FEATURES

- Multi-wavelength deep UV - from 190 to 440nm
- High resolution continuous absorption measurement
- Zero dead-volume hygienic measurement cells
- Integrated calibration & verification
- Digital connectivity: ProfiNet, EtherNet/IP, Modbus TCP/IP
- Environmentally responsible - Mercury free RoHS compliant

0% Hg

In bioprocessing, accuracy and repeatability are vitally important. The Kemtrak UV Spectra delivers high-performance, real-time absorbance measurement of proteins, peptides/polypeptides, mRNA/DNA, and amino acids, making it an indispensable tool for biochemical production.

With advanced user-selectable multi-wavelength detection down into the deep UV, the Kemtrak UV Spectra provides exceptional sensitivity, stability, and consistency for complex bio-molecular analyses. It supports confident decision making, from monitoring protein expression to verifying protein and nucleic acid purity and quantifying process intermediates.

Built for demanding biotech workflows, the Kemtrak UV Spectra integrates smoothly into R&D and production environments, helping maintain tight process control, maximize yield, and ensure product quality. It excels in post-column API detection, measuring concentrations from trace to ultra-high levels, while simultaneously monitoring for contamination and process disturbances.

At its core is a mercury-free deep UV light source with a lifespan of up to two years of continuous use. An intuitive touchscreen interface allows for instant wavelength selection and adjustment.

Kemtrak has developed robust, traceable reference standards that comply with NIST and other recognised quality systems to verify instrument performance. An integrated verification port between the sensor and hygienic measurement cell ensures compliance without disrupting or contaminating the process line.

The Kemtrak UV Spectra is supplied with a comprehensive documentation package compliant to recognized standards and regulatory requirements.

TYPICAL APPLICATIONS:

- Protein / API detection and concentration
- Chromatographic fractionation
- Leak, carryover & interface detection
- Filtration monitoring
- Centrifuge / separator control

SYSTEM OK	UV SPECTRA
215nm **2.149** AU	254nm **1.709** AU
280nm **1.301** AU	300nm **0.836** AU
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UV Spectra
Process Analyzer

TECHNICAL SPECIFICATIONS

Principle	Multi-Wavelength Deep-UV Spectrophotometer
Detector	High-sensitivity CMOS linear image sensor
Light source	High performance UV-Xenon
Wavelength range	190 - 440 nm
	All wavelengths sampled simultaneously
Sampling frequency	10 Hz
Wavelength selection	1nm increment
Photometric range	3 AU
Photometric resolution	±0.005 AU
Wavelength reproducibility (CWL)	±0.5 nm
Spectral resolution (FWHM)	5 nm
Lamp lifetime	>10^9 pulses, ca. 2 yrs continuous operation
Measurement	Native units AU & %T
Damping	From 1 to 60s
Noise filter	Bubble & particle reject filter
Zero	Locally (HMI) or remotely activated
Calibration	10 linearization tables for concentration
	linear, polynomial & piecewise linear calibrations
Memory	Non-volatile - all data retained upon power failure
Event logger	System events (info, warning, error etc).
	timestamp, user, event code, event
	> 1 million events logged, ring buffer
Settings	All settings configurable via HMI
	Settings can be exported/restored
	(instruments can be backed up & cloned)
Network Interface 1	Ethernet 10/100 PoE+ (IEEE 802.3at-2019)
	M12 connector
	- Modbus TCP
	- PROFINET RT (option)
	- EtherNet/IP (option)
Network Interface 2	Ethernet 10/100 PoE+ (IEEE 802.3at-2019)
	M12 connector
	- HMI
	- Analogue & Digital I/O (option)
Measurement Update Interval	1s
Housing	Stainless steel EN 1.4301
Installation	Indoor/Outdoor, unclassified area
Ingress Protection	IP65

Mounting	Directly on measurement cell (threaded, M25 x 1.5)
Power	Max. 13 W (PoE, IEEE 802.3af-2019)
Sensor weight	ca. 2.5 kg (not including measurement cell)
Dimensions	Detector 77 mm (l) x Ø90mm (diameter)
	Xenon light 98 mm (l) x Ø90mm (diameter)
Operating Temperature	10°C to +40°C
Storage Temperature	0°C to +70°C
Relative Humidity	10 - 90% (non-condensing)
Cooling	Passive air cooling
Compliance	CE / LVD / RoHS / REACH / Mercury Free

ANALOGUE & DIGITAL I/O (OPTION)

I/O Module	Modbus TCP Ethernet coupler
mA output	up to 12 channels 2- or 4-wire connection
	16 bit resolution
Digital input	4 channel, up to 3-wire +FE
	reverse polarity protection
Digital output	4 channel, up to 3-wire +FE
	short-circuit-proof
Mounting	DIN rail mounted
Ingress Protection	IP20

TOUCHSCREEN DISPLAY (HMI)

Power	12-24VDC Terminal Block (11,5-25V)
	24VDC 28W
Dimensions	265x176x44 WxHxD MM
Weight	2.1Kg
Operating Temp	0°C to +50°C
Storage Temperature	0°C to +70°C
Relative Humidity	10 - 90% (non-condensing)
Display Lifetime	Operation Lifetime (LED) Minimum 50.000 Hours
	Operation life means brightness goes down to 50%
	to initial brightness. Minimum operation lifetime is
	estimated data.
MTBF	100.000 Hours
Mounting	VESA 100 / Panel Mount (245 x 160mm)
Vibration	1.0G, 5-500Hz Random
Ingress Protection	IP65
Cooling	Passive air cooling
Compliance	CE / FCC / RoHS / LVD / REACH / WEEE

PROCESS MEASUREMENT CELL

PROCESS CONNECTION

Standard designs include DIN Flange (DIN 2633), ANSI (ASME B16.5), Tri-Clamp® (ISO 2852 & DIN 32676), Straight pipe thread (DIN ISO 228 BSP), NPT tapered pipe thread (ANSI B 1.20.1), single use barbed hose & Luer taper.
Line size up to DN200 / 8"

MATERIALS

Wetted surfaces in stainless steel EN 1.4435 or EN 1.4404 (316L). Other materials include Titanium Gr 2, Hastelloy C-276 & C-22, Monel 400 & PTFE C25 (TFMC, carbon filled Teflon®), PPSU

WINDOW

Sapphire, UV fused silica

SURFACE FINISH

Fine machine (smooth)
Ra <0.38 µm (electropolished) wetted surfaces on hygienic measurement cells.

ELASTOMERS

FPM (FKM/Viton®, FDA), FFKM (Chemraz®/Kalrez®, FDA), EPDM (FDA)

OPERATING CONDITIONS

Ambient & process temperatures up to 275 °C (527 °F). Process pressure from 10 mbar to 200 bar (0,14 – 2900 psi)

Operating conditions subject to material and design in use. Higher pressures & temperatures on request

PROTECTION

IP69 / EN 60529

Kemtrak is a leading manufacturer of high-performance industrial photometers and automation products for the process engineering industries.
The company provides tailor-made solutions to meet the needs of a wide range of sectors, including biotech, pharmaceutical, food & beverage, chemical, petrochemical & offshore, pulp and paper, and water & environmental industries.
Kemtrak has trained representatives and support personnel worldwide and is certified according to ISO 9001:2015.