DCP007
Process Photometer

Benefits:

- Real time in-line measurement
- Zero maintenance measurement cells & fiber optics
- Long life LED lamps
- Lamps/wavelength easy to change

The Kemtrak DCP007 is an easy to operate industrial UV-VIS-NIR fiber optic photometer designed to accurately measure the concentration and color of process samples. Measurements are real time and in-line.

The Kemtrak DCP007 uses long life high performance LED lamps and precision fiber optics to provide drift and noise-free measurement with very high precision.

A proprietary dual wavelength four channel measurement technique and advanced digital electronics design allows deep absorbance measurement to 5 AU. A range of shorter optical path-lengths allow for deeper absorbance measurements.

Automatic compensation for sample turbidity and/or fouling of the optical windows ensures trouble free operation.

Maintenance free measurement cells with sapphire windows have no electronics or moving parts making the unit suitable for hazardous area use.

Standard features include multiple product switching, remote zeroing and signal damping. A graphical internet based interface allows remote operation, calibration, validation and data trending using a standard web browser eliminating the need to install software.

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

www.kemtrak.com
Housing
Stainless steel (EN 1.4301 (X5CrNi18-10), AISI 304 (V2A))
Captive 3 screw & external mounting brackets stainless steel
224 x 215 x 105 mm (L x W x D)
P 65 / EN 60929

Display
16 x 4 alphanumeric white on blue dot matrix 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 HTML/Java interface (TCP/IP connection via Ethernet port)

Software Features:
- Auto gain: Fully automatic photometer gain switching
- Auto zero: Automatically automatically zeroed activated zero
- Calibration: 8 Products, Concentration & mA output
- Damping: From 0 to 9999 with noise (air bubble / particle) filter
- Memory: Nonvolatile - all data retained upon power failure
- Security: Alphanumeric password protection

Data Logger
- >32,000 data points (timestamp, average, max., min.,), ring buffer
- Configurable log time interval is 1 to 24hr

Event Logger
- >16,000 events, ring buffer
- Timestamp, alarms, zeroing, cleaning, product change, calibration & system events (power, system warning & zero errors)

Automatic Cleaning Control
- Automatic cleaning sequence, triggering dedicated relay output
- Manual trigger or external trigger via digital input
- Configurable automatic cleaning interval, 15min to 24hr
- Configurable cleaning duration from 0 to 99min
- Autozero after clean option
- Hold values after clean [no equilibration] 0 to 9999

PID Controller
Control method: Pulse width modulated relay output or 0-20mA output
Control period: 2 - 99
Proportional gain: 0.0000 - 99999
Integral time: 0.0000 - 99999
Derivative time: 0.0000 - 99999

Remote Input
- 5 x Digital input (3 potential-free contact) for:
  - Input 1-3: Product Range selection
  - Input 4: Zero, Instant Zero, Clean or Clean & Zero
  - Input 5: Hold / Freeze output or Data log control

Temperature Input (optional)
3-wire Pt100 input
- 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: 255 - 500nm
- Full Width at Half Maximum (FWHM): 10 nm
- Central Wavelength (CWL) Accuracy: ±1nm
- Typical Lamp Lifetime: >100,000 hrs
- Note: Measurement wavelengths must be factory installed. Typical specifications provided for 500nm

Photometric Range
- AT 500nm, 10mm OPL: 0.000 - 5 AU

Photometric Accuracy
- AT 1 AU: ±0.001 AU
- AT 0.1 AU: ±0.0005 AU

Photometric Noise
- AT 1 AU, 35°C, 500nm: ±0.0001 AU

Linearity
- ±0.5% of respective measuring range

mA Output
- 1 x selectable: 0 - 20 mA, 4 - 20 mA (NAMUR, max: 21.6mA)
- Option 3: mA output
- Galvanically isolated, tested during final inspection to 500 VDC
- Accuracy: ±0.1 %
- Resolution: 0.0025 %
- Load: 0 - 600 Ohm

Relay Outputs
- 1 x 240 VAC FailSafe output (active when system is ok)
- 1 x 240 VAC User configurable (alarm, PID)
- 1 x 240 VAC Automatic cleaning control
- Fuses: 4 x 1A (Type: XT), max: 100A breaking capacity

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

Network Interface (remote communications):
- TCP/IP, 10Base-T1 and 10Base-TX Link:
- Connection: RJ45
- Protocol:
  1) HMI/Java interface using native protocol over TCP/IP
  2) MODBUS server (slave) over TCP/IP (V1, V2, V3 Compliant)

Operating Conditions
- Ambient temperature: 0°C to +50°C (32°F to 122°F)
- Temperature: -20°C to +70°C (4°F to 158°F)
- Power Supply: 100 - 240V AC, 50-60Hz, 1A
- Mains fuse: 1A (Type M7), Max breaking capacity 35A
- Power Consumption: 25 VA (max.)

Certificates

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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 & 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 9001:2000.