



## DIALYSIS EQUIPMENT SOLUTIONS






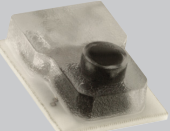

Dialysis is the process that purifies blood by removing waste or toxic substances from the blood of patients suffering from chronic renal insufficiency or kidney failure. In dialysis, the exchange of substances takes place by means of diffusion through a semipermeable dialysis membrane. A wide range of sensors are used in modern dialysis equipment to promote the healthier function of kidneys. These sensors allow safety-critical monitoring of liquid level, flow, temperature and pressure in the blood circulation and dialysate, and also enable the detection of bubbles and leaks in the system. Additional sensors can be used to detect the presence or absence of collection bags and other removable apparatus.

### TE CONNECTIVITY ADVANTAGES

- PORTFOLIO BREADTH
- MEDICAL EXPERIENCE
- MANUFACTURING SCALE
- CUSTOMIZATION CAPABILITY

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SENSOR TECHNOLOGY	APPLICATION(S)	FEATURED PRODUCT	KEY PRODUCT FEATURES	BENEFITS
Pressure 	<b>Flow Rate Measurement</b> Pressure measurements at various process points allow flow to be calculated	85BSD 85F	Weldable or threaded process fittings	Fits a wide variety of equipment and designs
			Pressure/temperature read-out	Multiple variables allow better process control
			Digital output with low power option	Easily interfaces with most microcontrollers and development systems
Ultrasonic 	<b>Air Bubble Detection</b> Positively identify the presence of a break in flow of any type of liquid	AD-101	Integral electronics	No programming and no additional electronics needed
			Detects bubble size as small as 70% of tubing inner diameter	Precise system allows accurate detection of even very small bubbles
			Sensor can be customized to fit tube or pipe	Designed to fit a wide range of products and systems
Ultrasonic 	<b>Liquid Level Detection</b> Accurately detects level of system liquids	LL01 Series	Proven ultrasonic technology combined with compact electronics	Proven design provides reliable, cost-effective sensing
			Improved performance in aerated liquids	Minimizes chance for false level detection
			High pressure up to 250 PSIG (1724 Kpa)	Reliable operation even in high pressure environments
Force 	<b>Force Measurement</b> Detect occlusion in IV line	FS20	Small size	Fits a wide range of applications; excellent for mobile products
			Robust: High Over-Range Capability	Reliable operation even in non-standard operating conditions
			Essentially Unlimited Cycle Life Expectancy	Reliable operation over many years of service
Photo Optic 	<b>SpO<sub>2</sub> Measurement</b> Detect oxygen level in bloodstream	ELM4000 ELM5000	Spectrally paired photo-detectors components	Allow easy and reliable matching of emitter and detector
			Tight tolerance on red LED wavelength	More precision in acute medical conditions can mean the difference between life and death.
			Reflow solderable	Enable medical device designers to design products with reduced overall cost due to reduced labor as well as increased quality
Pressure 	<b>Disposable blood pressure sensor</b> Monitor blood pressure for a range of medical situations	1620 1630	Small Size and Reliable Performance	Excellent for disposable medical applications where cost and reliability are critical
			Customization for OEM Applications	Allows for flexible designs to accommodate customer's specific needs
			Compatible with Automated Assembly	Supports cost effective manufacturing techniques and equipment
Temperature 	<b>NTC Temperature Assembly</b> Monitors temperature of dialyzing solution and other system fluids	NTC Stainless Steel Assembly	Precision NTC thermistor sensing element	Provides accurate and reliable temperature measurements over a wide operating range
			Customization for OEM applications	Allows for flexible designs to accommodate customer's specific needs; thermistor values, threads, lead lengths and connectors
			Robust, compact design	Offers years of reliable sensing in a cost effective design