

FL007 Glycol Leak Detector

FEATURES

- Trace leak detection with ppb sensitivity
- Real-time inline measurement
- Not affected by rainwater, salt or other additives
- No false positives from rust, air bubbles or particulates
- Suitable for hazardous area use
- Alarm, 4-20 mA and Modbus TCP communications



Glycol coolants circulate as heat-transfer fluids throughout industrial cooling systems. A leak can carry glycol into the cooling water, surface runoff, or even the product itself, where safety matters most. Left undetected, a slow leak can persist for months, making early detection at the source essential.

Fluorescence works by dosing a fluorescent tracer into the coolant. Because the dye is only present in the coolant, detecting it in the cooling water, condensate return, or rainwater runoff reveals a leak. It is highly specific and reaches ppb sensitivity, independent of inhibitors or variable rainwater composition. An FDA-approved fluorescent tracer can even be detected in the product in the event of contamination. Its one prerequisite is that the coolant carries a compatible tracer; however, many commercial coolants are already pre-dyed.

Environmentally friendly, long-life LED light technology ensures drift-free operation with exceptionally high precision. The immersion probe has the same dimensions as industry-standard Ø12 mm PG 13.5 pH sensors, allowing a range of standard fittings and retractable probe holders to be used. Scratch-resistant sapphire optics, the absence of on-board electronics, and no moving parts make it suitable for both ordinary and hazardous-area use.

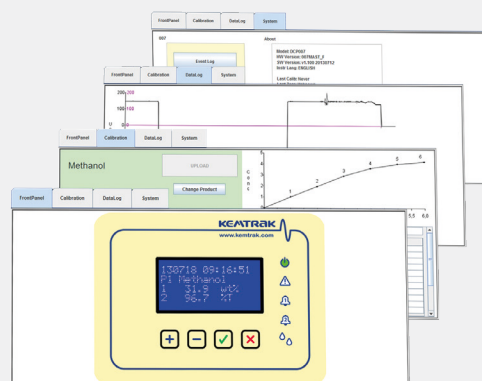


Standard features include remote zeroing, automatic cleaning cycles, and advanced signal filtering. An on-board web-based utility allows remote operation, calibration, validation, and data trending from a standard PC. Modbus TCP is standard, with EtherNet/IP or PROFINET optional.

All Kemtrak products are built from the highest quality materials for exceptionally long life and reliability. Every analyzer ships with an auditable calibration certificate — the traceable, quantifiable evidence operators need to meet their discharge-permit limits and ISO 14001 obligations. Validation caps enable routine verification, documented year after year.

TYPICAL APPLICATIONS:

- Heat exchangers and chillers
- Cooling water & condensate return
- Product contamination
- HVAC and district heating/cooling
- Data center cooling loops
- Environmental discharge monitoring



FL007

Glycol Leak Detector

DISTRIBUTOR

TECHNICAL DATA

HOUSING

Stainless steel EN 1.4301 (X5CrNi18-10), AISI 304 (V2A)
Cam lock with double bit insert & external mounting brackets
224 x 215 x 125 mm (L x W x D)
IP 65 / EN 60529

DISPLAY

16 x 4 alphanumeric white 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

Menu based with 4 operator buttons
Remote HTML/Java interface (TCP/IP connection via Ethernet port)

SOFTWARE FEATURES

Auto gain: Fully automatic signal gain controller
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 during clean 0 to 9999 s
Hold value after clean (to equilibrate) 0 to 9999 s

PID CONTROLLER

Control method: Pulse width modulated relay output or 0/4-20mA 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 or light source control

LIGHT SOURCE

High performance Light emitting diodes (LEDs)
Typical lamp lifetime >30000 hrs

FLUORESCENCE

Measuring principle: Fluorescence
Excitation: 470 nm
Detection: 520 nm
Detection limit: 10 ng/L (ppt) fluorescein*
1ppm coolant solution (leak)
containing 10ppm fluorescein*

* Fluorescein sodium salt, CAS number 518-47-8

TURBIDITY

Measuring principle: Backscatter turbidity
Nominal Range: 0 - 10000 FTU
Resolution: Typically < ± 0.5 FTU

ACCURACY

Typically <±2 % of reading

mA OUTPUT

1 x selectable 0 - 20 mA / 4 - 20 mA
NAMUR NE43 compliant
Galvanically isolated, 500 VDC
Accuracy: <0.1 %
Resolution: 0.025 %
Load: 0 - 600 Ohm

RELAY OUTPUTS

1 x 1 A 240 VAC Failsafe output (active when system is ok)
2 x 1 A 240 VAC User configurable (alarm, PID)
1 x 1 A 240 VAC Automatic cleaning control
Fuses: 4 x 1 A (type: MXT), max 100 A breaking capacity
LED status indicators flash when relays are active

FAIL-SAFE

Dedicated relay output, 1 A 240 VAC
mA output value used to signal a system fault
mA outputs compliant to NAMUR NE43

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® version 8 update 202 or later required
2. MODBUS slave over TCP/IP (V1.1b3 compliant)
Functions: (0x03, 0x04, 0x2B/0x0E - conformity 0x01)
3. Option: EtherNet/IP™ and PROFINET®

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 - 240 VAC, 50-60 Hz & 22 - 30 VAC/VDC
Mains fuse: 1A (type MST), Max breaking capacity 35A

POWER CONSUMPTION

25 VA (max.)

CERTIFICATES

CE & RoHS compliant
Calibration Certificate

PROCESS MEASUREMENT PROBE

PROCESS CONNECTION

Compatible with industrial pH sensor dimensions
DIN 19263:2007-05, Ø12 mm, PG13.5.
Standard probe length 120±2 mm, 225 mm, 325 mm & 425 mm
Custom lengths available on request

MATERIALS

Wetted surfaces in Stainless EN 1.4435 (316L) or Hastelloy C-22

WINDOW

Sapphire

SURFACE FINISH

Ra <0.38 µm (polished)

ELASTOMERS

FPM (FKM/Viton®, FDA), FFKM (Chemraz®, Kalrez®, FDA), EPDM (FDA)

OPERATING CONDITIONS

Ambient & process temperatures up to 200 °C (392 °F)
Process pressure from 10 mbar to 50 bar (0.14 - 725 psi)
Operating conditions subject to material and design in use

FIBER OPTIC CABLE

Silica core photonic fiber with Kevlar® reinforced flexible LZSH coated stainless steel jacket.
Fully-interlocked stainless steel conduit for use above 85 °C (185 °F).
Terminated with SMA 905 connectors.
Lengths up to 5 m (16 foot)

PROTECTION

IP66 / EN 60529

Kemtrak is the leading manufacturer of high performance LED based industrial photometers 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.