## Sensors and Switches Solutions for Medical Applications

### Pressure Sensors – Board Mount
- **TruStability™ RSC Series**
- **TruStability™ HS Series**
- **TruStability™ SSC Series**
- **TruStability™ TSC Series**
- **Basic ABP2 Series**
- **Basic ABP Series**
- **MicroPressure MPR Series**
- **26PC Series**

### Pressure Transducers – Heavy Duty
- **13 mm Series**
- **19 mm Series**
- **MIP Series**
- **MLH Series**
- **FPS000 Series**
- **CIP (Clean in Place) Series**

### Force Sensors and Load Cells
- **MicroForce FMA Series**
- **FSA Series**
- **FSG Series**
- **FSS Series**
- **Basic TBF Series**
- **1865 Series**
- **Model 11**
- **Model 31**

### Airflow Sensors
- **Honeywell Zephyr™ HAF Series (High Flow)**
- **Honeywell Zephyr™ HAF Series (Low Flow)**
- **AWM40000 Series**
- **AWM7000 Series**
- **AWM90000 Series**
- **3100 Series, 3200 Series, 3400 Series**
- **Oxygen Sensors, O2MLF Series**

### Humidity Sensors
- **Honeywell HumidIcon™ Humidity/Temperature Sensors: HIH6000, 6100, 7000, 8000 Series**
- **HIH-5030/5031 Series (3 V)**
- **HIH-4000 Series (5 V)**
- **HIH-4602 Series**
- **SOT-23 flat TO-92-style**
- **SOT-89B**
- **SR16 Series, SR17 Series**

### Flexible Heaters
- **Honeywell Zephyr™ DM Series**
- **V7 Series**
- **V15W Series**
- **ZD Series**
- **ZM Series**
- **ZW Series**
- **ZX Series**

### Magnetic Sensors
- **SMT Series**
- **LE Series**
- **5000 Series**
- **ZM1 Series**
- **ZW Series**

### Pressure Switches
- **LE Series**
- **5000 Series**
- **SPS Series Linear and Arc**

### Temperature Sensors
- **Honeywell HumidIcon™ Humidity/Temperature Sensors: HIH4000, 6100, 7000, 8000 Series**
- **HIH-5030/5031 Series (3 V)**
- **HIH-4000 Series (5 V)**
- **HIH-4602 Series**
- **2455R Series Thermistors**

### Barcode Scan Engines, Modules and Software
- **NE70X Series 2D Scan Engines**
- **CM Series 2D Imager Modules**
- **SwiftDecoder™ Software**

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**Honeywell**
Anesthesia Delivery Machines
- Airflow sensors measure air, oxygen and nitrous oxide flow
- Magnetic sensors enable smooth motor control that reduces noise/vibration
- Pressure sensors may be used to meter and measure the anesthesia gas so that pressure doesn’t exceed the desired level
- Thermostats enable accurate air temperature control

Dental Equipment
- Magnetic sensors enable accurate motion control and positioning of the dental imaging system and promote energy efficiency in hand-held, battery-operated dental equipment
- Pressure sensors keep water flow constant in dental instruments, allowing smooth operation, as well as control all the pneumatic tools required

Hospital Diagnostics
- Airflow sensors specifically designed for gas chromatography eliminate sensor outgassing
- Barcode scan engine or barcode decoding software obtain positive patient confirmation, and often a brief code of the physician’s order before sampling (blood/chemistry analyzer, chromatography, cytometry/cellular analysis, molecular diagnostics/PCR)
- Pressure sensors in blood analyzer pump systems regulate pressure to draw/transport samples and control the pressure exerted on the blood cells to allow only one cell past the detector at a time
- Pressure sensors in gas chromatography equipment sense and control gas stream pressure to maintain a constant, precise flow
- Thermostats in blood analyzers monitor chamber, diffusion lamp and motor temperature to prevent overheating

Hospital Hardware
- Embedded barcode reader or barcode scanning software enables the ability to scan labels for positive patient confirmation and clinician information
- Humidity sensors maintain temperature and humidity levels in incubators and microenvironments
- Magnetic sensors enable locking/unlocking of medication dispensing cabinets
- Magnetic sensors in exercise equipment may be used as an emergency stop switch to count RPM and to define incline position
- Magnetic sensors or basic switches in hospital beds determine bed adjustment beginning and end positions
- Position sensors (SMART Arc) in hospital beds monitor backrest elevation which helps ensure the proper angle is maintained
- Pressure sensors control a hospital bed’s air columns to help prevent patients from developing bedsores
- Pressure sensors measure pressure in blood pressure monitors
- Pressure switches in hospital gas distribution systems indicate to a control panel that the main pressure tank is empty and needs to be replaced
- Thermostats monitor the incubator system’s temperature
- Thermostats in patient warmers control or limit temperature

Hospital Rooms
- Pressure sensors monitor airflow rates to provide continuous positive or negative air pressure to prevent contamination

Infusion, Insulin, Syringe Pumps
- Barcode scan engines and software help ensure the right treatment is administered to the right patient by reading the barcodes on the IV bag and on the patient wrist band
- Force sensors detect blockage in the pump’s tube that delivers medication
- Magnetic sensors enable smooth motor control that reduces noise and vibration (infusion, insulin pumps only)
- Pressure sensors monitor and control the flow of fluid
- Subminiature load cells monitor the weight of the IV bag

Kidney Dialysis Machines
- Force sensors detect the presence/absence/weight of a dialysate cartridge and monitor flexible tubing pressure
- Magnetic sensors enable smooth motor control that reduces noise/vibration
- Pressure sensors obtain dialysate and venous pressure measurements without interrupting flow
- Barcode scan engines and software help ensure the right treatment is administered to the right patient by reading the barcodes on the IV bag and on the patient wrist band
- Pressure sensors monitor pressure in the cartridge’s flexible tubing
- Thermostats provide enhanced temperature control of the permeation rate across the dialysis membrane
- Thermostats control or limit temperature
- Thermostats in peritoneal dialysis machines may be used for heater tray control
- Basic switches detect presence of covers, doors and cassettes to ensure safety in operation

For more information
Honeywell Advanced Sensing Technologies services its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing or the nearest Authorized Distributor, visit sps.honeywell.com/ast or call:

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Oxygen Concentrators
- Airflow sensors detect ultra-low airflow levels that sense when the patient inhales for efficient oxygen delivery
- Oxygen sensors measure and control oxygen concentration level of the air mixture delivered to the patient
- Pressure sensors detect when the patient begins to inhale for efficient oxygen delivery
- Pressure sensors sense surge tank pressure for accurate compressor pressure levels
- Pressure switches alert the user when the pressure exceeds a specified limit

Patient Monitoring Systems
- Barcode scanner software enables the ability to track the patient via a mobile device
- Oxygen sensors measure oxygen concentration level of the air mixture delivered to the patient
- Pressure sensors in nebulizers carefully monitor airflow rates so that the specified amount of medicine, amid a humid environment, is delivered to the patient
- Pressure sensors in spirometers measure in/out patient airflow
- Pressure sensors monitor blood pressure
- Thermostats in temperature monitoring equipment monitor temperature

Sleep Apnea Machines
- Airflow sensors monitor breathing and send an output to reduce airflow when the patient exhales
- Bimetallic commercial thermostats on-board (stand-alone) devices on flexible heaters control temperature without adding associated software or electronics
- Humidity sensors monitor the air to provide adequate moisture
- Magnetic sensors enable smooth motor control, reducing noise/vibration
- Pressure sensors monitor the delivered air pressure
- Thermostats and pre-packaged temperature probes provide warm, moist air

Spirimeters
- Airflow sensors measure the airflow from the patient upon exhalation
- Pressure sensors measure in/out patient airflow

Surgical Equipment
- Force sensors regulate a fluid management system’s pump head pressure
- Position sensors (SMART Arc) and force sensors in robotically assisted surgery equipment control robotic arms that hold the articulated instrument tips
- Pressure sensors (board mount and heavy duty) in surgical fluid management systems sense joint site pressure during arthroscopic surgery

Ventilators
- Airflow sensors measure air and oxygen flow so the correct amount is delivered to the patient
- Barcode scan engines and software enable automated, more accurate and faster tracking of patient and caregiver IDs and ensure the right medication and equipment match the right patient
- Basic switches detect doors and covers to ensure they have been properly closed before operation
- Humidity sensors deliver warm, moist air to the patient
- Magnetic sensors enable smooth motor control, reducing noise/vibration
- Oxygen sensors measure and control oxygen concentration level of the air mixture delivered to the patient
- Pressure sensors detect when the breath changes from inhalation to exhalation to measure in/out patient airflow
- Pressure sensors (heavy duty) measure inlet pressure from the hospitals air and oxygen supplies
- Pressure transducers are used to test the ventilator’s air and oxygen valves
- Thermostats monitor and control air temperature

Consumer Medical (Pressure Sensors)
- Measure pressure in non-invasive blood pressure monitoring
- Monitor pressure applied to the wound via the suction system in negative-pressure wound therapy
- Measure partial vacuum on the suction side of miniature pumps, such as breast pumps, to provide continuous suction pressure monitoring
- Monitor water level in CPMF water tanks
- Provide pressure measurement in medical wearables