

# MEDICAL DEVICES

Designed With **measurement**  
SPECIALTIES

眼科手术

睡眠窒息监护

医用气体监测

输氧智能控制

起搏器

电子听诊器

呼吸机监控

无创血压计

脊椎检查

一次性血压计

肾透析仪专用传感器

注射泵阻塞监控

早产婴儿培育箱

输液控制

宫缩压力传感器

血氧探头

真空吸引

医疗设备数字按键键盘

生命特征监测

人体脂肪秤

一次性手术压力监控

骨密度

人体秤

致力于提供高品质的医疗专用传感器，  
OEM 生产商的理想选择！

# Medical Devices and Disposables

## MEAS 传感器在医疗领域中的应用

## Designed with MEAS Sensors

### 心血管监控与诊断

#### Cardiovascular Monitoring & Diagnosis

##### 无创血压计 Blood Pressure Cuff

Silicon MEMS pressure sensor used for measuring inflated cuff pressure

##### 一次性血压计

##### Disposable Blood Pressure Sensor

Very low-cost miniature silicon MEMS pressure sensor used in line with IV unit to monitor patient blood pressure

##### 电子听诊器 Electronic Stethoscope

Piezoelectric film used as a contact microphone to receive heartbeat and breathing sounds

##### 腕式脉搏计 Heart Beat at the Wrist

Silicon MEMS pressure sensor patterns used to measure heartbeat pattern by tonometry method

##### 血氧探头 Pulse Oximetry

Photo-optic sensors used to measure blood oxygen saturation (SpO<sub>2</sub>) and pulse

### 心血管治疗

#### Cardiovascular Treatment

##### 手术气泵压力监控

##### Angioplasty balloon Inflating Pump

Silicon MEMS pressure sensor used to measure the pressure pumped to inflate the angioplasty balloon

##### 输液控制 Blood Transfusion

Silicon MEMS-based stainless steel pressure sensor used in a blood separation device

##### 低温手术设备压力控制 Cryogenic Angioplasty

Silicon MEMS stainless steel pressure sensor used to measure the pressure levels when cryogenic gases are used to decrease the clogged arteries

##### 输氧智能控制 Oxygen Conserver

Piezoelectric film used to detect the inhalation process so the oxygen flow valve can be opened for breath inflake and can remained closed at other times

##### 储氧罐低位报警 Oxygen Tanks

Microfused™ load cells can be used to measure the oxygen levels in the tank

##### 起搏器 Pacemaker

Silicon MEMS pressure sensor used as an activity monitor (vibration sensor) detecting patient movement requiring increased blood flow by increasing the heart rate

##### 呼吸机监控 Ventilator and Respirator

Silicon MEMS pressure sensor used to measure air flow in breathing aid devices

### 监护与诊断

#### Patient Monitoring and Diagnosis

**骨密度 Bone Density** -- Piezoelectric film used as an ultrasound transducer to measure bone density

**人体脂肪秤 Body Fat Scale** -- Electrodes used to determine body fat through electrical impedance

**人体秤 Body Weight** -- Microfused™ load cell used on a scale for patient weighing

##### 生命特征监护 (病床)

##### Hospital Bed Vital Signs Monitoring

Piezoelectric film used to measure breathing patterns and heart rate; Microfused™ load cells to monitor patient weight, including when patient leaves the bed

##### 睡眠窒息监护 Sleep Apnea

Piezoelectric film used as a dynamic strain gage to sense chest movement, or as a contact microphone to sense snoring, or as a pyroelectric sensor to monitor breathing exhalation

##### 脊柱检查 Spinal Column Testing

Silicon MEMS pressure sensor used for spinal column die testing system

### 病患治疗 Patient Treatment

##### 便携式注射泵流量控制

##### Ambulatory Infusion Pumps

Silicon MEMS pressure sensor used to detect flow

##### 输液监测 Bubble Detection and level Detection

Ultrasonic sensors to detect bubbles in the infused medication; also used to detect medication levels

##### 医用气体监测 Hospital Gas Monitoring

Silicon MEMS pressure sensors used to detect the presence of gas flow for hospital-wide medical gas systems

##### 注射泵控制 Infusion Pump

Piezoceramic diaphragm used to drive fluid at very slow rates

##### 肾透析仪专用传感器 Kidney Dialysis

Microfused™ strain gage pressure sensor used to measure liquid flow pressure

##### 早产婴儿培育箱 Premature Newborn Cabinet

Humidity control of air flow for optimized, safe ambience

##### 注射泵流速检测 Syringe Pump

Magnetic encoder used to determine flow rate of medication by measuring position of the piston

##### 注射泵阻塞监控

##### Syringe Pump and Infusion Pump

Silicon MEMS force sensor and Microfused™ strain gage used to detect any blockage of medication flow

### 外科 / 分娩 Surgical / Delivery

##### 真空吸引 Baby Delivery System

Silicon MEMS pressure sensor used to monitor pressure on vacuumassist baby delivery system

##### 一次性手术压力监控 Disposable Digital Display

Low-cost silicon MEMS pressure sensor used to measure and display pressure during surgical procedure

##### 宫缩压力传感器 Intra-Uterine Pressure Sensor

Low-cost miniature silicon MEMS pressure sensor used to monitor fetal activity during labor and delivery

##### 眼科手术 Ocular Surgery

Silicon MEMS pressure sensor used to maintain fluid pressures in the eyeball during surgery

### 高可靠性控制面板 (OEM 定制) Keypads and Assemblies

##### 设备组件 Device Subassembly

Low cost sensor subassembly done in our offshore manufacturing facility

##### 医疗设备数字按键键盘 Medical Keypad

Elastomer keypad and membrane switch used to control portable and stationary medical devices

### MSI 技术应用于医疗领域

#### MSI Sensor Technologies

##### 压力传感器 Pressure

Piezoresistive silicon MEMS (die/stainless steel oil-filled) Microfused™ silicon bonded strain gage Foil bonded strain gage

##### 称重传感器 Force

Microfused™ silicon bonded strain gage Piezoelectric polymer ( impact )

##### 振动传感器 Acceleration / Vibration

Piezoresistive silicon MEMS Capacitive silicon MEMS Piezoelectric polymer

##### 位置传感器 (线性 & 转角)

##### Position ( Linear & Rotary )

Eletrromagnetic sensors Magnetic and optical encoders Piezoelectric polymer - ultrasound

##### 倾角传感器 Tilt

Capacitive fluid

##### 湿度传感器 Humidity

Capacitive thin film Piezoresistive silicon

##### 血氧传感器 Pulse Oximetry

Photo optic sensors