

# Tunable Filter Controller | FFP-C

## Applications

- Spectrum Scanning
- Wavelength Locking

## Features

- Scan or dither mode capability
- Scan mode > 50V (> 4 FSR range)
- Built-in photodetector with FC/APC input (other inputs available)
- Digital voltmeter for piezoelectric transducer monitoring
- Rear BNC outputs for oscilloscope monitoring
- Bias voltage control for any filter
- Automatic wavelength locking with filters of finesse values up to 750

## Description

The Micron Optics FFP-Controller is an electronic piezoelectric actuator driver and optical signal processor specially designed for the FFP Tunable Filter (TF or TF2) or Scanning Interferometer. The Micron Optics FFP-C can be used in several modes of operation.

- Manual DC Voltage Driver (bias control only)
- Manual DC + AC Voltage Driver (bias, amplitude and frequency controls)
- Automatic Wavelength Locking to Laser Input Source (via a closed phase lock loop)



The FFP-C is an excellent tool for first time users of fiber Fabry-Perot filters to become familiar with filter technology and operations. It also can be used as a lab bench tool in the research of advanced capabilities of tunable filters.

## Specifications

FFP-C

### Optical Properties

Input Power	-50 to -10 dBm
Input Connector	FC/SPC
Detector Wavelength Range - InGaAs	1000 - 1650 nm

### Electrical Properties

Bias Tuning Voltage	5 - 55 V
Ramp Frequency	20 - 100 Hz
Ramp Amplitude	5 - 55 V
Dither Frequency	1.5 - 2.5 kHz
Dither Amplitude	8 - 12 mV
Power Supply, 15 W	95 - 135 VAC
Auxilliary Input Impedence	10 k $\Omega$
Auxilliary Input DC Voltage	Maximum 12 V
Auxilliary Dither Signal Amplitude	10 $\mu$ V to 80 mV
Auxilliary Input	SMA

### Mechanical Properties

Dimensions (mm)	211 x 87 x 242
Weight	1.9 kg

### Options

020 - Power Supply, 220 V	190 - 265 VAC
060 - Equipped with FC/SPC Bulkhead Adapter	
062 - Equipped with SC/SPC Bulkhead Adapter	

**Fig. 1 Block Diagram & Circuit Schematic**

