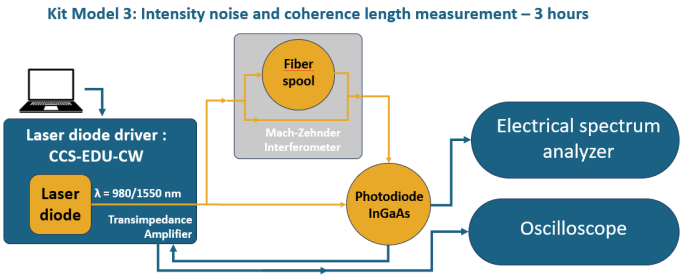
Educational kit: Photodiode detection

Kit Model 3: Intensity noise and coherence length measurement – **3 hours**

Reference: **EDKIT-D3**

Objectives:

- Evaluate the laser diode RIN (relative intensity noise)
- Build a Mach-Zehnder interferometer.
- Measure the laser diode coherence length.
- Learn how to work with Fourier frequency (power spectral density).



What's in the box?

- 1* Modular diode and photodiode "pulse and CW" driver with thermal regulation and transimpedance amplifier: "CCS-Educ-Pulse"
- 1* 1550 nm fiber coupled butterfly laser diode
- 1* 980 nm fiber coupled butterfly laser diode
- 1* fiber coupled InGaAs photodiode
- 1* fiber spool
- 1*Electrical spectrum analyzer
- Optional Oscilloscope (200 MHz model)

<photo kit>

SPECIFICATIONS	Unit	Min	Typ	Maximum
Laser diode #1*				
CW Output Power	mW			10
Center Wavelength	nm	1545	1550	1555
CW Operating Current	mA			70
Laser safety classification	Class 1M			
Internal BFM Photodiode Responsivity	mA/W	5		
Internal BFM Photodiode Dark Current	nA			500
Fiber type (Connector) / Buffer diameter	SMF28 (SC/APC) / 900µm			
Laser diode #2*				
CW Output Power	mW			5
Center Wavelength	nm	975	980	985
Operating Current	mA			100
Laser safety classification	Class 1M			
Internal Photodiode Responsivity	mA/W			100
Internal Photodiode Dark Current	nA			500
Fiber type (Connector)	PM980 (SC/APC) / 900 µm			
Diode driver: CCS-Educ-Pulse				
Diode driver with current limitation	Yes			
CW emission / Short pulse emission	Yes/Yes			
Laser diode thermal regulation	Yes			
Photodiode transimpedance amplifier	Yes			
GUI software with USB communication	Yes (Simplified "Pulse and CW" version)			
Others				
Photodiode InGaAs - Sensitivity	A/W		0.93	
Photodiode InGaAs - Dark current				
Fiber spool type/length				

*: See our tutorial : fiber coupled laser diode

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