






















2010 Focus Products

Electromechanical Products

February 25, 2010

| Product Line | | Summary | Potential Applications | Product Series Link |
|---|---|--|--|---|
| MICRO SWITCH™ Basic Switches | MICRO SWITCH™ Premium and Standard V-Basic Switches | | | |
| |  | Often used for sensing presence or absence in low and high cost-of-failure applications including precision on/off, end-of-limit, pressure, temperature, flow, and manual operator interface applications. UL, cUL, ENEC, CQC approvals. Premium V7, V3, AC Series recommended for high cost-of-failure applications; Standard V15 Series recommended for low cost-of-failure applications. | appliances, business equipment/computers, gaming, industrial controls, manually operated devices, office equipment, test instruments, timing devices, valves, vending machines, and water heaters | http://sensing.honeywell.com/index.cfm?Ne=3025&ci_id=154337&N=3640&la_id=1 |
| | MICRO SWITCH™ Premium and Standard Miniature and Subminiature Switches | | | |
| |  | Designed for high precision, presence/absence detection, where physical contact with an object and, liquid or air pressure; also in simple on-and-off actions. Compact, highly reliable, and rugged switches. Premium precision switches include SM and SX series. Standard switches include ZD, ZM1, ZM, ZV, ZW, and ZX series. | aerospace, appliances, business equipment/computers, communication equipment, electrical parking brakes, HVAC, indicator lights, instrumentation, lock modules, manually operated devices, medical/dental equipment, office equipment, subassemblies for convertible roofs, timing devices, valves, vending machines, and wiring harnesses for automotive/truck/boat | http://sensing.honeywell.com/index.cfm?Ne=3025&ci_id=154337&N=3640&la_id=1 |
| | MICRO SWITCH™ Premium Large Basic Switches | | | |
| |  | Worldwide standard basic switch footprint. Often ideal for high cost-of-failure applications. Various operating set points including operating force and differential travel. Current ratings from 10 A to 25 A. Designed to withstand 100K operations at full load or 10M for mechanical life. Series include BZ/BA/BM/BE, DT, MT, 3MN, 6AS, AC, and DM. | HVAC, generators, industrial equipment, irrigation systems, machine tools, manually operated devices, transportation break pedal assembly, foot pedals, medical/dental equipment, office equipment, presses, semi-truck trailers, timing devices, and valves | http://sensing.honeywell.com/index.cfm?Ne=3025&ci_id=154337&N=3640&la_id=1 |
| MICRO SWITCH™ Basic Switch Accessories | | | | |
|  | Broad assortment of basic switch accessories including adjustable mounting bracket (8MA Series for large basics), conversion mounting bracket (17MA Series for large basics), die-cast zinc enclosures (3PA Series for large basics), plastic terminal enclosures (5PA Series for large basics), auxiliary actuators (JE Series for SE switches; JM Series for XE switches; JS Series for SM switches; JX Series for SX switches; JV Series for V7 switches). | may eliminate complexity from customers' manufacturing process | http://sensing.honeywell.com/index.cfm?Ne=3025&ci_id=154337&N=3640&la_id=1 | |
| MICRO SWITCH™ Limit Switches | MICRO SWITCH™ Heavy-Duty Limit Switches | | | |
| |  | Limit switch in rugged, die-cast body with multiple mounting and actuator options. Low- and high-temperature construction and factory sealed, pre-wired versions available. Includes boss-and-socket head design for secure head-to-body retention, unique all-metal drive train for consistent operating characteristics even at high temperature, and self-lifting pressure plate terminals to save wiring time. Type 316 stainless steel housing available. | automotive machinery, caustic waste handling, conveyors, food and beverage machinery, machine tools, material handling, packaging, presses, power generating plants, pulp and paper, welding, and shipboards/dock side | http://sensing.honeywell.com/index.cfm?Ne=3025&ci_id=154339&N=3555&la_id=1 |
| | MICRO SWITCH™ Global Limit Switches | | | |
| |  | Rugged electromechanical switches to detect position by physical contact with switch actuator. Focus product series include GLA, GLC, GLD, GLE, 91MCE, and SZL-VL. Designed to meet the requirements of the International Electrotechnical Commission (IEC) for worldwide acceptance. | aerial/platform lifts, agricultural equipment, construction, cranes, dock locks/levelers, forklifts, electronics assembly, elevators, escalators, food and beverage, gaming, industrial doors, injection molding machines, lifts, machine tooling, moving stairs, packaging, plastic molding equipment, PLC interface, rail, and wind turbines | http://sensing.honeywell.com/index.cfm?Ne=3025&ci_id=154339&N=3555&la_id=1 |
| | MICRO SWITCH™ Medium-Duty Limit Switches | | | |
|  | Featuring a small metal package size. Medium-duty focus product series include 14CE/914CE and BZE6/V6. 14CE/914CE Series is a miniature limit switch with direct-acting contacts available. BZE6/V6 Series features a split housing with either a side or flange mount. E6/V6 switches have low temperature options and booted versions are sealed to IP66. | agricultural equipment, automotive factory floor, conveyors, cranes, earth moving, electronic assembly equipment, lift trucks, machine tools, material handling, packaging, printing, platform lifts, processing equipment, robotics, surface transportation, and textiles | http://sensing.honeywell.com/index.cfm?Ne=3025&ci_id=154339&N=3555&la_id=1 | |
| Relialign™ Residential Door Interlock Switches | | | | |
|  | Electromechanical residential door interlock designed for swing door applications. Holds the door in place and prevents it from being opened when not desired (e.g. the elevator/lift car is not present at the door). Relialign™ door interlocks feature two series with metal and plastic housings. | swing-style doors for dumbwaiters, platform lifts, and residential elevators | http://sensing.honeywell.com/index.cfm?Ne=3025&ci_id=154339&N=3555&la_id=1 | |

| Product Line | | Summary | Potential Applications | Product Series Link |
|--|---|--|---|---|
| MICRO SWITCH™ Hazardous Area Switches |  | Electromechanical switches designed specifically to extinguish flame paths in potentially explosive environments. Series include 14CE100, BX, GSX, EX, and CX. 14CE100 Series miniature switch available with prewired or connector versions and gang mounting capability. BX Series switches have UL, CSA, ATEX, and IEC Ex approvals, diverse conduit selection, and stainless steel housing option. GSX Series switches feature snap-action contacts with a positive break and cULus, ATEX, and IEC Ex approvals. EX Series products have a low temperature option (-40 °F) and the smallest housing with ample wiring room. CX Series switches offer low temp seals, aluminum or bronze housings, and UL, CSA, ATEX, and IEC Ex approvals. | oil, gas, and petrochemical switching in continuous or occasional gases; pipeline flow control and accessories; pigging products; oil and gas measurement; blow out preventer (BOP) stacks; oil and gas pressure control; agricultural and grain material handling, storage, and filling; valve position detection; woodworking machinery | http://sensing.honeywell.com/index.cfm?Ne=3025&ci_id=154338&N=3608&la_id=1 |
| MICRO SWITCH™ Non-Contact Safety Switches | | | | |
| MICRO SWITCH™ Safety Switches |  | Magnetically operated, non-contact safety switches designed for use in many machine-guarding applications. Tamper-proof, standalone safety switches that can often be used to switch relays, contacts, or safety relays directly. Focus series include FF5 (available in both ABS and 316 grade stainless steel and capable of switching up to 300 mA at 24 Vdc), FF6 (available in both ABS and 316 grade stainless steel, fully sealed to IP67, and can be used in wet or dusty environments), and FFS (designed to be tamper-proof, standalone safety switches that can often be used to switch relays, contacts, or safety relays directly). | can forming and filling (aluminum, steel, and plastic), pick-and-place packaging and automation assembly equipment, plastic molding equipment, printing machinery, semicon equipment, textile machinery, and woodworking machinery | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154342&N=3504&la_id=1 |
| MICRO SWITCH™ Cable Pull Safety Switches | | | | |
| MICRO SWITCH™ Safety Switches |  | Designed to provide emergency stop protection for exposed conveyor lines in machine guarding applications. Cost-effective means of providing an emergency stop signal compared to multiple emergency stop push buttons. Internal mechanism latches on both slackened cable (push) and pulled cable. Capability enhances productivity by eliminating nuisance stops due to variations in temperature, stretch of cable over time, and other application variables. Product series include single 1CPS and double 2CPS. | material handling equipment; conveyor systems having a high amount of vibration, experience wide temperature swings, or where easy through wiring or highly visible trip status is required; perimeter guarding for automation and assembly cells | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154342&N=3504&la_id=1 |
| MICRO SWITCH™ Safety Limit Switches | | | | |
| MICRO SWITCH™ Safety Switches |  | Electromechanical limit switches designed to be readily accessible and used in machine guarding applications. Reliability and safety in compact, cost-effective switches. Series include 24CE/924CE and GSS Hinge. 24CE/924CE Series are miniature die-cast zinc housing construction switches with a wide variety of actuators. GSS Hinge Series switches feature metal (GSD) or plastic (GSC) housing options for access door safety hinge applications. | automation and assembly production machinery and equipment doors, machine tools, material handling equipment, packaging machinery, sliding doors, cutting and grinding equipment, CNC, plastic injection molding equipment, and textile machinery | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154342&N=3504&la_id=1 |
| MICRO SWITCH™ Key-Operated Safety Switches | | | | |
| MICRO SWITCH™ Pushbutton Switches |  | Designed for use in machine guarding applications where key removal brings the machine to an immediate safe condition. Miniature switches for smaller openings. Reduced installation time and cost. Major series include GK, GKM, and GKS. GK Series is a heavy-duty body keyed interlock switch designed for large doors and cages. The GKM Series is the most compact key-operated safety product available with fully sealed construction and daisy-chaining capability (GKME). GKS Series features solenoid trapped key interlock switches designed not to release until the hazard has been removed with an override mechanism and three knock-out conduit openings. | GK designed for use in heavy duty and harsh environments. Used in hinged or sliding guard doors/screens, machine tool equipment, metalworking machines, plastic molding machines, protective covers and enclosures, robotic assembly cells, and other specialty machinery | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154342&N=3504&la_id=1 |
| MICRO SWITCH™ Pushbutton Switches |  | Lit or unlit. Designed to enhance manual operation with a flexible and attractive interface. Snap-in surface products are easy to apply, operate, and maintain. Switch units are potted in corrosion-resistant metal enclosures. Series include PB, AML, and MML. | control boards and panels found in computer mainframes and peripherals, flight decks, industrial machinery, instrumentation, medical instrumentation, process control, and test equipment | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154340&N=3579&la_id=1 |
| MICRO SWITCH™ Toggle Switches |  | Hermetic and environmentally sealed toggle switches offer enhanced reliability with MICRO SWITCH™ technology. Honeywell drives in a center pendulum for ultimate stabilization. Series include AT, TS, TW, ET, NT, and TL switches. | aerial lifts, agricultural equipment, construction equipment, factory floor control units, industrial machinery and equipment, machine tool equipment, material handling equipment, medical instrumentation, military and commercial aviation, process controls, scissor lifts, test instruments, and truck-mounted telehandlers/cranes | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154344&N=3665&la_id=1 |

| Product Line | | Summary | Potential Applications | Product Series Link |
|---|---|--|---|---|
| Handlebar Controls |  | Custom engineered for applications requiring electrical/electromechanical control with multi-functions: throttle controls, indicator lights, custom switches, and integrated panel assemblies. Can be used in applications in harsh environments, sealed or unsealed. | agriculture, all-terrain vehicles, construction, electric vehicles, forestry, lawn and garden, material handling equipment, military vehicles, and motorcycles | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154389&N=3681&la_id=1 |
| Key and Rotary Switches |  | Custom engineered. Environmentally sealed. O-rings help keep dirt and moisture out of contact chamber and prolong switch life. Two-, three-, and four-position switches. Honeywell can provide up to 300 unique key codes and match an existing key cut. Integral connector and screw terminal versions. | aerial/scissor/boom lifts, agricultural equipment, all-terrain vehicles, construction equipment, forklifts, golf carts, marine equipment, material handlers, skid loaders, snowmobiles, and tractors | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154332&N=3689&la_id=1 |
| Push-Pull Switches |  | Robust. Environmentally sealed. Activates or disrupts a particular equipment function. Sliding contact switch incorporating two circuits with multiple combinations. Available with five different circuitry options. | boom lifts, compressors, fork lifts, generators, lawn and garden, loaders/backhoes, machine tools, material handlers, scissor lifts, skid steer, telehandlers, and tractors | http://sensing.honeywell.com/index.cfm?sid=12700F83CEA9&ci_id=154286&Ntk=si_all_products&y=0&N=3691&la_id=1&x=0 |
| Shifters, Turn Signals, and Proportional Retarders |  | Crafted for enhanced off-highway application performance, precision, direction, and speed control. Sealed and built to withstand rugged conditions and harsh environments. Can be configured as transmission controls for forward/neutral/reverse and gear selection. Offer headlamp, wiper, and horn controls. | agricultural equipment, construction equipment, ground support, material handling equipment, off-highway and military vehicles, recreational vehicles | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154355&N=3693&la_id=1 |
| Pressure and Vacuum Switches |  | Sense a change in pressure or vacuum, opening or closing an electrical circuit when designated point is reached. Featuring set points from 0.5 psi to 3000 psi. Switches from 1.1 in to 22 in Hg also available. Enhanced repeatability of set points and wide media capability. Uses a diaphragm or quad seal and piston to receive actuating media. Series include 1000, 5000 Pressure, 5000 Ultra, 5000 Extended Duty, 5000 Vacuum, V Pressure. | ABS brakes, air brakes, brakes, cruise control, dental air, embalming equipment, engine shut-down, engine transmission, fuel pressure, generators/compressors, hydraulics, oxygen concentrators, parking brake, pool/spa water pressure, power steering, pre-lube, and transmission | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154351&N=3601&la_id=1 |
| Hour Meters/ Monitors |  | Records and tracks total elapsed time of equipment usage. Parts are in-process tested for functionality and timing accuracy before shipping. Focus series include Diochron, 20000, 28100, 98000, 98100, 98200, 85000, 82400. | agriculture equipment, cleaning equipment, construction equipment, control panels, diagnostic equipment, generators, lawn and garden tractors, lifts, material handling, mining, office equipment, on- and off-highway, oxygen concentrators, panel assemblies, sport/utility vehicles, and recreational vehicles | http://sensing.honeywell.com/index.cfm?Ne=2308&ci_id=154327&N=3698&la_id=1 |










While Honeywell provides application assistance personally, through its literature and the Honeywell Web site, it is up to the customer to determine the suitability of the product in the application.






Honeywell Sensing and Control | 1985 Douglas Drive North | Golden Valley, MN 55422, USA | +1-815-235-6847 | www.honeywell.com/sensing | info.sc@honeywell.com | © 2010 Honeywell International Inc. All rights reserved.

2010 Focus Products

Electronic Sensing Products

February 25, 2010

| Product Line | | Summary | Potential Applications | Product Link | |
|---|---|---|---|---------------------------------------|--|
| Airflow Sensors |  | Advanced microstructure technology for enhanced sensitivity and response to flow, amount and direction of air or other gases, precision silicon micromachining, sensitivity to low flows (0.1 SCCM to 200 SLPM), low power consumption, analog output | analytical instrumentation, anesthesia, chromatography, gas metering, HVAC, leak detection equipment, medical instrumentation, oxygen concentrators, oxygen delivery systems, process control, respirators, sleep apnea equipment, spirometers, vent hoods, ventilators | Airflow Sensors | |
| Force Sensors |  | Measures the addition or backup of force (i.e., the resistance of silicon-implanted piezoresistors will increase when flexed under applied force). Concentrates force directly to the silicon sensing element with the amount of resistance changing in proportion to the amount of force applied. | ambulatory noninvasive pump pressure, anesthesia monitors, blood pressure equipment, drug delivery systems, enteral pumps, infusion pumps, kidney dialysis, load and compression sensing, non-corrosive non-pressurized media-level sensors, occlusion detection, syringe pumps, variable tension control, wire bonding | Force Sensors | |
| Flexible Heaters |  | Flat, molded-to-shape, spiral wrap, transparent, composite, high-temperature configurations with single, multiple, variable watt densities to customize heat output. Flexible resistive heaters--wire wound, etched foil. Many installations. On-board thermal control components can be added, such as integral thermistor, thermostat, RTD, thermocouple controls. | appliances, blood analyzers, chromatography, copy machines, dialysis, drain pipe heater, food service equipment, gasoline pumps, hand-held scanners, helmet face shield heater, humidifiers, inkjet/laser printers, LCD displays, outdoor cameras, potable water, seat heaters, side mirror heat, valves, weapons systems | Flexible Heaters | |
| Humidity Sensors |  | Integrated circuitry provides on-chip signal conditioning. Laser-trimming offers stable, low-drift performance and enhanced accuracy with calibration. Absorption-based sensors provide temperature and %RH. | battery-powered systems, drying, enthalpy sensors, environmental test chambers, HVAC, humidistats, leak detection, medical devices and equipment, meteorology, printers/OEM assemblies, office automation, plotters, recorders/dataloggers, refrigeration, telecommunications, VAV, weather stations | Humidity Sensors | |
| Magnetic Sensors | First Level Magneto-resistive | | | | |
| |  | With a built-in magneto-resistive bridge integrated on silicon and encapsulated in a plastic package, these sensors feature an integrated circuit that responds to low fields (25 G max.) at distances up to 1 inch. | automated assembly/pick-and-place, cylinder position sensing in pneumatic cylinders, high accuracy speed sensing, high resolution angular sensing, lid sensor for laptop computers, position sensing for material handling equipment, presence/absence detection, rotary position sensing | Magnetic Sensors | |
| | First Level Hall-Effect Digital | | | | |
| |  | Constructed from a thin sheet of conductive material, these sensors generate a high or low voltage output in response to a magnetic flux perpendicular to the surface of the sheet. | appliances, auto transmission position, brushless dc motors commutation, convertible roof, counter pickup, cylinder position, damper/valve position, disc speed, electric window lift, fan monitoring, fitness equipment, float-based fluid level, hospital beds, HVAC, industrial processes, magnetic encoding, medical equipment, motion detection, motor/fan control, portable drug carts, printer head position, robotics control, speed/RPM, tachometer, tape rotation | | |
| | First Level Hall-Effect Linear | | | | |
| |  | Thin sheet of conductive material; generate analog voltage output proportional to a magnetic flux perpendicular to surface of sheet. Quad Hall-elements design minimizes effects of mechanical or thermal stress on output and provides stable output. | current sensing, length measurement, linear or rotary motion detection, liquid-level sensing, magnetic code reading motor control, position sensing, robotics control, rotary encoding, vibration, weight sensing | | |
| Second Level Value-Added Hall-Effect | | | | | |
|  | Consists of first-level sensors packaged in a variety of housings. Includes vane sensors, digital position sensors, and solid-state switches. | anti-skid control, cam and crankshaft speed and position, chemical plants, coin detection, fitness equipment, food and beverage, information technology, lid position, position sensing, RPM sensing, refineries, sprocket speed and detection, tachometer, traction control, transmission speed | | | |
| SMART Position Sensor |  | The 75 mm Linear SMART Position Sensor is the most accurate linear position sensor available in the industry (0,05 mm [0.002 in]). Enables highly accurate motion control and improves operation efficiency and safety. Simple, non-contact design eliminates mechanical failure mechanisms, reducing wear and tear, improving reliability and durability, and minimizing downtime. | aircraft ram door position, cutting and slitting machinery, elevator level position, material handling, packaging, plastic molding machines, syringe pumps, valve position detection, wafer handling equipment, woodworking machinery | SMART Position Sensor | |

| Product Line | | Summary | Potential Applications | Product Link |
|---|---|---|--|---|
| TruStability™ Silicon Pressure Sensors |  | Industry-leading stability often eliminates need for calibration after board mount and periodically over time; calibrated to optimize accuracy; many packaging/mounting/power/signal options, combined with customized calibration capabilities, increase flexibility; provides excellent repeatability, high accuracy, reliability; allows pressure monitoring within specified range; meets specified pressure level requirements, providing enhanced sensitivity/accuracy. | barometry, gas chromatography/flow instrumentation, HVAC, life sciences, pneumatic control, airflow monitors, anesthesia, blood analysis, kidney dialysis, oxygen concentrators, respiratory, sleep apnea, ventilators | TruStability HSC Series |
| | | | | TruStability SSC Series |
| Speed and Direction Sensors |  | Provides true zero capability, direction sensing, precise switch point measurement. Speed sensor diagnostics provide info on air gap and sensor failure for increased reliability/functionality. Broad line-up of Hall-effect, magnetoresistive, and variable reluctance sensors provide electrical compatibility to most control systems interfaces. | anti-skid, cam/crankshaft speed/position, compressor, computing, dyno testing, engine/motor RPM, factory automation, fan speed, flow metering, gear reducer RPM, gear tooth sensing, high speed counting, industrial process control, machine control, mixers, motor/pump RPM, over/under speed, positioning, pumps, rollers, rotary gear/shaft position, routing, spindles, synchronization, tach, traction, transmission/wheel speed | Speed and Direction Sensors |
| Temperature Sensors | Packaged Temperature Probes | | | |
| |  | Compact and lightweight. Operate with enhanced sensitivity, reliability, and stability under diverse conditions of shock, vibration, humidity, and corrosion. | aerospace, copier diffuser rollers, duct temperature sensing, engine exhaust gas recirculation systems, engine management systems, fluid or air temperature sensing within the HVAC or engine environment, HVAC compressors, industrial, industrial ovens and ranges, refrigeration compressor equipment, transportation, water heaters/boilers | Temperature Sensors |
| Thermostats | Precision | | | |
| |  | Bi-metallic, snap-action, SPST devices. Hermetic/non-hermetic available. Enhanced reliability versions meet stringent requirements of military/aerospace for dielectric strength, moisture, resistance, vibration, shock. Available in low profile, logic level, manual, automatic reset. | aerospace, antenna gimbals, battery heater controls, blood analyzers, commercial aircraft, computers, copiers, de-icing, dialysis, environmental controls, faxes, food service/carts, industrial controls, infotech, medical electronics, oxygen generators, power supplies, satellite thruster rockets, shuttle avionics, telecommunications, test equipment | Thermostats |
| | Commercial | | | |
|  | Half-inch snap-action, bi-metallic, SPST non-hermetic devices. Automatic or manual-reset options. Phenolic or ceramic housings. Variety of mounting brackets/terminals. | appliances, automotive, coffee makers, cooling controls, copers/faxes, fire alarms, fireplaces, freezers, gas-fired heaters, glue guns, heat/smoke detectors, heater controls, humidifiers, ice makers, laser printers, microwave ovens, mirror heater control, power supplies, refrigeration, sandwich makers, steamers, UPS systems, water heaters | | |

While Honeywell provides application assistance personally, through its literature and the Honeywell Web site, it is up to the customer to determine the suitability of the product in the application.

Honeywell Sensing and Control | 1985 Douglas Drive North | Golden Valley, MN 55422, USA | +1-815-235-6847 | www.honeywell.com/sensing | info.sc@honeywell.com | © 2010 Honeywell International Inc. All rights reserved.