Sensors

Pressure Sensors for Medical Applications

High functionality, accuracy and reliability

Overview

Freescale is a leading high-volume sensor provider with an extensive selection of acceleration, pressure and proximity touch sensors for medical applications. Pressure sensors monitor a patient's condition by providing key diagnostics in a broad range of medical applications. Freescale devices are specifically designed for applications where high quality and reliability are especially important and are constructed using materials with a proven history in medical applications.

Medical Applications	Freescale Pressure Sensors	Differentiators
Invasive and non-invasive blood pressure monitor, fetal heart rate monitor	MPX2300DT1, MPX2301DT1, MPXM2053GS, MP3V5050	High quality, high volume production, biocompatibility, technical support
Sleep apnea	MPXV4006G, MP3V5004, MPXV7002	Low cost, high sensitivity, amplified, multiple porting options, technical support
Inhalers and ventilators	MPXC2011DT1, MPXC2012DT1, MPX12GP, MPX5700GP, MP3H6115	Small form factor, high sensitivity, low cost, high volume production, technical support
Hospital beds	MPX2010DP, MPX5010DP	Robust packaging, high sensitivity, fully amplified, technical support
Wound management	MPXV2053GVP, MPXV5100G	Small package height, multiple porting options, technical support

Freescale has had a longstanding involvement with FDA requirements for over 20 years to ensure our customers that our medical products can be used with confidence.

Freescale sensors are based on piezoresistive technology and offer a wide range of functions and features—from basic, to fully amplified and temperature compensated devices. Our fully amplified series can be easily connected to an MCU. Our new low-voltage pressure sensor series is designed to meet power efficiency demands to extend longevity for simpler, cost-sensitive medical and portable electronics.

Freescale pressure sensors combine advanced micromachining techniques, thin film metallization and bipolar semiconductor processing to provide accurate, highly reliable sensors at competitive prices. In addition to our pressure sensors, Freescale now also offers accelerometers and proximity sensors for medical solutions.

Typical Applications

- Non-invasive and invasive blood pressure monitors
- Fetal heart rate monitors
- Inhalers and ventilators
- Patient monitoring systems
- Spirometer and respiratory therapy devices
- Physical therapy equipment
- Dialysis systems
- Drug delivery systems
- Hospital beds

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Features

- Pressure range up to 300 mm Hg
- Polysulfone case material (medical, class V approved)
- Patented piezoresistive strain gauge implant, temperature compensation and calibration, all integrated on a single monolithic sensor die

Benefits

- No gel, partial gel and full gel options
- Provided in easy-to-use tape and reel
- Small package
- Cost effective
- Custom options available

Related Documentation and Products

- AN1571—Digital Blood Pressure Meter
- AN3500—Blood Pressure Monitor Using the MPXV5050GP
- AN4010—Low Pressure Sensing MPX2010 Pressure Sensor
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- AN3500—Blood Pressure Monitor Using the MPXV5050GP
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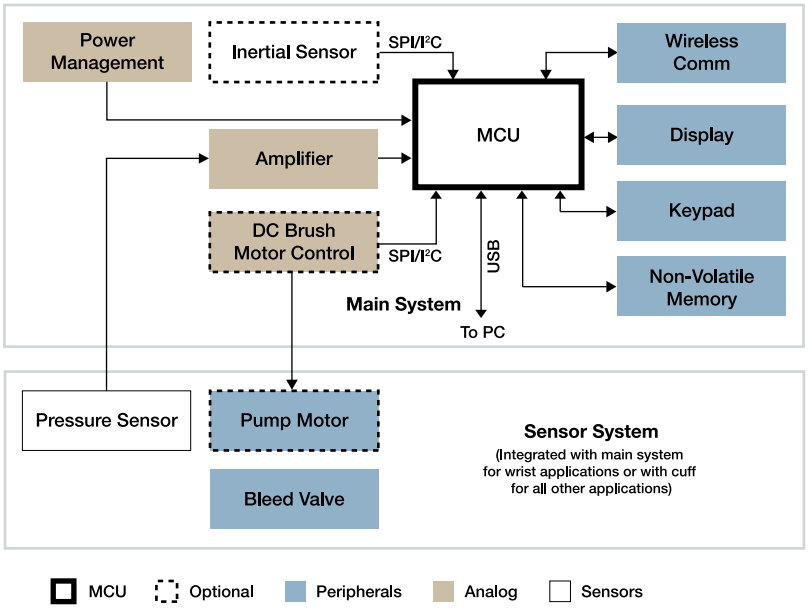
Freescale also offers accelerometers and proximity sensors for medical solutions

Freescale sensors for medical applications provide key inputs for common healthcare measurements. Plus, they are compatible with Freescale microcontrollers, analog/power ICs and ZigBee® technology, providing customers with key building blocks for intelligent medical solutions. Freescale sensors offer unique application–specific configurations to the customer upon request so we can provide parts suited for a wide range of medical and health care applications.

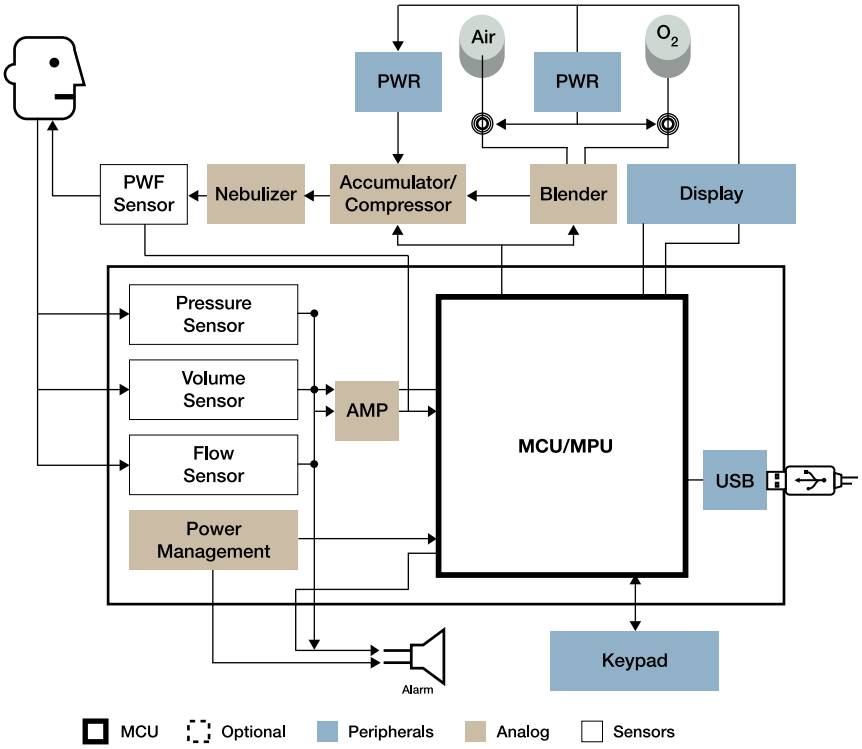
Blood Pressure Monitor (BPM)

Typical medical applications with pressure sensors (some devices are medical, class V approved)



Ventilation/Respiration

Typical medical applications with pressure sensors (some devices are medical, class V approved)



Learn More: For current information about Freescale products and documentation, please visit **www.freescale.com/sensors**.

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