

Signet 3-4150 Turbidimeter Troubleshooting Guide

Signet 4150 Fault Detection

The Signet 4150 performs continuous diagnostic monitoring. There are three levels of fault detection: warnings, errors and failures.

Warning

A warning is simply a screen indication of a problem. The measurement is not interrupted and no alarms are activated.

- When the desiccant becomes saturated, a screen warning of **DESC** will appear.

Error

An error indicates a failure or a problem that usually can be corrected. These errors include:

- 4 to 20 mA loop open (**MA**)
- Bad calibration (**CAL**)
- Desiccant alarm activated and replacement required (**DESC**)
- Ultrasonic transducer is not making contact or the flow through cuvette has been removed (**CLN**)
- Lamp out (**LAMP**)

The source lamps in the Signet 4150 are designed for long life. The IR lamp is rated for 10 years and the white light version is rated for 7 years.

Replacing the lamp involves significant disassembly and handling delicate components.

We recommend returning the unit to the factory for this service. If field replacement is required, contact the factory for assistance.

If any of these conditions occurs, both relays will be set to the alarm state and the 4 to 20 mA output be held at the Error Level (ERLV) selected in the Options Menu (if 4 to 20 mA is selected).

System FAIL Message

A failure is a system fault. This is NOT a problem that the operator can correct, and the unit must be returned to the factory for service.

If a failure occurs, the instrument will not function properly and will display the word **FAIL** on the lower row. Both alarm relays will be activated and the 4 to 20 mA output will be held at the Error Level (ERLV) selected in the Options Menu (if 4 to 20 mA is selected).

Troubleshooting

Symptom	Possible Cause	Solution
Lower display shows NoMA	4 to 20 mA open loop warning when 4 to 20 mA is enabled in Options Menu	Check Loop wiring or turn off in Options Menu
Lower display shows DESC	High condensation	Check for leaks or replace desiccant pouch
Lower display shows LAMP	Lamp failed	Contact factory for assistance
Lower display shows FAIL	Major system fault	Return to factory for service
Readings are higher than expected	Bubbles in solution	Ensure that the drain vent is open and is not obstructed.
	Condensate or leaky cuvette	Apply back pressure Check flow through cuvette for condensate or leaks.
	Flow through cuvette dirty	Clean cuvette.
	Instrument out of calibration	Recalibrate
Readings are erratic	(1) Bubbles in solution (2) Debris in flow through	(1) See above (2) Clean debris from cuvette
Readings are lower than expected	Instrument out of calibration	Recalibrate.
Display shows "Err CAL"	Calibration error or bad standard used	Press the up key to recalibrate (see calibration) or replace the standard.
Upper display flashes	Sample Over-Range	Check sample. Sample may be too high to read.