



## FZW Fizeau Laser Wavemeter



(FZW pictured above with optional FSW8 switcher)

The Santec FZW Fizeau Laser Wavemeter is a precision compact self-contained wavemeter: *no host computer required.*

It measures from 400 nm to 1100 nm with absolute accuracy better than 600 MHz ( $3\sigma$ ). On-unit display, PID locking, ethernet and USB connectivity are standard. Time-series measurements at up to 500 measurements per second can be plotted on the display or on a host computer. The device is easily integrated with common lab data acquisition systems using simple text commands, and wrappers for LabVIEW, python and MATLAB.

Matching fibre switches are available, with 4 and 8 input ports, and 4 or 8 analogue outputs with PID to wavelength-stabilise up to 8 lasers.

### Features

- 600 MHz ( $3\sigma$ ) absolute accuracy, 350 to 1120nm  
Can measure to 1280 nm
- Self-contained with colour display
- Solid fused silica etalons
- 300 measurements per second
- Built-in PID feedback with analogue output
- Ethernet and USB standard

### Options

- FC/PC or FC/APC input available
- 2x1, 4x1 and 8x1 fibre switches available

# Fizeau Wavemeter

## Specifications FZW600

### Wavelength/frequency

Wavelength range	350 – 1120 nm Can measure to 1280 nm with 10mW in fibre
Units	nm (vac), nm (air; NTP), THz, cm <sup>-1</sup>
Input	FC/APC (standard), FC/PC (optional) 100 nW @10/sec; 10 µW at 300/sec (525 nm)
Accuracy	600 MHz (3σ) @400 – 1100 nm; typically 200 MHz
Resolution	10 MHz (full speed); 1 MHz (100-sample average)
Exposure	100 µs to 1 s
Measurement rate (>500 µW)	300 /s (fast mode) 150 /s (standard)
Fizeau interferometers	Fused silica optically contacted; smallest FSR = 7.5GHz
Calibration	Generally not required. Use stabilised HeNe or other well-known laser source, e.g. at 12-month intervals.
Warm-up time	Stated accuracy within 10 minutes

### Electronics

Display	Built-in 320x240 colour TFT LCD
PID feedback	12-bit DAC output, 0.5 mV resolution
Power	+5 V 500 mA via USB; 9 V – 30 V via DC jack 2.5 mm
On/off	Rocker switch on rear

### Communications

Ethernet	10/100 TP RJ45
USB	USB2.0, plug type USB-B (also used for power)
SPI	Internal; for OEM implementations

### Fibre switch (multiplexer)

Wavelength range	400 nm to 1120 nm
Lifetime	>20 billion cycles
Connectors	2x1, 4x1 or 8x1, FC/APC (standard), FC/PC (optional)
Switching time	4x1, 8x1: 5 ms (typ), 10 ms (max) 2x1: 10 ms (typ), 25 ms (max)
Insertion loss	< 2.0 dB at 600 nm, up to 13 dB at 400 – 1120 nm
SMA DAC out with PID	4 or 8 channels, 16-bit, ±2.5V (4x1 and 8x1 only)
Power	From FZW via M8 cable

### Dimensions

Dimensions	120 x 146 x 81 mm (DxWxH); 1.56 kg
Dimensions with fibre switch	120 x 146 x 114 mm (DxWxH); 2.21 kg



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