Amphenol Sensors

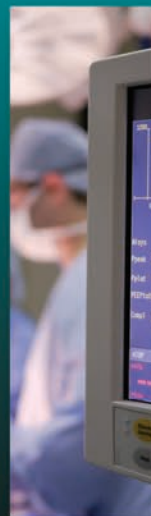Connecting your world through
Sensing Innovations

HVAC for Medical Facilities

Amphenol Sensors is a leading innovator in sensor technologies and measurement solutions. Offering the most diverse sensor portfolio of standard and customized products for the world's most demanding regulatory and industry-driven applications, Amphenol creates value by providing critical information for real-time decisions.

The demands of today's healthcare industry require not only the highest criteria in the direct care of a patient, but also the highest quality, accuracy and efficiency in those facilities that allow for that care.

Within a medical facility, the proper operation of its heating, ventilating and air conditioning (HVAC) systems also ensures proper operation of various medical support functions to provide for the health, comfort and safety of that facility's occupants, including patients, visitors and staff.

Amphenol Sensors' diverse portfolio of world class sensor solutions touches nearly every facet of a medical facility's HVAC systems to ensure not only the utmost in conditions for patient care and recovery, but also long-term efficiency to achieve green building status.

Amphenol Sensors
HVAC for Medical Facilities

Application		Solution	Technology & Features	
Carbon Dioxide (CO_2)	Fresh Air Ventilation Control	• Monitors patient/staff occupancy to ensure proper CO_2 levels • For use in temporary medical facilities with no standard Building Automation System (BAS) in place	• Dual channel automatic calibration • Outputs: 0-10v, 0-5v, 4-20mA, relay, BACnet	**TELAiRE**
Oxygen	Inline Oxygen Measurement	• Aids patient breathing in ventilator equipment	• 0-100% Volume Oxygen • Wide pressure range • Realtime measurements • Linear • Low power electrochemical sensor	**SGX SENSORTECH**
Humidity	Humidity Control	• Prevents condensation that can cause mold growth, in addition to harmful respiratory conditions • Ensures human comfort and energy efficiency	• Accuracy Options: 2%, 3%, 5% • Outputs: 0-10v, 0-5v, 4-20mA • Field replaceable Relative Humidity (RH) sensor	**TELAiRE**
Pressure	Differential Pressure Measurement	• Negative-pressure patient isolation room monitoring	• Outputs: 0-10v, 0-5v, 4-20mA • Range: 0-0.3"WC T30 • Range: 0-0.5"WC, T10, T20 • Piezoresistive sensor • Offsets: 0, ¼, ½ span • Units: In. WC, Pa, or mm H_2O • Accuracy: ±1% of span	**TELAiRE** **MODUS**
		• Negative-pressure patient isolation room monitoring • Fan/filter monitoring • Sensing components for ventilators, sleep apnea, and oxygen concentrators	• ±0.5" H_2O and above • High volume • Accuracy: ±1.5 % of span	**NOVA SENSOR** **ALL SENSORS** an Amphenol company **SSI**
	Climate Control Systems	• Measures coolant pressure in HVAC systems	• Stainless steel pressure sensing element, aluminum housing, RD-connector • Pressure Range: -1-10bar to -1-100bar, gauge • Temperature Range: -40°C to 125°C (150°C) • Outputs: LIN, PWM, analog voltage	**i2s** an Amphenol company
	HVAC Refrigerant	• Measures low and high pressures of HVAC refrigerant	• Stainless steel, media-isolated • 3psi – 7500psi • Gauge, sealed and absolute piezoresistive transducers • Output Options: 5V, 4-20mA, 4.5V • Accuracy: 1% • Variety of ports • Harness accessories available	**SSI**

Application		Solution	Technology & Features	
Combined Pressure & Temperature	Climate Control Systems	• Measures pressure and temperature of coolants in HVAC systems	• Compatible to all currently used coolants (R134a, R1234yf, R744) • High temperature accuracy and fast response time • Stainless steel pressure sensing element, aluminum or steel housing, RD-connector or MQS-connector • Pressure Range: -1-10bar to -1-200bar, gauge • Temperature Range: -40°C to 125°C (150°C) • Output: LIN	**i2s** *an Amphenol company*
Temperature	Equipment Temperature Conditions	• Monitors critical equipment for over-temperature conditions	• Sensing element isolated from tag • Dielectric 750 Vac • Eyelets to fit M3/M4/M5 screw sizes; additional diameters available • Suitable for surface temperature measurement	THERMOMETRICS / EXA THERMOMETRICS
	HVAC Systems Temperature	• Provides temperature control for nearly every aspect of a medical facility, from maintaining the air temperature in an operating room to monitoring hot water temperature supplied to restroom sinks	• Configuration: Pipe Clip • Designed for 250,000 thermal cycles between 25°C to 85°C • Pipe Diameter Range: 13-30 mm (1/2-1-1/8 in)	THERMOMETRICS / EXA THERMOMETRICS
			• Configuration: Integrated Pipe Clip • IP57 Ingression Protection Rating • AEC Q200 REV (D) - pending • Sensing Element: Dielectric 750 Vac • Pipe Diameter Range: 15-18 mm (5/8-1 in) • Self-adjusts to irregular pipe surfaces	THERMOMETRICS / EXA THERMOMETRICS
			• Configuration: Boiler Probe • Connector Series: Molex Minifit • Full range of TCO temperature ratings according to EN60691 • Range of connectors available	THERMOMETRICS / EXA THERMOMETRICS
			• Configuration: Cable Probe • IP66 Rating • Long-term stability • Good thermal response time	THERMOMETRICS / EXA THERMOMETRICS
	Floor Heating	• Provides uniform temperature for in-floor heating	• Various resistance values available • Various lead lengths available	THERMOMETRICS / EXA THERMOMETRICS
	Air Conditioning	• Directly measures object temperature for automatic adjustments	• Auto control of fan and blowing rate • Long detection range (~5M)	THERMOMETRICS / EXA THERMOMETRICS
Position	Medical Equipment	• Provides position feedback for respiratory devices, infusion pumps, and electrophoresis devices	• Programmable measuring angle with built-in redundancy • Truly contactless operation with no wear; maintenance free • Immunity to dust, moisture, vibration and extreme temperatures • Robust, compact, and low profile up to IP69K Protection • Absolute position feedback; position is not lost even on power loss • High resolution up to 14-bit	PIHER *sensing systems*
	Hospital Beds and Wheelchairs	• Provides rotary angle/position feedback for power beds and power wheelchairs		PIHER *sensing systems*
	HMI Controls	• Provides linear and rotary position sensing for centrifugators, X-ray and imaging systems, ventilators, patient monitor equipment, and HVACR	• Low profile • Long life • Excellent resolution and linearity	PIHER *sensing systems*

Sensor Technologies

MAJOR MARKETS SERVED	Thermometrics, Inc. (Temperature)	Telaire (Gas & Moisture)	NovaSensor (Pressure)	Protimeter (Moisture Meters)	Kaye (Thermal Validation)	SGX Sensortech (Gas)	Piher Sensing Systems (Position)	Wilcoxon Sensing Technologies (Vibration)	Piezo Technologies (Ultrasonic)	i2s (Pressure & Temperature)	All Sensors (Ultra Low Pressure)	SSI Technologies (Level, Quality & Pressure)	Exa Thermometrics (Temperature)
Aerospace (Commercial)	●		●			●	●				●	●	●
Agriculture	●	●		●		●	●			●		●	●
Air Quality (Indoor)	●	●	●	●		●	●	●			●	●	●
Automation	●	●					●	●			●		
Automotive	●	●	●			●	●				●	●	●
Construction & Restoration				●								●	
Electrification (EV/HEV)	●	●	●			●	●				●	●	●
Energy	●					●		●	●				●
Environmental Monitoring					●	●					●		
Heavy Equipment & Off Road (HVOR)	●		●			●	●			●		●	●
HVACR	●	●	●			●	●	●			●	●	●
HVAC - Medical Facilities	●	●	●			●	●				●	●	●
Air-Conditioning	●												●
Climate Control Systems										●			
Differential Pressure Measurement		●	●								●	●	
Equipment Conditions	●												●
Floor Heating	●												●
Fresh Air Ventilation Control		●											
HMI Controls							●						
Hospital Beds and Wheelchairs							●						
Humidity Control		●											
HVAC Refrigerant												●	
HVAC Systems	●												●
Inline Oxygen Measurement						●							
Medical Equipment						●							
Industrial	●	●	●	●		●	●	●		●	●	●	●
Marine	●					●	●	●				●	
Medical	●	●	●		●	●			●		●	●	
Military	●		●			●	●	●	●				
Non-Destructive Testing (NDT)									●				
Oil & Gas	●		●			●	●	●		●	●	●	●
Pharmaceutical & Biotech					●						●	●	
Process Control	●	●	●			●	●	●		●	●	●	●
Railway	●							●				●	●
Thermal Validation					●								

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