PLASUS EMICON SA Series

Data Sheet

	EMICON 1 SA – 8 SA
Number of spectrometer units	1 - 8
Spectral range	200 - 1100 nm (totally covered by each spectrometer)
Number of wavelength channels (monitor tracks)	unlimited (selected by software without hardware modification)
Spectral resolution	1.5 nm FWHM
Detector	CMOS array with 16 Bit A/D converter
Exposure time	55 µs to seconds
Sampling time	10 ms to minutes
Optical fiber connector	SMA 905
Spectral monitor tracks	integrated intensity over wavelength interval
Layer control monitor tracks	film thickness, surface roughness, color
External monitor tracks (optional)	0-10 V analog input: 2 or 4 channels
Monitor track processing	single, combined (+,-, /,*), ratio, average, integral
Analog control outputs	0-10 V: 4 or 8 channels
Trigger inputs (optional)	1x TTL/24V & 2x optical
DIO controls (optional)	TTL / 24V: 8 input & 8 output channels
Fieldbus interfaces (optional)	Profibus, Profinet, EtherCAT, EtherNET/IP
Other Interfaces (optional)	LAN API (Windows DLL/Linux SO)
Processor unit	Integrated Linux based MPU with EMCON SA operation system
Display	5,7” color touch panel (resistive)
Power supply	24 VDC 4A
Housing	19” rack mount box (4U, 84HP)
Dimensions [mm]	480(w) x 190(h) x 420(d)
Weight [kg]	3.5
User interface	EMICON SA Manager software for Windows® 7/10/11 via LAN (TCP/IP)
Typical applications	PECVD, (reactive) sputtering, etching, ATM plasmas
Field of application	process control, QA/QC, endpoint detection, fault detection, film thickness, color in production lines

Other options are available on request

PLASUS EMICON FS Series

Data Sheet

	EMICON 1 FS – 8 FS
Number of spectrometer units	1 - 8
Spectral range	200 - 1100 nm (totally covered by each spectrometer)
Number of wavelength channels (monitor tracks)	unlimited (selected by software without hardware modification)
Spectral resolution	1.5 nm FWHM
Detector	CMOS array with 16 Bit A/D converter
Exposure time	5,4 µs to seconds
Sampling time	250 µs to minutes
Optical fiber connector	SMA 905
HIPIMS/PULSE unit (optional)	±10V analog input @ 40MHz: 2 channels
Spectral monitor tracks	integrated intensity over wavelength interval
HIPIMS/PULSE monitor tracks	peak current, peak voltage, pulse shapes, etc.
External monitor tracks (optional)	0-10 V: 2, 4 or 8 channels
Monitor track processing	single, combined (+,-, /,*), ratio, average, integral
Analog control outputs	0-10: V 4 or 8 channels
Trigger inputs (optional)	1x TTL/24V & 2x optical
DIO controls (optional)	TTL / 24V: 8 input & 8 output channels
Fieldbus interfaces (optional)	Profibus, Profinet, EtherCAT, EtherNET/IP
Other Interfaces (optional)	LAN API (Windows DLL/Linux SO)
Processor unit	Integrated Linux based MPU with EMCON FS operation system
Display	5,7” color touch panel (resistive)
Power supply	24 VDC 4A
Housing	19” rack mount box (4U, 84HP)
Dimensions [mm]	480(w) x 190(h) x 420(d)
Weight [kg]	3.5
User interface	EMICON FS Manager software for Windows® 7/10/11 via LAN (TCP/IP)
Typical applications	HIPIMS, pulsed-DC, reactive sputtering, MW-PECVD
Field of application	process monitoring, process optimization, process control, fault detection in production lines

Other options are available on request

PLASUS EMICON MC Series

Data Sheet

	EMICON 1 MC / 2 MC	EMICON 3 MC – 8 MC
Number of spectrometer units	1 - 2	3 – 8
Spectral range	200 - 1100 nm (totally covered by each spectrometer)	
Number of wavelength channels (monitor tracks)	unlimited (selected by software without hardware modification)	
Spectral resolution	1.5 nm FWHM	
Detector	CMOS array with 16 Bit A/D converter	
Exposure time	55 µs to seconds	
Sampling time	15 ms to minutes	
Optical fiber connector	SMA 905	
Spectral monitor tracks	integrated intensity over wavelength range	
Layer control monitor tracks	film thickness, surface roughness, color	
Monitor track processing	single, combined (+,-, /,*), ratio, average, integral	
Analog control outputs	±10 V: 4 channels	±10 V: 8 channels
DIO controls	TTL: 2 Ins & 2 outs	TTL: 4 Ins & 4 outs
Connectivity	USB 2.0	
Power supply	5 VDC 2A	5 VDC 5A
Housing	10” desktop box (3U, 42HP)	19” rack mount box (3U, 84HP)
Dimensions [mm]	240 x 135 x 320	345 x 135 x 320
Weight [kg]	2.5	3.5 – 4.5
User interface	EMICON MC software for Windows® 7/10/11	
System requirements	Intel Core i5 / AMD Ryzen 5, 8 GB RAM, 256 GB SSD, USB 2.0 port, Windows© 7/10/11	
Typical applications	PECVD, (reactive) sputtering, etching, ATM plasmas	
Field of application	R&D, plasma analysis, plasma monitoring, root cause analysis, endpoint detection, fault detection, film thickness, color	

* Other options are available on request

PLASUS EMICON HR Series

Data Sheet

	EMICON HR UV-VIS-NIR	EMICON HR UV	EMICON HR VIS	EMICON HR NIR
Spectral range	200 - 860 nm	200 - 440 nm	440 – 670 nm	670 – 860 nm
Number of spectrometer units	1	1 – 8		
Number of wavelength channels (monitor tracks)	unlimited (selected by software without hardware modification)			
Spectral resolution	0.2 -0.3 nm FWHM			
Detector	CMOS array with 16 Bit A/D converter			
Exposure time	55 µs to seconds			
Sampling time	50 ms to minutes			
Optical fiber connector	SMA 905			
Spectral monitor tracks	integrated intensity over wavelength range			
Monitor track processing	single, combined (+,-, /,*), ratio, average, integral			
Analog control outputs	±10 V: 4 channels	±10 V: 8 channels		
DIO controls	TTL: 2 Ins, 2 outs	TTL: 4 Ins, 4 outs		
Connectivity	USB 2.0			
Power supply	5 VDC 5A			
Housing	10” desktop box (3U, 42HP)	10” desktop or 19” rack mount box (3U, 42HP or 84HP)		
Dimensions [mm]	240 x 135 x 320	240 or 345 x 135 x 320		
Weight [kg]	2.5 – 4.5			
User interface	EMICON HR software for Windows® 7/10/11			
System requirements	Intel Core i5 / AMD Ryzen 5, 8 GB RAM, 256 GB SSD, USB 2.0 port, Windows© 7/10/11			
Typical applications	PECVD, (reactive) sputtering, etching, ATM plasmas			
Field of application	R&D, plasma analysis, plasma monitoring, endpoint detection, QA/QC			

* Other options are available on request

PLASUS EMICON LC Series

Data Sheet

	EMICON 1 LC / 2 LC	EMICON 3 LC – 8 LC
Number of spectrometer units	1 - 2	3 – 8
Spectral range	200 - 1100 nm (totally covered by each spectrometer)	
Spectral resolution	1.5 nm FWHM	
Detector	CMOS array with 16 Bit A/D converter	
Exposure time	55 µs to seconds	
Sampling time	100 ms to minutes	
Optical fiber connector	SMA 905	
Light source	Halogen tungsten lamp stabilized, LED, laser driven Xe plasma with automatic shutter (optional)	
Measurement modes	reflection, transmission	
Angle of incident	normal, inclined	
Layer control monitor tracks	film thickness, film roughness, color	
Analog control outputs	±10 V: 4 channels	±10 V: 8 channels
DIO controls	TTL: 2 Ins & 2 outs	TTL: 4 Ins & 4 outs
Connectivity	USB 2.0	
Power supply	5 VDC 2A	5 VDC 5A
Housing	10” desktop box (3U, 42HP)	19” rack mount box (3U, 84HP)
Dimensions [mm]	240 x 135 x 320	345 x 135 x 320
Weight [kg]	2.5	3.5 – 4.5
User interface	EMICON LC software for Windows® 7/10/11	
System requirements	Intel Core i5 / AMD Ryzen 5, 8 GB RAM, 256 GB SSD, USB 2.0 port, Windows© 7/10/11	
Typical applications	In-situ thin film characterization, film thickness measurement, color measurement, endpoint detection	
Field of application	Optical coating, tribological coating, decorative coating	

* Other options are available on request