

CT400 – All-Band High Performance Optical Component Tester

YENISTA proposes the ideal test solution for fast and accurate characterization of optical components (Mux/Demux, filters...) and modules (OADM, WSS...).



Key parameters:

- ✓ $\pm 5\text{pm}$ wavelength accuracy
- ✓ 1pm wavelength resolution
- ✓ Independent of Tunable Laser Source
- ✓ Up to 4 simultaneous detectors
- ✓ Continuous sweep over several lasers

A revolutionary approach in optical testing

CT400 has been designed to be the most versatile, compact and low price solution for customers who want to perform optical loss measurements over a wide wavelength range. It builds the bridge between the two previous traditional approaches: own built set-up based on step by step measurement, and complete integrated sweeping systems.

CT400 adapts to most of tunable laser source. Its compact format as well as its open architecture makes it the best mate of optical engineers and technicians who need a reliable low cost instrument to test or validate their design in a fast and accurate way.

Fast and accurate loss measurement for everyone

When it comes to measure optical transfer function, the sweeping method is the only fast and reliable solution. Sweeping measurement is not only faster than step by step measurement but also gives more sampling points and better wavelength accuracy. Nevertheless, most of tunable laser sources are still used in step by step mode because it is easier to implement in conjunction of power meters and a wavemeter. Building sweeping set-up is more difficult as it needs to do real time acquisition for power and wavelength measurements. The quality of the tunable lasers sources is also a key of success: mode hops, sweeping velocity, power flatness, wavelength accuracy... are various phenomenon that needs to be controlled in order to do reliable measurement.

CT400 brings all these knowledge, controls and accurate measurement capabilities in a simple box that easily interface with customer tunable laser and PC

A tool that adapt to your needs

Complete sweeping system usually offers good performances but with major drawbacks. The initial cost is very high and most of time includes the purchase of a new tunable laser source or PC. The architecture is also rigid and difficult to maintain and modify in mid and long term perspective.

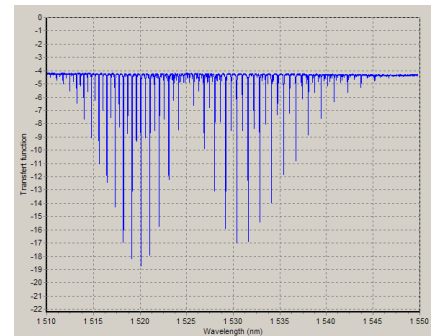
CT400 overcomes these difficulties by adapting to the existing installing base. Its compact format as well as its low price makes it best suitable for labs testing benches.

Continuous sweep over several tunable lasers : Sweep & Switch !

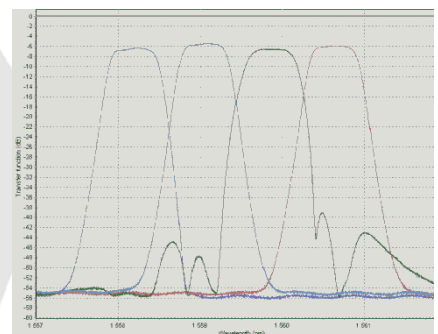
With its patented configuration, CT400 is the unique solution on the market that allows you to sweep continuously over several lasers (up to 4) in order to achieve a fast full-range measurement.

CT400: high performance in real time

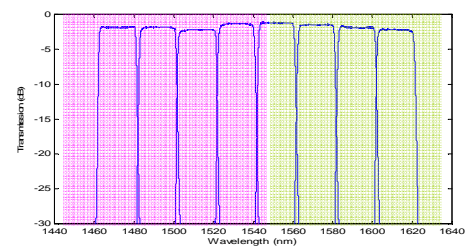
CT400 is an unique combination of high speed electronic and optical interferometry. Up to four real time measurements are now possible with $\pm 5\text{pm}$ wavelength accuracy. This allows the use of CT400 during alignment and manufacturing process, but also for optical sensor analysis.



No more compromise between resolution, accuracy and measurement speed



Simultaneous measurement of 1x4 CWDM mux



Easy and ultra-fast switching between lasers

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CT400 Specifications

Specifications		
General Characteristics	Laser inputs	2 to 4
	Detectors	2 to 4
Wavelength	Operating wavelength range	1260-1650 nm
	Absolute wavelength accuracy ^{1,2}	±5pm
	Relative wavelength accuracy	±1pm
Power	Detection range	Minimum input power on detectors: -60 dBm
		Maximum input power on detectors: 0 dBm
	Transfer function accuracy ³	±0.2 dB
	Dynamic range ⁴	> 60 dB
Sampling Characteristics	Sampling resolution	1pm - 2pm - 4pm - 8pm - 16pm - 32pm - 64pm - 128 pm
	Points per scan	Up to 200,000 with 1 detector operation Up to 50,000 with 4 detectors operation
	Measurement speed	From 10 to 100 nm/s
Interfaces	Optical connectors	Universal
	Interface with PC	USB
Environment	Operating temperature range	+10 to +40°C
	Storage temperature range	-40 to +60°C
	Power supply	100 to 240 V (50 to 60Hz)
	Dimensions (WxHxD) in mm ³	335x110x320
	Weight	4 kg
PC requirements	Operating System	Windows XP, Windows 7
	Interfaces	USB port and GPIB interface card

1: Wavelength > 1270 nm

2: For wide scan : typical 100 nm

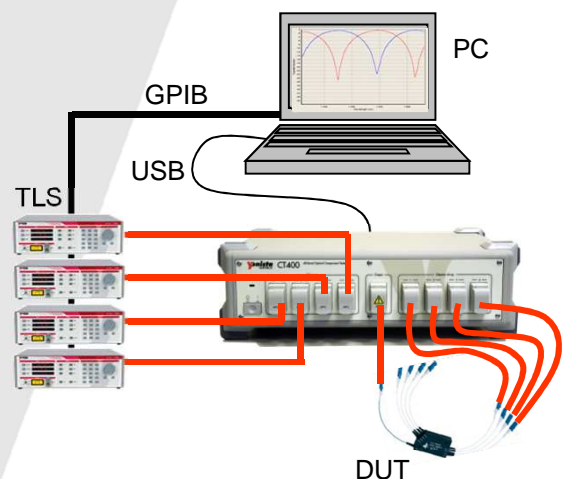
3: For incident power on detectors > -30 dBm, Accuracy +/- 0.5 dB for power between -30 dBm and -60 dBm

4: > 55 dB on models with 3 or 4 detectors

Measurement set-up:

Tunable Laser Source Requirements		
Remote control ⁵	GPIB	
Output Power:	2 ch	Any value between 0.5mW and 10 mW
	>2 ch	Any value between 1 mW and 10 mW
Mode hops	No mode hop mode is highly desirable but the instrument is able to detect and operates with few mode hops	
Sweeping speed	From 10nm/s to 100nm/s	

5: Remote operation through binary signal on rear side
BNC inputs is provided as an alternative to GPIB



All information and specifications are subject to change without notice

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