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GLI International
A Hach Company Brand

E53 Analyzer and 3700E-Series Electrodeless Conductivity Sensors

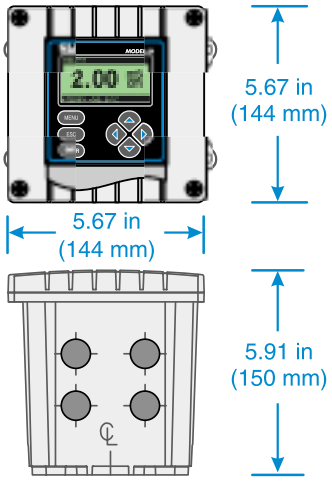
WE'VE GOT HART® FIELD COMMUNICATIONS PROTOCOL ABILITY

Reduce Maintenance Costs

The Model E53 is a full-featured, easy to use Electrodeless Conductivity Analyzer. This versatile analyzer can measure conductivity, total dissolved solids, or concentration in percent. The large backlit graphic LCD displays the measured process value and temperature, both analog output values, and the status of up to four relays. Menu screens contain up to six full lines of text to logically guide the user through setup, calibration, and operation. The analyzer also features built-in or custom concentration tables, multiple language operation, an RS-232 output, and optional HART® communication capability.

The Model 3700E-series Electrodeless Conductivity Sensors use an innovative measurement technology that eliminates polarization and electrode coating problems that commonly affect conventional contacting electrode-type sensors. Chemical compatibility concerns for these rugged, non-fouling sensors are simplified because only one wetted material contacts the process media. Available body materials are polypropylene, PVDF, PEEK®, or PFA Teflon®.

CE

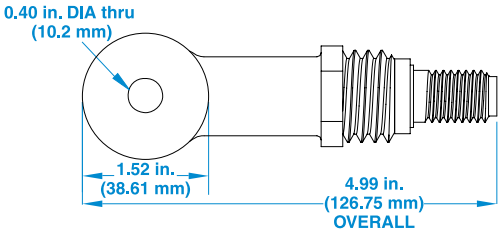


E53 Analyzer

- **Built-in or user-defined concentration tables**
- **Multiple language capability**
- **Menu-guided operation**
- **Four temperature compensation methods**
- **Simple interactive diagnostics**

Specification Highlights

Display: Backlit dot matrix LCD
Measurement Units:
µS/cm, mS/cm, S/cm, %, and ppm
Ambient Temperature:
-20 to 60°C (-4 to 140°F)
Temperature Compensation:
Auto/Manual, -10 to 200°C (14 to 392°F)
Relays: Electromechanical
Standard: Two SPDT
Optional: Two additional SPDT
Analog Outputs:
Two isolated 0/4–20 mA
Communication:
Standard: RS-232
Optional: HART® Protocol
Power: 90–130 or 180–260 VAC, 50–60 Hz.
Analyzer Performance:
Accuracy: 0.5% of span
Stability: 0.2% of span/24 hrs.
Repeatability: 0.1% of span
Enclosure: 1/2 DIN, NEMA 4X (IP65) with hardware for surface, panel, or pipe mounting
Weight: ~3.5 lbs (1.6 kg)



Convertible Style Sensor pictured

3700E-Series Electrodeless Conductivity Sensors

These sensors measure from 0–2,000,000 microSiemens/cm.

- **Unique electrodeless technology**
- **Available in polypropylene, PEEK, PFA Teflon®, or PVDF wetted materials**
- **Standard 20-foot integral cable**

Specification Highlights

Sample Temperature:
-10 to 200°C (14 to 392°F)
Pressure Range:
200 psig at 302°F
Accuracy:
±0.01% of reading, all ranges
Wetted Materials:
Polypropylene, PEEK, PFA Teflon®, or PVDF
Weight: ~1 lb. (0.45 kg)

Ordering Information

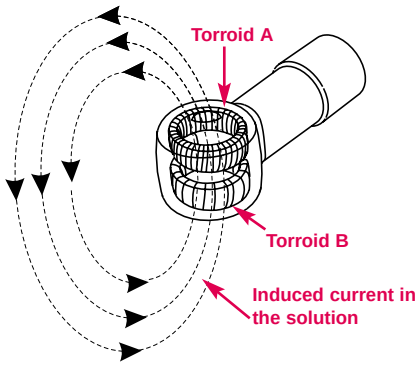
E53 Analyzer:
E53A2A1N

3700E-Series Electrodeless Conductivity Sensors:

For a complete listing of options, mounting configurations, and accessories, please contact GLI International, Inc.

Electrodeless Technology

Electrodeless sensors induce a low current in a closed loop of solution, then measure the magnitude of this current to determine the solution's conductivity. The conductivity analyzer drives Torroid A, inducing an alternating current in the solution. This current signal flows in a closed loop through the sensor bore and surrounding solution. Torroid B senses the magnitude of the induced current which is proportional to the conductance of the solution. The analyzer processes this signal and displays the corresponding reading.



Since this style sensor has no electrodes, problems with contacting type electrodes—such as polarization, oily fouling, process coating, and contamination—will not affect the performance of the electrodeless sensor.

GLI offers electrodeless sensors for solutions with conductivity as high as 2,000,000 microSiemens/cm, and with a temperature between 0 and 200°C. All models are automatically temperature compensated over this range.