

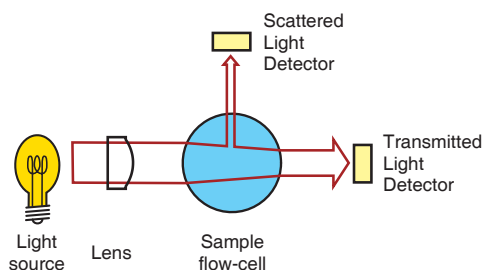
Kemtrak TC007 Complete Turbidity Control



Main features:

- Real time in-line turbidity measurement
- ISO7027:1999(E) compliant
- Zero maintenance
- Extensive range of industrial manifolds
- Simple menu based interface
- Data & event logger for quality control
- Integrated PID controller
- Remote process control functions
- Alarm signals for data and system

The Kemtrak TC007 turbidimeter is a robust in-line turbidimeter designed for a wide range of industrial process applications. Optic fibers are utilized to pipe the light from within the TC007 enclosure to the sampling point and back permitting safe operation in even the most hazardous of environments.



Either transmitted light, or alternatively, a combination of both transmitted light and scattered light is measured and mathematically combined using a ratio algorithm to calculate the turbidity of the sample. The Kemtrak TC007 can also be configured to comply with International Standard ISO7027:1999(E) defining the measurement of turbidity in water.



KEATRAX

Typical Applications

Food & Beverage Centrifuge and filtration control, extractor monitoring, ion exchange monitoring, solids concentration, product carryover detection, milk solids monitoring, heat exchanger leak detection, process & effluent water monitoring, product quality control.

Chemical Oil/water interface detection, heat exchanger leak detection, polymer & flocculent dosing control, effluent & process water monitoring.

Pharmaceutical Centrifuge, filtration & phase separation control, biomass concentration monitoring, process water monitoring.

Water & Environment Filtration control, flocculent dosing control, total suspended solids, interface detection, sedimentation control.



Housing

Glass-fibre reinforced polyester (polyester front panel)
Captive lid screws & external mounting brackets stainless steel
220 x 120 x 90 mm (L x W x D)
IP 65 / EN 60529

Display

16 x 2 alphanumeric dot matrix LCD display
LED background illuminated
Display update 0.5 seconds
LED 1 (green): power on
LED 2 (red): alarm
LED 3 (red): clean

Operation

4 push buttons

Software Features:

- Auto zero: locally or remotely activated zero
- Calibration: concentration & mA output
- Damping: from 0 to 999s with spike (air bubble) rejection filter
- Memory: Non volatile - configuration and logged data retained upon power failure

Data Logger

- 10 000 data points (timestamp, average, max. & min.), ring buffer
- Configurable log time interval 1s to 24hr

Event Logger

- 10 000 events
- Alarms, zeroing, cleaning, calibration & system events (power, system failures, temperature)

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

PID Controller

Control method: Pulse width modulated relay output or 0/4-20mA output
Control period: 0 - 99s
Proportional band: 0.00 - 999.99
Integral time: 0.00 - 999.99s
Derivative time: 0.00 - 999.99s

Light Source

Infrared Laser Diode
Lasing wavelength: 850nm ±5nm
Spectral width (FWHM): 0.2nm
Typical lamp lifetime: >10 000 hrs

Photodetector

Silicon photodiode (UV-VIS)

Measurement Method

Transmitted light or ratio nephelometric algorithm using both scattered and transmitted light.
ISO7027:1999(E) scattered light measured at 90°.

Measurement Range

1 - 10,000 NTU (depending upon flowcell configuration)

Resolution

1 NTU

Accuracy

< ±2% of reading plus stray light from 20-1000NTU

Repeatability

< ±1% of reading or 1NTU, whichever is greater

Remote Inputs

- 1 x Digital input (potential free contact) for:
- Auto clean
 - Zero
 - Freeze output

mA Output

1 x 0/4 - 20 mA galvanically isolated
Accuracy: <0.2%
Resolution: < 0.05%
Load: 0 - 400 Ohm

Relay Outputs

2 x 0.2A 240VAC User configurable (alarm, PID, system fault)
1 x 0.7A 240VAC Automatic cleaning control
PTC resistor fuses protect short circuit
LED status indicators flash when relays are active

Fail-Safe:

Relay output & 0/4-20mA value

PC Communications

USB (mini-USB connector)

Operating Conditions

Ambient temperature: -10°C to +50°C
Transport: -20°C to +70°C

Power Supply

115/230V AC selectable, 50-60Hz, 1A

Power Consumption

25 VA (max.)

Certificates

ISO 9001:2000, CE

Manifolds

Standard designs include ANSI Flange, DIN Flange, Tri-Clamp, Straight Pipe Thread DIN ISO 228/1 G, Sanitary Thread (DIN 11851). Line size up to 4" (DN100).

Materials

Wide selection available - including 316 Stainless Steel, TFMC (carbon-filled Teflon®), Kynar®, PEEK, PCTFE, Monel®, Hastelloy C®, Titanium

Window

Quartz & sapphire glass

Elastomers

Viton®, EPDM, Kalrez®, NBR, Fluoraz 797®, Silicone, and others

Operating Conditions

Ambient & process temperatures up to 250°C
Process pressure from 10 mbar to 150 bar
Operating conditions subject to material and designs in use

Fibre Optic cable

Stainless steel monocoil or Kevlar reinforced PVC for strain relief and protection. Terminated with SMA 905 connectors 5m (standard) to 50m (max.). Up to 250°C max. operating temperature depending upon configuration.

Protection

IP66 / EN 60529, ATEX (option)



Kemtrak AB • Box 2940 • SE-187 29 Täby • Sweden
Info@kemtrak.com • www.kemtrak.com

We reserve the right to make changes
without previous notice

Distributor