

Fiber Mounted LEDs (FLEDs)

deliver optogenetic stimulation from directly inside a microdrive

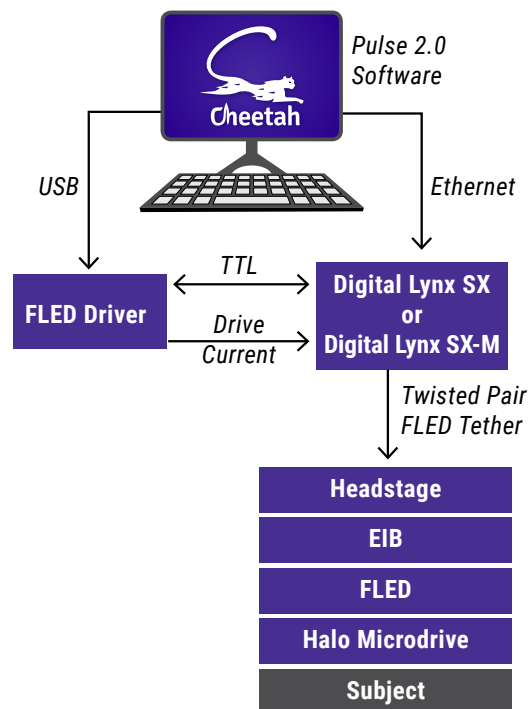
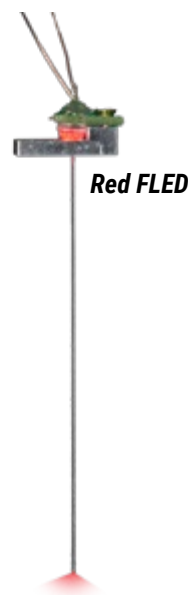
Fiber Mounted LEDs (FLEDs) are miniaturized LED light source modules with integrated fiber waveguide that seamlessly mount into a single Halo Microdrive shuttle for optogenetic stimulation.

The LED drive current is delivered through the tether-headstage-EIB differential stimulus channels.

- deliver optogenetic stimulation from directly inside a microdrive
- integrated into microdrive shuttle - no fiber optic cable running to the subject
- simplified optical assembly increases stimulus and light delivery consistency
- 4 color options: blue, amber, red and green. Use same color or combination
- integrate optogenetic stimulation into existing Digital Lynx SX/SX-M
- mount up to 3 FLEDs in one microdrive - same color or combine to mix colors

Specifications

Dimension (LxWxH)	9mm X 4mm X 5mm			
Mass	≈ 0.2 grams			
Shuttle Drive Screw	1 mm			
Color	Wavelength	Pulse Power	Illuminance	Fiber Diameter
Blue	465 nm	10 mW	188 mW/mm ²	200 μm
Amber	590 nm	5 mW	96 mW/mm ²	200 μm
Red	625 nm	5 mW	96 mW/mm ²	200 μm
Green	525 nm	5 mW	96 mW/mm ²	200 μm



Fiber Mounted LEDs:

Tiny devices that provide huge advantages over off-board light sources!

FLED Driver with Pulse 2.0 Software

A current source driver with 3 channels/outputs for use with Fiber Mounted LEDs and Halo Microdrives – providing precision real-time light stimulus sequencing and consistent light output delivery.

Define, trigger and store up to 255 user-defined sequences using Neuralynx's Pulse 2.0 software.

Output Stage features:

- Current pump-based driver topology
- External trigger & set point control
- Reverses bias when outputs are in "OFF" state eliminating unexpected illumination



FLED Driver

Specifications

Current	350 milliamp
Stimulation Frequency	5 kHz
TTL Output Port for Digital Lynx SX	8 bits
TTL Input Port for external hardware triggers	8 bits

Twisted Pair FLED Tethers

Required for use with Fiber Mounted LEDs to carry LED drive current.



FLEDs Compatibility

Halo Microdrives

FLED Driver & Pulse 2.0 Software

Digital Lynx SX / SX-M