pH and Conductivity Analyser Fault Finding Guide

Vendor neutral fault finding guide for field technicians

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Before you start

- Permit, isolation and control room informed.
- Put the loop in manual or inhibit trips as authorised.
- Use certified test equipment in hazardous areas.
- Record as found readings before changing anything.

Quick checks

- Slope and offset from last calibration?
- Sensor clean and wet?
- Temperature reading correct?
- Analyser and lab agree?

Symptoms, causes and fixes

Symptom	Likely causes	Checks and fixes
Low slope	Aged or coated glass, old buffers	Clean; fresh buffers; replace if below limit
Large offset	Reference poisoned or junction blocked	Clean junction; replace sensor
Slow response	Coating, dry glass, cold sample	Clean and rehydrate; check temperature
Drifting	Reference problem, ground loop, flow effects	Check solution ground; isolate; stable flow
Conductivity reads low	Coating, air in cell, wrong cell constant	Clean; remove air; calibrate
Temperature wrong	Faulty temperature sensor or wiring	Compare with thermometer; fix wiring

Limits often used

- pH slope about 90 to 105 % of Nernst.
- pH offset within about ± 30 mV.
- Conductivity standard within ± 2 % after calibration.