

Transportation Applications

Honeywell



SENSING AND CONTROL

**Part Innovation.
Part Engineering.
Total Solutions.**

Transportation Applications

One company's switch and sensor innovations keep transportation moving ahead.

It's Honeywell Sensing & Control (S&C), the driving force behind unbeatable flexibility, quality and reliability.

We're a proud part of the Honeywell 100-plus year commitment to imagination, innovation and technology development. What's more, Honeywell S&C's superior switch, sensor and vehicle control solutions have powered the transportation industry for three-quarters of a century, with high-end parts and applications. From heavy trucks and agriculture equipment to ATVs, snowmobiles, motorcycles, construction vehicles and lawn and garden equipment, Honeywell S&C manufactures a multitude of solutions for engine and transmission applications, as well as temperature sensors, ignition switches, turn signals, headlights — everything you need.

A comprehensive line and cutting-edge design, all to keep you competitive. Honeywell S&C is your one-stop, full-service choice, unparalleled as the gold standard and

unquestioned as your best value. Offering global service, sourcing and manufacturing. Industry-leading engineers. Value-added assemblies and solutions. Construction to your needs.

Honeywell S&C is driving the innovation that fuels the transportation industry.



Whether it's Honeywell S&C's design centers of excellence, global design centers or sales offices, we maintain engineering excellence and create strong working relationships with our customers

Transport your business to a better place: leading the race.

Honeywell S&C can help you outperform the competition at every turn, whether you need clean slate development or simple modifications to an existing design. Our expertly engineered solutions meet your most stringent demands or requirements by delivering world-class product designs, technology integration and customer-specific packaging and manufacturing. It's the ultimate in insight and innovation, from right out-of-the-box to continuous, lasting performance.

Comprehensive Portfolio: Honeywell S&C serves the on- and off-highway transportation industry in its entirety, with a sensing or control product for most any application or terrain. Our amazing breadth of solutions and technology platforms eliminates the need for multiple suppliers —

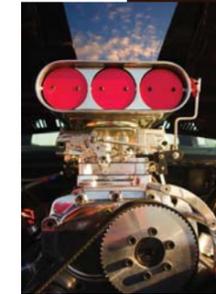
you've always got one contact — and it helps provide solutions that work together.

Global Footprint: Honeywell S&C delivers expert thinking, everywhere. Our global workforce offers sales, application and service support right where you do business — with over 70 sales, support and distribution locations from continent to continent.

High-performance products: Honeywell S&C products are backed by continual technology advancement, with products designed to survive the harshest environments. You can bank on sensors, switches, vehicle controls and lighting products withstanding more than dirt or grime, meeting and beating any extreme weather, shock, vibration or electromagnetic condition.

Honeywell S&C's extensive and exceptional manufacturing environment and testing facilities helps provide quality and superior, lasting performance down the line.





Extraordinary expertise and resources, driving cost-effective, customized products and solutions.

Honeywell S&C meets any basic or complex customer requirement:

Products and Technologies *Best-in-class engineering ...*

Controls: Include shifters, turn signal switches, proportional retarder, intermittent windshield wipers and custom handlebar controls for ATVs and motorcycles

Control Valves: Control fuel delivery to the cylinder, optimizing fuel economy, emissions and performance • Offers Combi control valves: integration of a pressure, temperature or position sensor into a control valve, reducing component parts and weight and eliminating an electrical connection and leak path

Hour Meters: Track engine hours and runtime for stationary vehicles

Instrumentation Products: Dash indicator panels combine four to six indicator lights, plus battery display indicators that measure battery life and engine hours

Key Switches: Custom-engineered, environmentally-sealed sliding contact switches, matching existing keys or as six-tumbler mechanisms with unique combinations (as an on/off or starter switch)

Lighting: Custom lighting for snowmobiles, ATVs, off-road and farming equipment (all designed for extreme service conditions) • Electronic flashers for on-highway vehicles requiring heavy lamp load capacity • Interior lighting for farm equipment, automotive, trucks and construction equipment, including dome and glove box lights, engine, reel and work lamps

MICRO SWITCH™ Limit Switches: The industry-defining name, and the broadest and deepest limit switch portfolios — with rugged, dependable position detection solutions for industrial equipment, process, material handling and surface and transportation applications • MICRO SWITCH™ Heavy-Duty Limit Switches (HDLS) and Global Limit Switches • Hermetically- and environmentally-sealed switches

Position Sensors: Produce an output proportional to the field strength when detecting the presence or interruption of a magnetic field • Offering cam and crank, probe and vane, gear-tooth position, Hall-effect rotary position, linear position and angular position sensors

Pressure Sensors: A complete offering of absolute, differential, gauge and vacuum gauge pressure sensors

Pressure Switches: Designed for sudden pressure spikes and high pressure in any air or oil system

Speed and Direction Sensors: Respond to the presence or interruption of a magnetic field by producing an output proportional to the field strength • Hall-effect digital position sensors provide contactless measurement with no moving parts

Temperature Sensors: Provide physical parameter changes, such as resistance or output voltage corresponding to temperature variance (can be combined with pressure, air flow, or speed and direction sensors)

Wheel-Speed Sensors: Enable vehicle OEMs and systems companies to add ABS system features

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POSSIBLE TRANSPORTATION APPLICATIONS

Honeywell S&C is ready to deliver cost-effective, custom solutions:

• Agriculture equipment, construction vehicles, medium/heavy-duty trucks

- Transmission: liquid level sensors, circuit breakers, exhaust temperature sensors, temperature sensors, cam/crank sensors
- Brakes and chassis: sensing air systems, pedal position, wheel speed, air quality, vehicle tilt, axle position
- Hydraulics: pressure switches, pressure sensors
- In cab: hour meters, turn signal switches, shifters, multi-function panels and controls, flashers, push/pull switches, dome lights, work lamps
- Actuator for hitch and tool control
- Vehicle tilt sensors
- Hydraulics control and monitoring/ Hydraulic RAM positioning
- Key and push/pull switches

• Recreation vehicles — snowmobiles, jet skis, ATVs:

- Multifunction handlebar controls
- Custom lighting
- Hour meters
- Indicator strips
- Engine oil pressure/temperature sensors
- Sealed key, emergency stop and brake pressure switches
- Tilt sensors
- Throttle controls

• Lawn and garden equipment

- Multifunction handlebar controls
- Custom lighting
- Hour meters
- Indicator strips
- Engine oil pressure/temperature sensors
- Sealed key, emergency stop and brake pressure switches
- Tilt sensors
- Throttle controls

• Motorcycles

- Multifunction handlebar controls
- Custom lighting
- Warning light panels
- Tilt sensors
- Ignition switches
- Engine timing
- Vehicle speed
- Engine oil pressure and temperature



• Railroad equipment

- Locomotive in-cab controls, traction control, systems health monitoring
- Transit compartment door systems and driver controls
- Transit compartment air flow and HVAC
- Refrigerated freight compartments
- Railwheel sensors and sensor interface modules



Honeywell is driven to transform the industry with every part and every composition we create.

Our transportation solutions are customized to exacting specifications, yet flexible to every need. Designed to withstand harsh environments, including the most competitive marketplace. From high-intensity discharge lighting, pressure sensors, custom controls, lighting meters and key switches to anything you need for backhoes, tractors, snowmobiles, dump trucks or most any off-highway vehicle — including custom control solutions for ag construction and sport vehicles.

Put your trust in a company with the drive and innovation to put it together better. A company always focused on a safer, more secure world.

Products and Technologies:

SAW technologies (Surface Acoustic Wave) • Pressure switches • Custom controls • Hour meters • Speed and position sensors • Temperature sensors • Pressure sensors • Gas sensors • LED, High Intensity Discharge (HID) lighting solutions

Possible Applications:

Sport vehicle integrated controls • Off-highway lighting • On- and off-highway vehicle monitoring • Operation controls • Engine monitoring

For more information about Sensing and Control products, visit
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