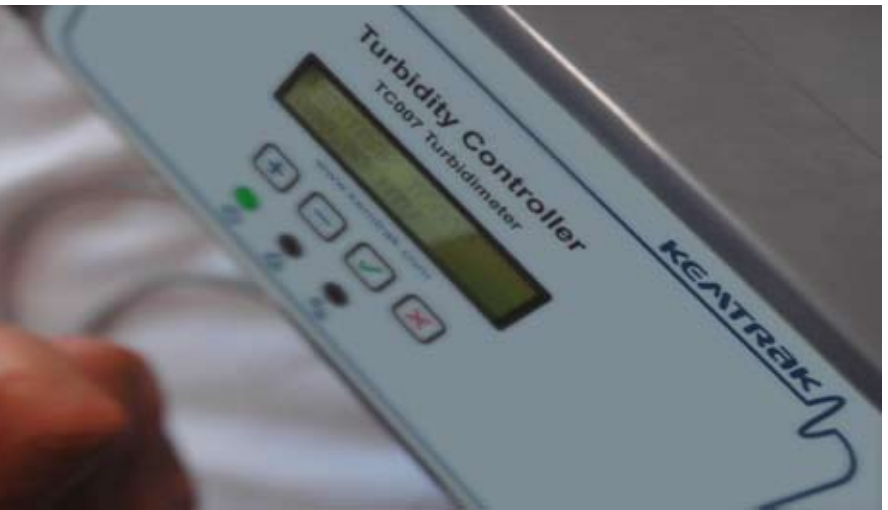


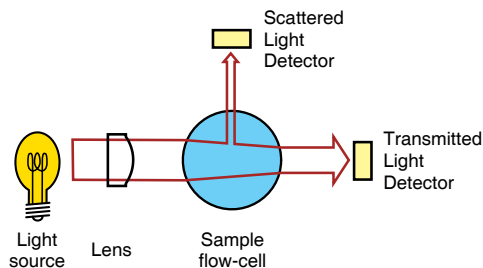
# Kemtrak TC007 Complete Turbidity Control



## Main features:

- Real time in-line turbidity measurement
- No maintenance
- Reliable and robust infrared LED lamp
- Fiber optics - no condensation & intrinsically safe (ATEX)
- Extensive range of sensor designs and materials
- Integrated PID controller
- Alarm signals for data and system failures
- ISO 7072:1999(E) compliant

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)



## KEATRak

### 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.



Kemtrak TC007  
turbidimeter with  
TriClamp (DIN 32676)  
DN80 flowcell

#### Housing

Glass-fibre reinforced polyester & polyester front panel  
Captive lid screws & external mounting brackets stainless steel  
220 x 120 x 90 mm (8.66 x 4.72 x 3.54 inch) 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: Automatic, local or remote zero
- Calibration: Turbidity & mA output
- Damping: from 0 to 9999s with noise rejection filter
- Memory: Non volatile - configuration and data retained upon power failure

#### Data Logger

- 6 900 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, high/low system temperature)

#### Automatic Cleaning Control

- Automatic cleaning sequence with 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
- Hold 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 gain: 0.0000 - 999 999  
Integral time: 0.0000 - 999 999s  
Derivative time: 0.0000 - 999 999s

#### Light Source

High performance infrared LED lamp  
Wavelength: 880 nm  
Typical lamp lifetime: >100 000 hrs

#### Photodetector

Silicon photodiode

#### Measurement Method

Attenuated light, scattered light or a combination of both using a nephelometric ratio algorithm  
ISO7027:1999(E) measuring scattered light 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 Input

- 1 x Digital input (potential free contact) for:
- Auto clean
  - Zero
  - Hold 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 0.5A 240VAC User configurable (alarm, PID, system fault)  
1 x 0.5A 240VAC Automatic cleaning control  
PTC resistor fuses in series with the relays  
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 (14°F to 122°F)  
Transport: -20°C to +70°C (-4°F to 158°F)

#### Power Supply

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

#### Power Consumption

25 VA (max.)

#### Certificates

ISO 9001:2000, CE, ATEX (option - I I 2 GD EExd-IIB-T5 IP65)

#### Manifolds

Standard designs include ANSI Flange (ASTM B 16.5 150 lbs), DIN Flange (DIN 2633), Tri-Clamp (ISO 2852), Sanitary Thread SC (DIN 11851), Straight Pipe Thread (DIN ISO 228 BSP).  
Line size up to DN100 (4 inch).

#### Materials

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

#### Window

Sapphire glass

#### Elastomers

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

#### Fibre Optic cable

Flexible stainless steel monocoil or Kevlar reinforced PVC jacketing for strain relief and protection terminated with SMA 905 connectors. Lengths up to 50m (164 foot).

#### Operating Conditions

Ambient & process temperatures up to 200°C (392°F)  
Process pressure from 10 mbar to 150 bar (0.15psi to 2 175 psi)  
Operating conditions subject to material and designs in use.

#### 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



P.O. box 195  
NL - 4250 DD Werkendam

Phone +31.183.500.331 www.techmation.nl  
Fax +31.183.500.342 sales@techmation.nl