



# PLASMA MONITOR

Real-time broadband fiberoptics system

## Real-time Broadband system.

Simultaneous measurement in 200- 1000 nm wavelength range using 3600 pixels CCD detector (each channels) - up to 8 channels in one unit. Measurement time from 1 ms. High level of accuracy and reliability. Easy integration using Modbus TCP or OPC (DA 2.0/3.0 and HDA) server included with the software. In addition, 5 digital I/O TTL signals gives different options for process control/integration. Measurement recipes (including acquisitions conditions, control options and plasma lines tracking) can be easily created in software. Results of the measurement can be stored in the internal or specified external database for review and analysis.

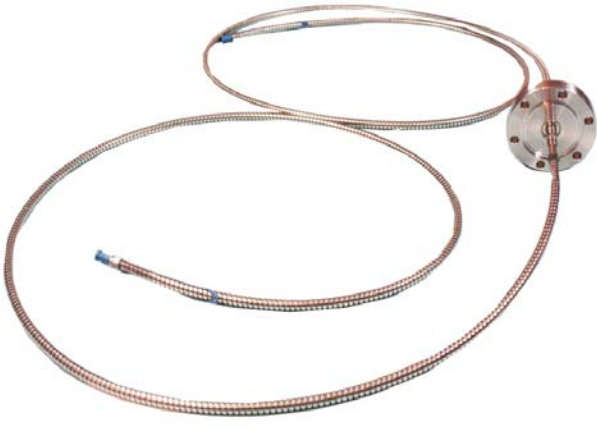
## APPLICATION.

1. Film deposition: (plasma assisted processes: Sputtering/PVD, PECVD, pulsed magnetron sputtering)
2. Plasma etching
3. Surface cleaning
4. Plasma chamber health control
5. Endpoint monitoring (e.g. blanket polysilicon plarization - 100% Si loading)
6. Monitoring recess depth (plugs recess)
7. Complete optimization of the new processes

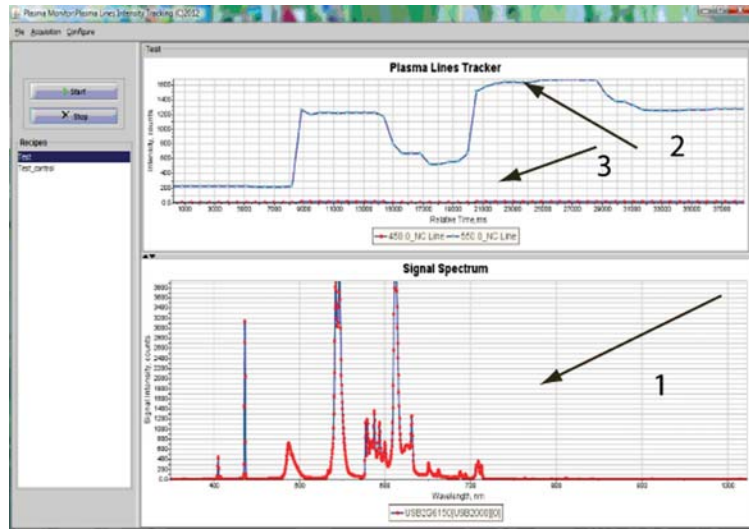


Plasma Monitor system (4 channels)

Spectral Range	200-1000 nm
Resolution	< 2nm FWHM
FO connector	SMA905
D/A converter	16 bit
Digital In/Out	5 x TTL (+5V)
Interface	USB 2.0
Remote control	Modbus TCP, OPC DA 2.0/3.0
Number of channels	1 to 8 channels (one unit)



Vacuum feedthru with UVSR high-temperature UVSR fiber (SS fully interlocked)



Tracking selected plasma lines (2,3), 1- full emission spectrum

# Specification

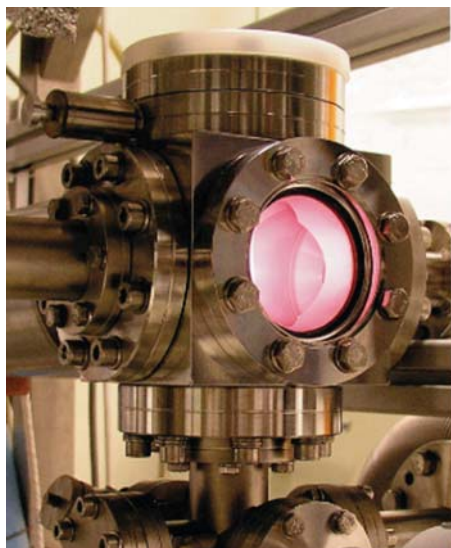
Hardware options	
-Ch X	1 to 8 channels in one unit X - number of channels
-VFT X	Vacuum feed through with UVSR (solarization resistant) 400um core fiber 2.75CF flange standard - others available X size of CF
- Probe I/O	400 um core, pure silica, Al coated single fiber patch. jacketing 5mm SS fully interlock. Up to 500 deg. C. SMA terminated. I - length of the fiber inside chamber, O - length outside the chamber
-Col	Quartz collimator. 6mm lens, SMA 905 terminated (for fiber connection), external thread UNF 3/8-24
- TR	In/Out trigger 5V TTL. 1 External (in) trigger to start measurement, 5 in/out triggers
- EC	Enhanced version: light collection (PDA lens) increased resolution (<1 nm).

Spectral range (nm)	200-1000
Spectrometer/detector	F4 spectrometer 3600 Si CCD , 16 bit ADC. S/N >1000
Spectral resolution	<2 nm standard < 1 nm enhanced
Wavelength accuracy	< 0.1 nm
Digital I/O	5 x TTL (+5V)
Fiber Input connector	SMA 905
Interface	USB 2.0
Power supply	5VDC, 2.5A
Weight (main unit)	2 kg (1 channel), 4kg (4 channels)
Size (main unit)	8" x 10" x 4" (WxDxH) - 1 channel 8" x 12" x 4" (WxDxH) - 4 channel
Power	100-250VAC, 50/60 Hz

## Ordering information:

Example: PMUVVis-4-VFT2.75-Probe 0.4/0.6-EC-OPC

4 channels Plasma Monitor (200-1000 nm), VFT with 2.75" CF, fiber 0.4m inside chamber, 0.6m - in the air, Enhanced version, OPC server included.



Software options	
-MOD	Modbus TCP compliant server
- OPC	OPC (DA 2.0/3.0) compliant server includes HDA and A&E server

Distribution in the UK & Ireland



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Measurement &  
Analysis**

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