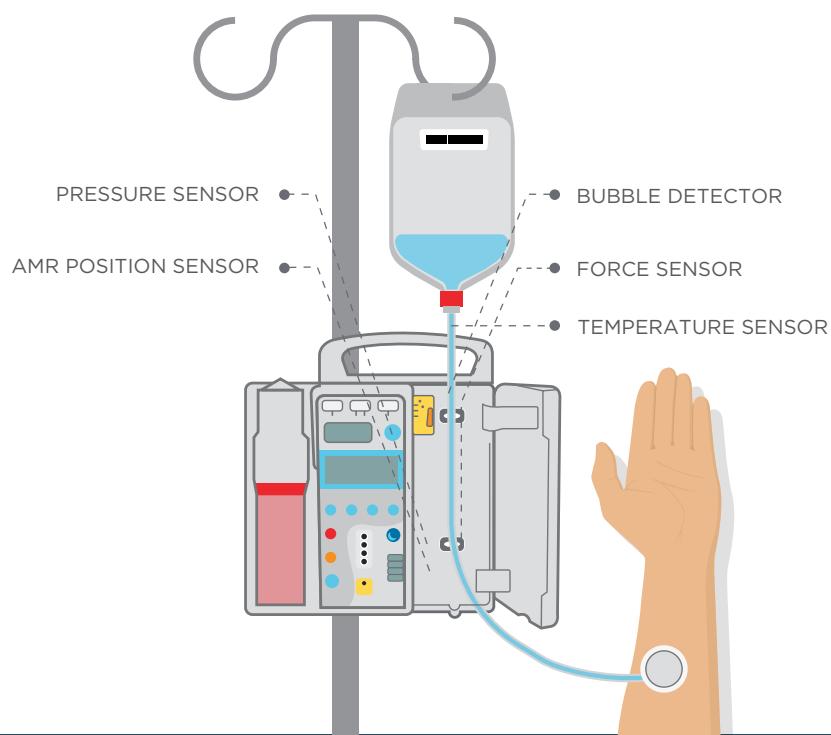


# SENSORS FOR INFUSION PUMPS

Infusion Pumps coordinate the delivery of nutrients and medications directly into the body, requiring precise control of fluids. A combination of force, ultrasonic, pressure, and temperature sensors are crucial to this precise delivery. There are many types of sensors capable of working with infusion pumps to increase value to medical professionals. With the current trends and demands on the medical industry, TE Connectivity's sensors deliver smarter, more mobile-connected lifesaving technology with costs and quality of life at the heart of our manufacturing.

## TE CONNECTIVITY ADVANTAGES

- Customization Capability
- Engineering Expertise
- Industry Experience
- Manufacturing Scale
- Portfolio Breadth



## SENSORS FOR INFUSION PUMPS

Sensor Technology		Application	Key Product Features	Benefits
Ultrasonic AD-102 Air Bubble Detector		<ul style="list-style-type: none"> <li>Non-invasive continuous monitoring of fluid for air bubble detection with a tube</li> </ul>	<ul style="list-style-type: none"> <li>High sensitivity bubble detection resolution</li> <li>Customizable tubing sizes ranging from 3mm to 10mm, with 6mm as standard</li> <li>On demand and continuous self-diagnostic tests</li> <li>High noise immunity to EMI/RFI</li> <li>Non-invasive design</li> <li>Integrated electronics</li> <li>Versatile, fits various designs</li> <li>LED indication of wet-dry condition</li> </ul>	<ul style="list-style-type: none"> <li>Non-invasive design</li> <li>Noise immunity to EMI</li> <li>No acoustic agent required</li> </ul>
85BSD Digital Output Pressure Sensor		<ul style="list-style-type: none"> <li>Flow rate measurement</li> </ul>	<ul style="list-style-type: none"> <li>Weldable or threaded process fittings</li> <li>Pressure/temperature read-out</li> <li>Digital output with low power options</li> <li>Enhanced EMI/RFI protection</li> <li>Available pressure ranges from 15 to 300psi</li> </ul>	<ul style="list-style-type: none"> <li>Fits a wide variety of systems and designs</li> <li>Multiple variables allow for better process control</li> <li>Easily interfaces with most microcontrollers and development systems</li> <li>Robust protection from environmental influences</li> </ul>
FS19 Miniature Compression Load Cell		<ul style="list-style-type: none"> <li>Occlusion detection</li> </ul>	<ul style="list-style-type: none"> <li>Small package 9.5mm OD</li> <li>Available load ranges from 350g to 3kg</li> <li>High sensitivity 20 mV/V output</li> </ul>	<ul style="list-style-type: none"> <li>Excellent stability</li> <li>Long cycle life</li> <li>High overload protection</li> </ul>
FS20 Compression Load Cell		<ul style="list-style-type: none"> <li>Occlusion detection</li> </ul>	<ul style="list-style-type: none"> <li>Industry standard packaging</li> <li>Amplified output 0.5V to 4.5V</li> <li>Available load ranges from 500g to 5kg</li> </ul>	<ul style="list-style-type: none"> <li>Drop in fit</li> <li>Long cycle life</li> <li>High overload protection</li> </ul>
AMR Array Position Sensors		<ul style="list-style-type: none"> <li>Monitor linear position of the lead screw and pace of lead screw to control infusion speed to patient</li> </ul>	<ul style="list-style-type: none"> <li>Non-contact measurement</li> <li>High accuracy and resolution</li> <li>Immune to external environment</li> </ul>	<ul style="list-style-type: none"> <li>High sensitivity</li> <li>High reliability</li> <li>Low power consumption</li> </ul>
NTC Temperature probe		<ul style="list-style-type: none"> <li>Monitor and control temperature of infusion liquids</li> </ul>	<ul style="list-style-type: none"> <li>Accurate and reliable measurement</li> <li>Customization for OEM applications</li> <li>Robust, compact design</li> <li><math>\pm 0.10^\circ\text{C}</math> from <math>0^\circ\text{C}</math> to <math>70^\circ\text{C}</math></li> </ul>	<ul style="list-style-type: none"> <li>Allows for flexible designs to accommodate customer's specific needs</li> <li>Reliable sensing in a cost-effective design</li> </ul>
Force FS10 Miniature Force		<ul style="list-style-type: none"> <li>Occlusion Detection</li> </ul>	<ul style="list-style-type: none"> <li>Surface-Mount Device (SMD)</li> <li>Microfused Strain Gage Technology</li> <li>High Overload Rating</li> <li>Low Power Consumption</li> <li>Excellent Life Cycle</li> <li>Stainless Steel Design</li> <li>Rugged Sensing Element</li> </ul>	<ul style="list-style-type: none"> <li>Enables automated pick-and-place assembly, suitable for high-volume manufacturing</li> <li>Long-term stability and durability</li> <li>Precise force sensing</li> <li>Compact design allows easy integration into various medical devices</li> <li>Consistent performance over extended operational life</li> <li>Safeguards the sensor from damage due to excessive force</li> <li>Suitable for battery-powered and portable medical devices</li> </ul>