate setting will be used if the operating wavelength does not match any of the available settings.
- Add a maximum of 0.2 dB IL if multiple wavelength band operation is selected.
- Polarization Dependent Loss (PDL) is for single-mode fiber.
- Repeatability is defined by randomly cycling between a handful of attenuation states more than 100 times each.
- Startup time and Reset time is typically < 10 secs. The operation is invalid during this time.

MECHANICAL SPECIFICATIONS

Dimensions in mm



ORDERING INFORMATION

HAT - - - - -

Product Code

HAT

Fiber Type

- 9** 9/125 um SMF-28 singlemode fiber
50 50/125 um multimode fiber
62 62.5/125 um multimode fiber

Other fiber types available upon special request.

Calibration Wavelength

- 850** 850 nm
980 980 nm
850/1310 850 and 1310 nm
1310 1310 nm
1310/1550 1310 and 1550 nm
1550 1550 nm
1550/1610 1550 and 1610 nm
1610 1610 nm
1310/1550/1610 1310, 1550 and 1610 nm

Other wavelengths available upon special request.

Jacket Type

- B** 250 um bare fiber
L 900 um loose tube jacket

Connector Type

- FC** FC/UPC
FC/APC FC/APC
LC LC/UPC
LC/APC LC/APC
SC SC/UPC
SC/APC SC/APC
N None

Other connector types available upon request.

Pigtail Length

- 1** 1 Meter
X Specify X Meter

ELECTRICAL SPECIFICATIONS

PARAMETER	Specification
Control Type	RS232, I ² C or USB
Supply Voltage	5 VDC or 12 VDC
Power Consumption	1.6 W max. Operating
	1.9 W max. Start Up
Connector Type	Samtec P/N: STMM-108-02-G-D
Mating connector	Samtec P/N: TCSD-08-01-F-N