**DCP007-UV Process Photometer**

**Benefits:**

- Ultra-low power UV analyzer
- High performance UV LED and/or pulsed xenon light source
- 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 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.

Standard features include multiple product switching, remote zeroing and signal filtering. A built-in graphical internet based interface allows remote operation, calibration, validation and data trending using a standard web browser.

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.

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**Technical Data**

**DCP007 UV Process Photometer**

**Display**

16 x 4 alphanumeric white on blue dot matrix LCD display. LED background illuminated. Measurement updates every second.

**LEDs**

- **LED 1 (green):** Power on
- **LED 2 (red):** System fault
- **LED 3 & 4 (orange):** Alarm 1 & Alarm 2
- **LED 5 (blue):** Clean / Hold

**Software Features:**

- **Auto gain:** Fully automatic photometer gain switching
- **Auto zero:** Automatically, locally or remotely activated zero
- **Calibration:** 16 linearization tables for concentration & mA output
- **Damping:** From 0 to 9999 s with noise (air bubble / particle) filter
- **Memory:** Nonvolatile - all data retained upon power failure
- **Security:** Alphanumeric password protection

**Data Logger**

- >17000 data points (timestamp, average, max. & min.), ring buffer
- Configurable log time interval 1 s to 24 hr

**Event Logger**

- >16000 events, ring buffer
- Timestamp, alarms, zeroing, cleaning, product change, calibration & system events (power, system warning & error messages)

**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 9999 s
- Auto-zero after clean option
- Hold value after clean (to equilibrate) 0 to 9999 s

**Relay Outputs**

- 1 x selectable 0 – 20 mA / 4 – 20 mA (NAMUR, max 21.6 mA)
- Optional second mA output
- Galvanically isolated, tested during final inspection to 500 VDC

**Accuracy**

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  - Resolution: 0.07 °C (0.126 °F)
  - Integral time: 0.0000 - 999 999 s
  - Control period: 2 - 99 s
  - Derivative time: 0.0000 - 999 999 s
  - Proportional gain: 0.0000 - 999 999
  - Damping: From 0 to 9999 s with noise (air bubble / particle) filter
  - Configuration: > 16 000 events, ring buffer
  - Logging: Configurable log time interval 1 s to 24 hr
  - Configuration: Configurable cleaning duration from 0 to 9999 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
- Control period: 2 - 99 s
- Proportional gain: 0.0000 - 999999
- Integral time: 0.0000 - 999999 s
- Derivative time: 0.0000 - 999999 s

**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

**Analogue Input (optional)**

- mA or 3-wire PT100
  - Range: -20 to 2000 °C (-4 to 392 °F)
  - Resolution: 0.07 °C (0.126 °F)

**Flow Cells and Process Connections**

- Standard designs include DIN Range (DIN 2633), ANSI (ASME B16.5), Te-Clamp® (ISO 2852 & DIN 32676), Straight pipe thread (DIN 10228 BSP). NPT tapered pipe thread (ANSI B 1.20.1)

**Materials**

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

**Window**

- Sapphire (UV grade)
- Ra < 0.38 μm (electropolishing available on hygienic measurement cells)

**NIST-Traceability**

NIST-traceable validation accessory (option)

**Protection**

IP66 / EN 60529

**Distributor**

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We reserve the right to make changes without previous notice

Kemtrak is a leading manufacturer of fiber optic measuring and automation products for the process engineering industry. The Company provides tailor made solutions to meet the needs of a wide range of industries including chemical, petrochemical & offshore, pharmaceutical, food & beverage, pulp and paper and water & environment. With its headquarters in Stockholm Sweden, Kemtrak has trained representatives and support personnel globally. The main manufacturing facility in Gothenburg, Sweden is certified according to ISO 9001:2008.