

DIALYSIS SENSOR SOLUTIONS

WHERE INNOVATION MEETS RELIABILITY, FOR BETTER PATIENT OUTCOMES.

At TE Connectivity (TE), we understand the profound responsibility that comes with designing dialysis machines - machines that are not just equipment, but lifelines for those who depend on them. We know that for the design engineers striving to create these vital systems, each decision is about more than just components and specifications; it's about creating machines that can be trusted and that help to improve patient lives.



Accuracy

By providing precise control and measurement in the dialysis processes, we empower manufacturers to deliver safer, more personalized patient care. With sensors providing as low as $\pm 0.05\%$ FS deviation, we can help confirm each dialysis treatment is fine-tuned to the specific needs of every patient.



Ease-of-Use

Knowing a sensor is only as good as its usability, our products are designed with a keen focus on ease of use. Through a variety of configurations and packages, our sensors are built to seamlessly integrate into your designs, supporting smooth operations and minimal downtime.



Low-Drift and High Durability

TE's featured dialysis sensors are built to endure the demands of daily use and deliver steadfast performance, treatment after treatment. Among the wide range of sensors, we offer options with a notably low total error band of just $\pm 1.0\%$ and minimal drift. These select sensors serve as a testament to our commitment to precision, showcasing their robust performance and enduring reliability.



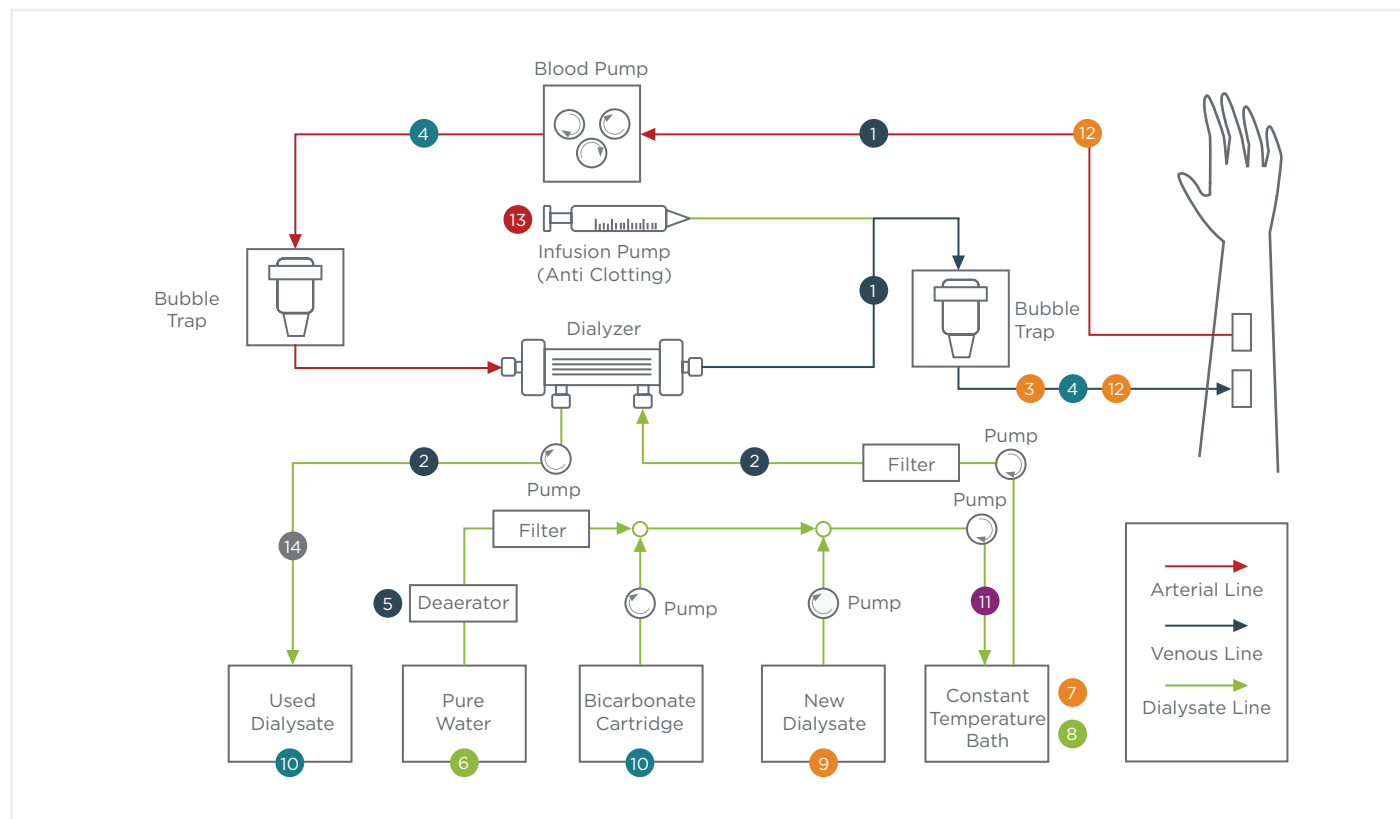
Cost-Effective

We believe that high-quality healthcare should be accessible to all, and that affordability and high performance are not mutually exclusive. Our cost-effective solutions aim to ensure that cutting-edge dialysis technology can reach more patients, improving outcomes without compromising on affordability.

DIALYSIS APPLICATION

Healthcare professionals and patients depend on manufacturers for straightforward, easy-to-use dialysis solutions, whether for hemodialysis or peritoneal dialysis, in-facility or at-home use. Our comprehensive range of sensor solutions provide precise measurements at every crucial step, reinforcing device reliability and enhancing patient comfort for the long-term. Our commitment to accuracy and reliability supports the dependable performance of your dialysis machines, contributing to improved patient care throughout the dialysis process.

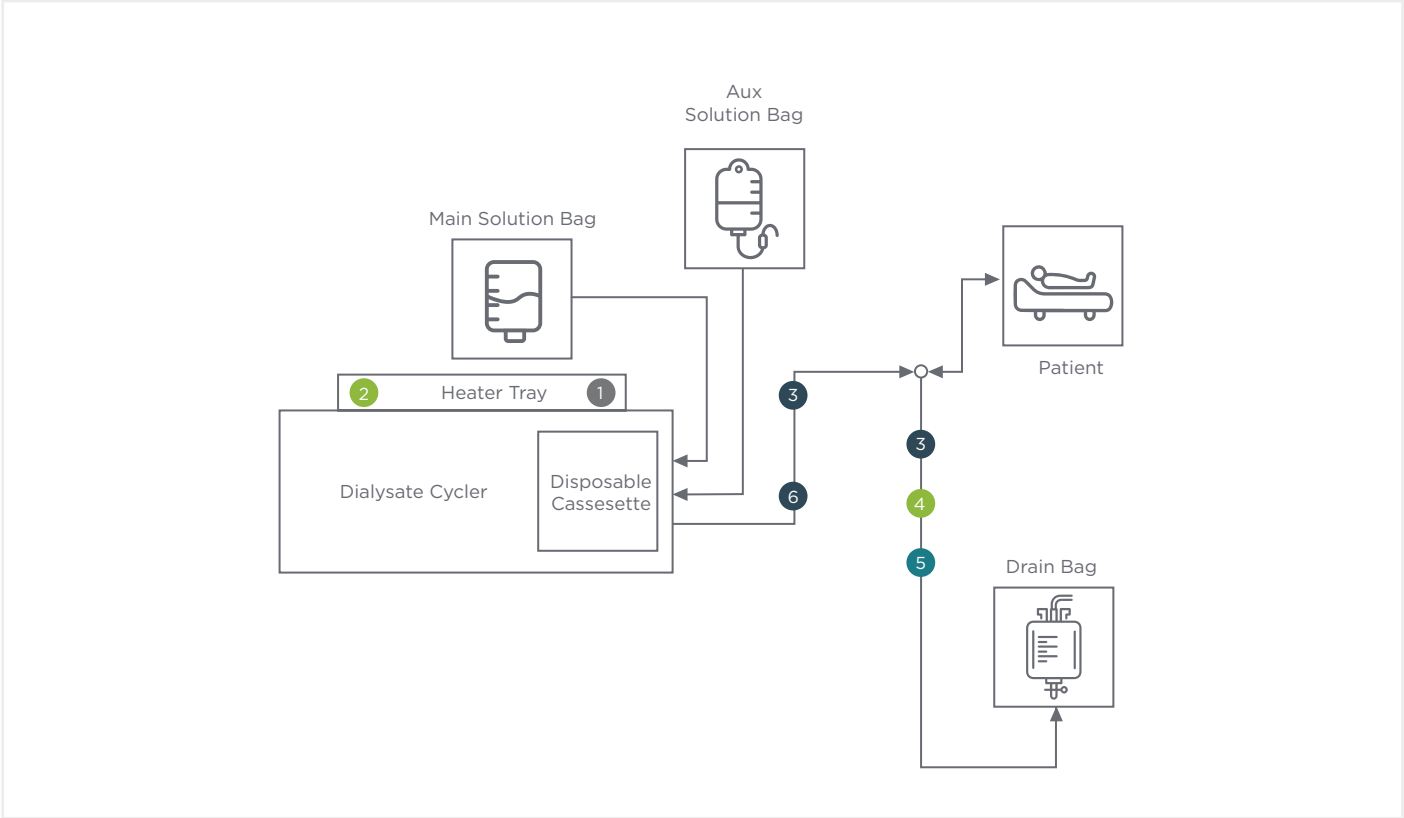
HEMODIALYSIS



U Ultrasonic
 P Pressure
 F Force
 T Temperature
 C Conductivity
 P Position
 O Optical

- | | | | |
|---|---|---|--|
| 1 Blood Pressure: -400 to +600 mmHg | 5 De-gas Pressure: -400 to +600 mmHg | 9 Non-invasive Level Sensor (U/S or MR) | 13 Position Sensor/Resolver (Plunger Position) |
| 2 Dialysate Pressure: -400 to +600 mmHg | 6 Temp Sensor (SST Housing/RTD): 0° to 70° C | 10 Container Weight | 14 Blood Leak Detector |
| 3 Air Bubble Detector | 7 Invasive Level Sensor (Ultrasonic Switch) | 11 Conductivity Sensor | |
| 4 Occlusion Force | 8 Temp Sensor (SST Housing/RTD): 0° to 100° C | 12 Non-invasive Liquid Flow: 50 to 500 mL/min | |

PERITONEAL DIALYSIS



○ Optical ● T Temperature ● P Pressure ● F Force

1 Optical/Force Sensor

2 Temp Sensor (SST Housing/RTD): 0° to 70° C

3 Dialysate Pressure: -400 to +600 mmHg

4 Temp Sensor (SST Housing/RTD): 0° to 70° C

5 Impedance/Conductivity Sensor

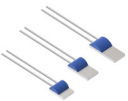
6 Non-invasive Liquid Flow: 50 to 500 mL/min

FEATURED DIALYSIS SENSORS

Dive into our carefully curated list of featured products, each one packed with unique features and advantages to transform your next dialysis device design. To fully appreciate the exceptional precision and reliability that set our sensors apart, order a free sample by simply clicking 'Order Free Samples'.

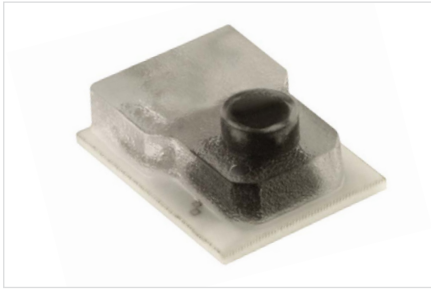
ORDER FREE SAMPLES 

Sensor Technology		Application	Key Product Features	Benefits
Ultrasonic AD-102 Air Bubble Detector		Non-invasive continuous monitoring of fluid for air bubble detection with a tube	- High sensitivity bubble detection resolution - Customizable tubing sizes ranging from 3mm to 10mm, with 6mm as standard - On demand and continuous self- diagnostic tests - High noise immunity to EMI/RFI - Non-invasive design - Integrated electronics - Versatile, fits various designs - LED indication of wet-dry condition	- Enables accurate, reliable bubble detection, enhancing patient safety - Offers versatility and customization for a wider range of medical applications - Eliminates sterility and fluid compatibility concerns, enhancing usability - Provides accurate and reliable results even in noisy environments - Enhances accuracy with on-demand and continuous self-tests - Eliminating false positives and saving time on unnecessary troubleshooting - Adaptable design, seamless integration
Pressure 85BSD-F		Flow rate measurement	- Flush Mount ±0.25% Accuracy ±1.0 Total Error Band - Cable/Connector Option - Low Power Option - I²C or SPI Interface Protocols	- Easy installation, streamlined design - Precise flow rate, optimal treatment - Reliable readings, minimal errors and reliable care - Flexible integration, easy maintenance and replacement - Energy-efficient, eco-friendly - Easy integration, efficient data transfer
Force FS10 Miniature Force		Occlusion Detection	- Surface-Mount Device (SMD) - Microfused Strain Gage Technology - High Overload Rating - Low Power Consumption - Excellent Life Cycle - Stainless Steel Design - Rugged Sensing Element	- Enables automated pick-and-place assembly, suitable for high-volume manufacturing - Long-term stability and durability - Precise force sensing - Compact design allows easy integration into various medical devices - Consistent performance over extended operational life - Safeguards the sensor from damage due to excessive force - Suitable for battery-powered and portable medical devices
Force Force Load Cell FS19		Occlusion detection	- All stainless steel construction - Small compression load 500G to 3000G range - High sensitivity 20 mV/V - Non-linearity +/-1% FS - Strain gage 2200 Ω bridge - Flex cable for tight space - Small size - High overload - Low deflection - Long Life - Low Cost	- Durable, corrosion-resistant and long-lasting reliability - Versatile, adaptable to system requirements - Accurate readings, supports precise treatment - Consistent, reliable measurements and patient care - High resolution, precise treatment data - Fits tight spaces, less invasive and easy installation - Compact design, flexible integration for a facility or at-home devices - Tolerates high loads, robust, promotes uninterrupted treatment - Minimal displacement, accurate readings for optimal care - Durable, reduces replacement frequency and treatment disruptions - Affordable, high value for cost
Force Force Load Cell FS20		Occlusion detection	- Small Size, Low Noise - Robust, High Reliability - High Over-Range Capability - Low Deflection - Essentially Unlimited Cycle Life Expectancy - Low Off Center Errors - Fast Response Time - Industry Standard Packaging 500 to 5000 Grams-Force Range - Reverse Polarity Protected	- Compact, quiet operation, patient comfort - Consistent performance, dependable patient care - Accurate under high loads, precise treatment - Minimal displacement, accurate readings - Long-lasting, uninterrupted patient care - Enhanced accuracy, reliable treatment - Prompt adjustments, real-time care - Easy integration, consistent quality - Versatile, adaptable to patient needs - Safe operation, protects patient care

Sensor Technology		Application	Key Product Features	Benefits
Force Force Load Cell FX29		Occlusion detection	- Compact Design - mV, Amplified Analog and Digital Outputs - Optional I²C Digital Interface - Exceptional Value - Robust Construction - High Over Range Capability	- Space-saving, flexible in medical settings - Versatile outputs, optimal control - Easy integration, efficient data transfer - Affordable, enhances patient accessibility - Durable, reliable for patient care - Handles high loads, precise, safe treatment
Temperature PT1000		Monitor and control of temperature of infusion liquids	- Complies with DIN EN 60751 - Wide operating temperature range: -50°C to +600°C - Standard base resistance at 0°C: 1000Ω - Class F 0.1 (T = AA), F 0.15 (A), F 0.3 (B) and F 0.6 (C) options - Variety of standard outline dimensions available to fit a wide range of space requirements - Global interchangeability	- Adheres to quality standards, reliable performance - Versatile, adaptable to conditions - Consistent readings, accurate temperature control - Various accuracy options, precise calibration and design flexibility - Seamless integration, design flexibility - Simplified replacement, lowers downtime, consistent performance
Temperature Discrete NTC Series 1		Monitor and control of temperature of infusion liquids	- Interchangeability - Proven stability and reliability - Rapid time response - Alloy lead wires for reduced thermal conductivity ("stem effect") - Thermally conductive epoxy coating - Temperature range -40°C to +125°C - Custom probe assemblies available - Ø 2.4 mm Maximum Diameter 32 AWG Alloy 180 Leads - Four Temperature Tolerance Classifications Available - RoHS Compliant	- Easy sensor replacement, less downtime - Consistent performance for trusted care - Real-time monitoring, responsive treatments - Reduced thermal conductivity, enhances accuracy - Improves temperature response, precise readings - Accurate measurements under various conditions - Design flexibility, easy design integration - Fits compact spaces, flexible design - Reliable connections, durable performance - Options for precision requirements - Adheres to safety standards, environmentally safe, sustainable design
Ultrasonic LLO1		Monitor Dialysate Level and help Control Fluid Delivery	- High pressure up to 250 PSIG (1724 Kpa) - No moving parts, easy to install - Input 5 to 30 VDC - Filter techniques enhance performance 3.3 volt input power - Electropolishing - Higher pressure up to 500 PSIG (3447 Kpa) - Relay output, 0.5 amp SPST – NO or NC	- Tolerates high system pressures. - Enhances durability, simplifies assembly. - Broad input range, design flexibility. - Reduces noise, increases measurement reliability. - Compatible with low voltage designs. - Improves contamination resistance. - Improved design flexibility and range of applications. - Easy interface, design flexibility for control tasks.
Board-Mount Pressure Sensor HCE/HDI Series		Monitor and control the pressure of the dialysis fluid and blood flow	- Pressure ranges from 10 mbar to 5 bar, absolute, gage or differential pressure ±0.5% Full-Scale Accuracy - mmHg pressure ranges available - Digital SPI bus and analog output (HCE) - Digital I²C bus and analog output (HDI) - Precision ASIC signal conditioning - Calibrated and temperature compensated - Miniature SMD housings (HCE) - SMT and DIP housings (HDI)	- Enables design flexibility, safety, and supports optimal pressure - Enhances dialysis effectiveness with precise measurements - Offers application-specific calibrations - Allows versatile integration and reliable readings - Simplifies sensor integration, boosts reliability, and supports varied designs - Improves efficiency and safety via accurate signals - Saves time, ensures consistent operation, temperature-independent - Supports compact designs requirements for user convenience - Provides flexible sensor mounting, contributing to compactness and user-friendliness

VITAL SIGNS MONITORING SENSORS

Imagine a world where dialysis is not just treatment, but an opportunity for unparalleled patient care. If you're looking to stand apart from the competition and amplify the functionality of your designs, consider TE's Vital Sign Monitoring Sensors portfolio. Embrace innovation with seamless integration, real-time patient data and enhanced safety measures.



Blood Pressure Sensor



Body Temperature Sensor



Blood Oxygen Sensor

Are you confronted with a design dilemma or just seeking more detailed information? Our seasoned technical experts are only a click away. Click 'Connect with an Expert' to schedule a meeting. Access an invaluable reservoir of knowledge and experience and let us help you make the most informed decision for your project. Together, let's redefine the future of dialysis care.

CONNECT WITH AN EXPERT 

te.com/DialysisSensors

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