**Integrated NIST validation accessory**

The convenient range of small-footprint, zero dead-volume hygienic measurement cells that contain no electronics or moving parts are well suited for both ordinary and hazardous area installation. Standard NIST-traceable validation filters can be used to verify analyzer performance without process interruption.

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**DCP007-UV Process Photometer**

**Benefits:**

- Ultra-low power UV analyzer
- High performance UV LED
- Dual wavelength drift free operation
- Maintenance free measurement cell
- Light source & wavelength easy to change
- NIST validation accessory

The Kemtrak DCP007-UV process analyzer is a high performance fiber optic coupled photometer for high resolution, real time, in-line concentration measurement.

Unlike traditional UV process analyzers that use hot, powerful UV mercury vapor lamps to generate light energy, the DCP007-UV analyzer uses a cold wavelength specific light source. Mercury lamps quickly deplete over time while simultaneously eroding bandpass filters required to limit light energy to the measurement wavelength required, resulting in drift and a continual need for maintenance, a problem not experienced with Kemtrak instruments. Furthermore, mercury vapor lamp instruments continuously expose the process stream to high intensity broad spectrum UV radiation, with the potential for product destruction and loss. The Kemtrak DCP007-UV process analyzer emits ultra-low power cold light exposing the sample to the exact wavelength required for measurement. Kemtrak DCP007-UV analyzers provide safe, drift free operation that maximize process yield and quality.

Mercury vapor lamps have a distinct set of wavelength peaks predominantly in the UV. These peaks limit the availability of wavelengths for measurement use. In contrast, a Kemtrak DCP007-UV process analyzer can be configured to measure from 190 nm to 1050 nm.

The proprietary dual wavelength, four channel measurement technique used in the DCP007-UV analyzer provides deep absorbance measurement to 5 AU using a 1 cm optical path-length. A range of shorter optical path-lengths allow for even deeper absorbance and optical density measurements.

The Kemtrak 280nm UV photometer

**left:** Optical filter used on a Kemtrak DCP007-UV photometer

**right:** Eroded optical filter from a traditional hot mercury vapor lamp photometer

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**Benefits:**

- Ultra-low power UV analyzer
- High performance UV LED
- Dual wavelength drift free operation
- Maintenance free measurement cell
- Light source & wavelength easy to change
- NIST validation accessory

Standard features include multiple product switching, remote zeroing and signal filtering. A free graphical internet based configuration utility is included which allows remote operation, calibration, validation and data trending.

All Kemtrak products are designed to meet the most demanding application specifications and are made from the highest quality materials to ensure exceptionally long life and the highest reliability possible.

www.kemtrak.com
**Technical Data**

**DCP007 UV Process Photometer**

**Process measurement cell**

**Software Features:**
- Remote Input
- PID Controller
- Data Logger
- Automatic Cleaning Control

**Materials**
- Fibre Optic cable
- Operating Conditions
  - Flow Cells and Process Connections
  - Analogue Input (optional)
  - Resolution:
  - Range:
  - Derivative time:
  - Integral time:
  - Proportional gain:
  - Control period:
  - Control method:
  - LED 5 (blue):
  - Clean / Hold

**Housing**
- Stainless steel EN 1.4301 (X5CrNi18-10), AISI 304 (V2A)
- Captive lid screws & external mounting brackets stainless steel
- 244 x 215 x 105 mm (L x W x D)
- IP 65 / EN 60529

**Display**
- 16 x 4 alphanumeric on blue dot matrix LCD display
- LED background illuminated
- Measurement updates every second
- LED 1 (green):
  - Power on
- LED 2 (red):
  - System fault
- LED 3 & 4 (orange):
  - Alarm 1 & Alarm 2
- LED 5 (blue):
  - Clean / Hold

**Operation**
- 4 push buttons
- Remote HIM/LI (a java interface (TCP/IP connection via Ethernet port)

**Automatic Cleaning Control**
- Automatic cleaning sequence, triggering dedicated relay output
- Manual trigger or external trigger via digital input
- Configurable automatic cleaning interval, 15 min to 2 months
- Configurable cleaning duration from 0 to 999 s
- Auto zero after clean option
- Hold value after clean (to equilibrate) 0 to 9999 s

**PID Controller**
- Control method:
  - Pulse width modulated relay output or
  - 0/4-20mA output

**Remote Input**
- 5 x Digital input (potential free contact) for:
  - Input 1-3: Product/Range selection
  - Input 4: Zero, instant zero, clean or clean & Zero
  - Input 5: Hold (freeze output), data log control or light source control

**Analog Input (optional)**
- mA or 3-wire PT100
- Range: -20 to 200°C (-4 to 392°F)
- Resolution: 0.07°C (0.126°F)

**Light Source**
- High performance light emitting diode (LED)
- Wavelength range: 250 - 1050 nm
- Full Width at Half Maximum (FWHM): 10 nm
- Central Wavelength (CWL) Accuracy: ± 1 nm
- Typical light source lifetime: > 20000 hrs @ 280nm
  - >100000 hrs @ 500 nm

**Note:** Measurement wavelengths must be factory installed.

**Photometric Range**
- 0.000 - 4.5AU @ 280nm, 10nm OPL
- 0.000 - 5.0AU @ 500nm, 10nm OPL

**Photometric Accuracy**
- ±0.001AU at 1AU

**Photometric Noise**
- ±0.001AU at 1AU

**Linearity**
- ±0.5% of respective measuring range

**mA Output**
- 1 x selectable 0 – 20mA / 4 – 20mA (NAMUR, max 21.6mA)
- Optional second mA output
- Galvanically isolated, tested during final inspection to 500 VDC
- Accuracy: ±0.1%
- Resolution: 0.025%
- Load: 0 - 600 Ohm

**Relay Outputs**
- 1 x 1A 240VAC Fail-safes (active when system is ok)
- 2 x 1A 240VAC User configurable (alarm, PID)
- 1 x 1A 240VAC Automatic cleaning control
  - Fuses 4 x 1A (type: MXT), max 10A breaking capacity
  - LED status indicators flash when relays are active

**Fail-Safe**
- Dedicated relay output, 1A 240 VAC
- mA output value used to signal a system fault (NAMUR < 3.6mA or > 21.0mA)

**Network Interface (remote communications):**
- TCP/IP, 10Base-T and 100Base-TX Link
- Connector: RJ45
- Protocol:
  - 1) HTML interface using native protocol over TCP/IP
  - Java applet version 6 update 202 or later required
  - 2) MODBUS server (slave) over TCP/IP (V1.1b3 compliant)
    - Functions: 0x03, 0x04, 0x2B/0x0E - conformity 0x01

**Operating Conditions**
- Ambient temperature: 0°C to +50°C (32°F to 122°F)
- Transport: -20°C to +70°C (-4°F to 158°F)

**Power Supply**
- 100-240VAC, 50-60Hz & 22 - 30VAC/VDC
- Mains fuse: 1A (type M5), max breaking capacity 35A

**Power Consumption**
- 25VA (max.)

**Certificates**
- CE, ISO 9001:2015
- NIST-traceable validation accessory (option)

**Defender Traceability**
- NIST-traceable validation accessory (option)

**Protection**
- IP66 / EN 60529

**www.kemtrak.com**

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We reserve the right to make changes without prior notice

Kemtrak is a leading manufacturer of fiber optic measuring and automation products for the process engineering industry.

Kemtrak provides tailor made solutions to meet the needs of a wide range of industries including chemical, petrochemical & offshore, biotech, pharmaceutical, food & beverage, pulp and paper and water & environment.

Kemtrak has trained representatives and support personnel globally and is certified according to ISO 9001:2015.

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**Distributor**

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