ADCMT®

8471
Optical Wavelength Meter

Optical wavelength measurement with high accuracy of 2ppm and high resolution of 0.001nm and at high speed of 0.1 second

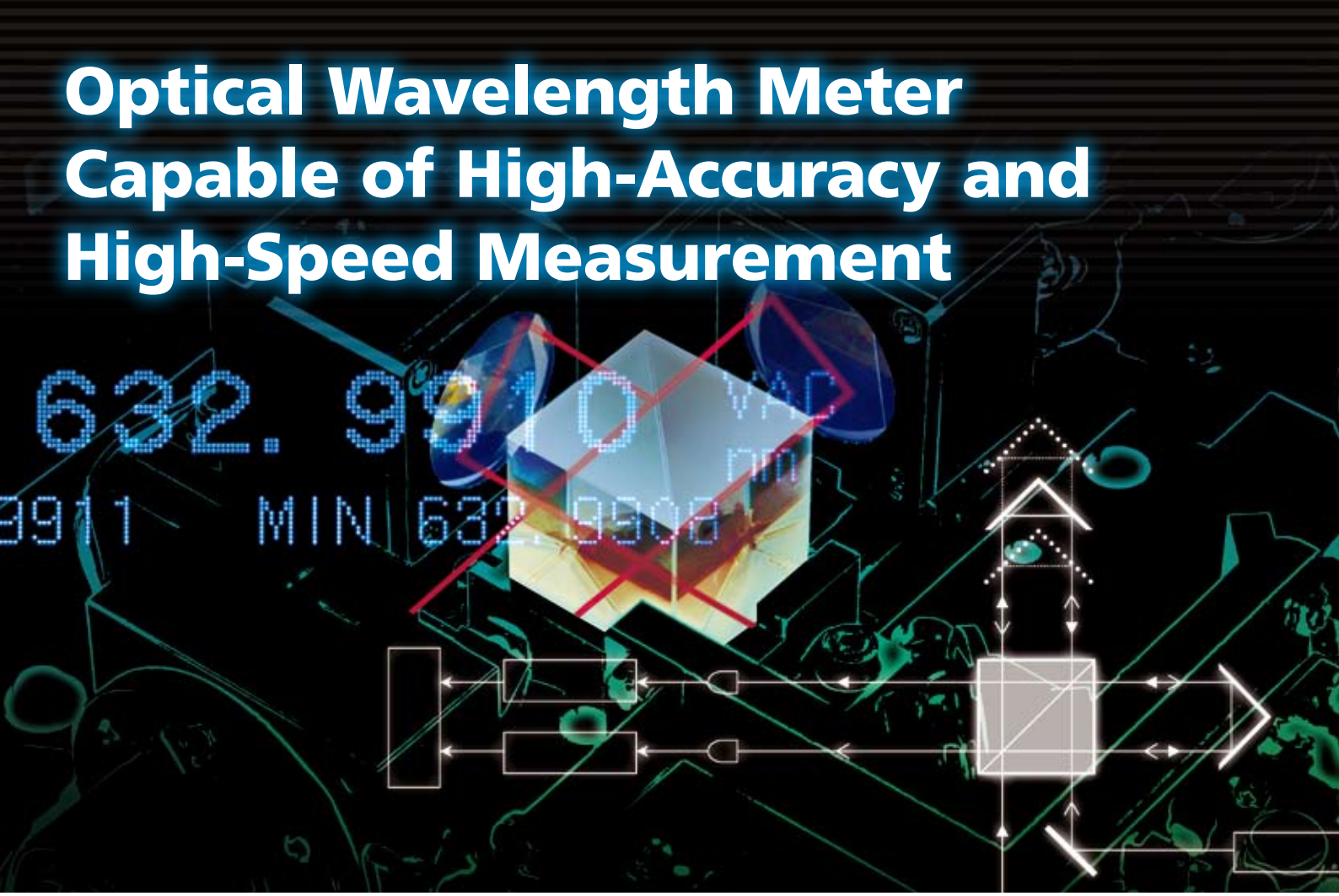
New

GPIB USB

- Wavelength range: 630nm to 1650nm (182THz to 476THz)
- Wavelength and frequency displays
- High-speed sampling: 10 times/sec
- High-sensitivity measurement: -35dBm (1200nm to 1600nm)
- Maximum and minimum values and deviation displays
- Stores up to 10,000 data sets
- Average measurement up to 100 times
- GPIB and USB interfaces

http://www.adcmt-e.com

Optical Wavelength Meter Capable of High-Accuracy and High-Speed Measurement

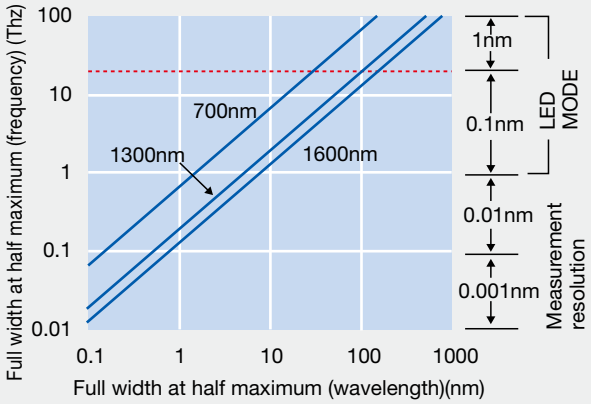


The 8471 is an optical wavelength meter that uses a He-Ne laser as reference wavelength and employs the Michelson interferometer method, providing high-accuracy measurement. It can measure emission center frequencies of laser diodes for DWDM with high resolution and accuracy.
The 8471 even provides a high sampling rate of 10 times per second, and is suitable for oscillation wavelength adjustment. In addition, its deviation display function allows wavelength variation to be measured with high resolution and accuracy.

Applications

- Optimal for wavelength adjustment of laser diodes for DWDM due to high-speed sampling.
- Available as a wavelength standard for calibration of spectroscopes or optical spectrum analyzers due to high accuracy.
- Capable of automated measurement of laser diode wavelength-temperature and wavelength-current characteristics.

Full Width at Half Maximum and Measurement Resolution



Frequency and Deviation Displays

The 8471 displays not only the wavelength but the frequency of light under measurement, which is very useful for adjusting oscillation wavelengths to the ITU-T grid.
Deviation measurement is also made available by pressing the deviation measurement key. Its reference wavelength is selectable from either an input value or a value measured at the moment the key is pressed. It is useful for observing wavelength variation due to temperature fluctuation with high accuracy or adjusting wavelengths.

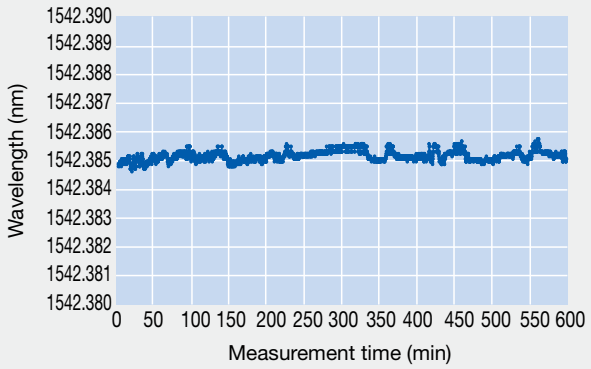
High Resolution/High Accuracy Measurement

Using the interferometer method, the 8471 achieves a maximum resolution of 0.001nm (1pm). Moreover, a high measurement resolution of 0.0001nm (0.1pm) is possible by performing average measurement of ten times or more.
The use of a He-Ne laser as reference wavelength enables a high measurement accuracy of 2ppm. The He-Ne laser provides oscillation with a highly stable wavelength, assuring high accuracy over a long term without calibration.

High-Speed Sampling

The 8471 provides a high sampling rate of 10 times per second, so that variation in wavelength due to temperature fluctuation can be detected accurately. Also, it is suitable for adjusting the wavelengths of laser diodes.

Measurement Example of Light Source Stability

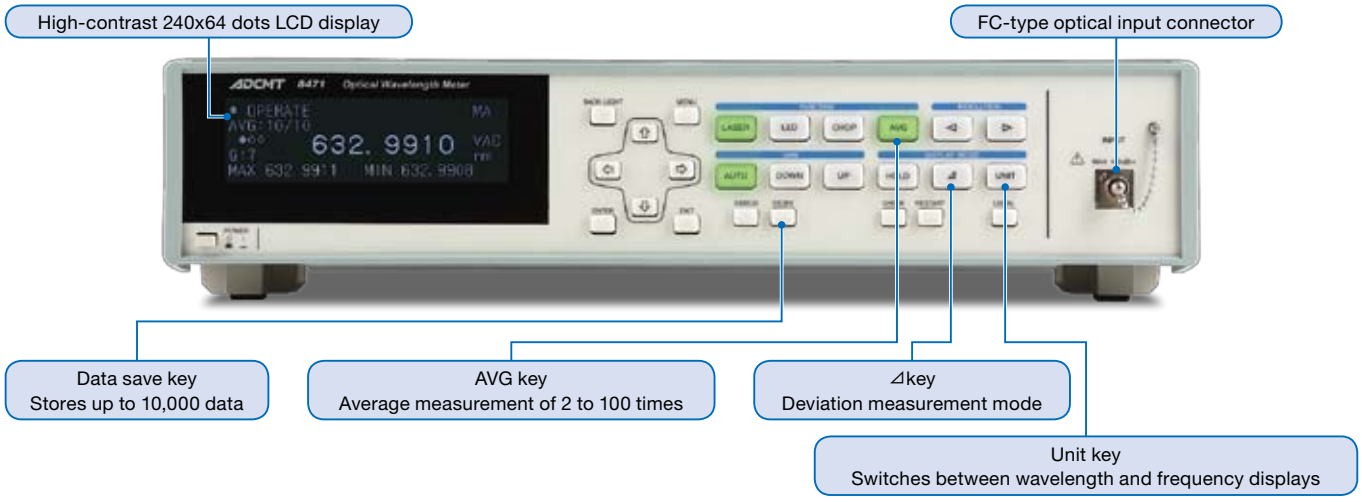


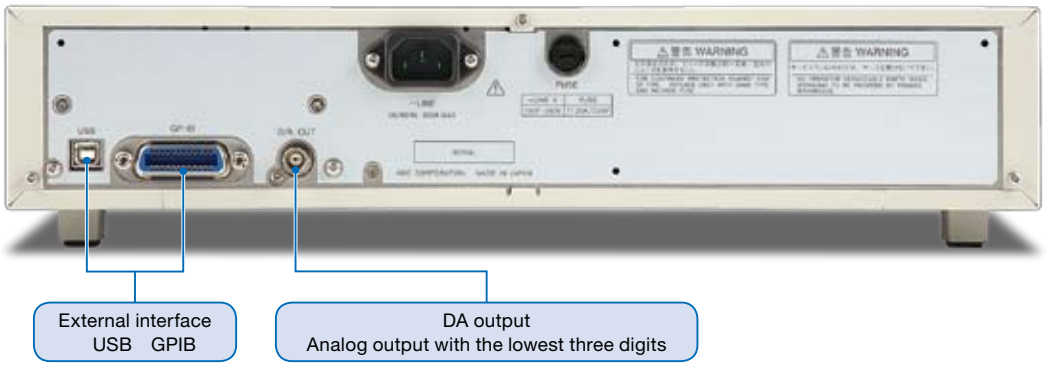
Data Memory Function

The 8471 can internally store up to 10,000 data sets. As the measurement interval can be set, measurement data can be stored for a long time without a PC.

USB Interface as Standard

The 8471 is equipped with the USB interface as well as the GPIB interface as standard, allowing you to easily load measurement data onto your PC.





Specifications

Wavelength

Wavelength range:	630 to 1650nm (182 to 476THz)
Accuracy[*1]:	±2ppm ±1 ppm (LASER measurement mode)
Display resolution[*2]:	1nm to 0.0001nm[*3]
Display unit:	nm (vacuum, standard air), THz

Level

Sensitivity:	-15dBm (630 to 700nm) -20dBm (700 to 1000nm) -25dBm (1000 to 1650nm) -35dBm (1200 to 1600nm)
Maximum input:	+10dBm

Measurement time

Auto Gain:	0.2 second
Manual Gain:	0.1 second

Function

Average measurement:	Setting number: 2 to 100 times (Displays the moving average of the setting number of measurements.)
Deviation measurement:	Displays a deviation from the reference measurement value or reference input wavelength.
Data memory:	Stores up to 10,000 data sets.

Display

Displays measured wavelengths and the maximum and minimum wavelengths during measurement.

Optical input

Applicable fiber:	Optical fiber with 50μm or less core diameter
Connector:	FC connector Internal fiber: GI 50μm

Input and Output

Interface

GPIB:	IEEE-488 Amphenol 24 pin connector Interface function: SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT1, C0, E2
USB:	USB 2.0 Full-speed USB type B connector
Analog output:	Analog output with the lowest three digits displayed 0V to +1V

General Specifications

Operating environment:	Temperature	+10˚C to +40˚C
	Relative humidity	85% or less (no condensation)
Accuracy-guaranteed temperature range:		+23˚C±10˚C
Storage environment:	Temperature	-10˚C to +50˚C
	Relative humidity	90% or less (no condensation)
Power supply:	100 to 240VAC, 50/60Hz	
Power consumption:	70VA or less	
Dimensions:	Approx. 424 (W)×88 (H)×450 (D)mm	
Mass:	11.5kg or less	
Safety:	IEC/EN61010-1 Ed3	
EMC:	EN61326-1 class A	

Supplied Accessory

Part number	Name	Quantity
A01402	Power cable (JIS 2m)	1

Optional Accessories

Part number	Name
CC028002	Front handle set 2U
CC024002	Rack mount set 2U EIA
CC022002	Rack mount set 2U JIS

(The front handle and the rack mount can be used in combination.)

*1 The measurement accuracy depends on the linewidth of an input light. "±Wavelength full width at half maximum × 1/10" is added depending on the linewidth.
*2 Automatically set depending on the linewdith of a signal
*3 Resolution of 0.0001nm is available for average measurement of 10 times or more.

- Please read through the operation manual carefully before using the products.
- All specifications are subject to change without notice.

ADC CORPORATION

E-mail : kcc@adcmt.com URL : http://www.adcmt-e.com

Head Office
Shoei Bldg, 3-6-12, Kyobashi, Chuo-ku,
Tokyo 104-0031, Japan
Phone: +81-3-6272-4433 Fax: +81-3-6272-4437

Higashimatsuyama Office (R&D Center)
77-1, Miyako Namegawa-machi, Hiki-gun,
Saitama 355-0812, Japan
Phone: +81-493-56-4433 Fax: +81-493-57-1092