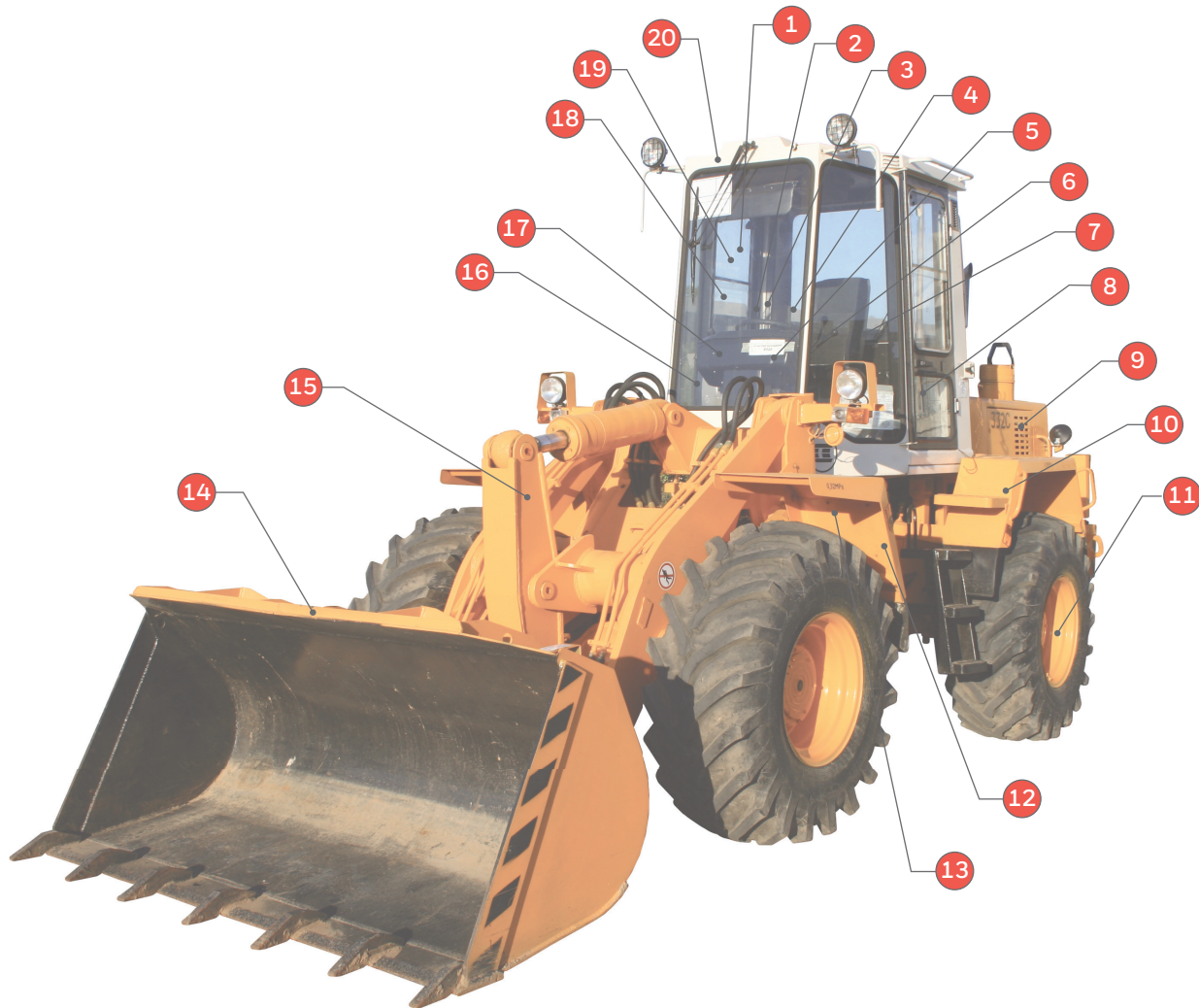


## Sensors and Switches in Front Loaders



- 1 Packaged temperature probes**  
(Cabin sensing) ES-110 Series, LTP Series
- 2 Smart key**  
(Limits front loader function by operator's certification level)
- 3 MICRO SWITCH toggle switches**  
(Manual operator switch) NT Series, MT Series
- 4 MICRO SWITCH limit switch**  
(Back-up alarm) BZE Series
- 5 Hour meters**  
(Engine usage tracking) Quartz plus hour meter (85000), LCD Volt/hour meter (98000)
- 6 Key switch**  
(Vehicle ignition) Three-position key switch
- 7 Hall-effect bipolar position sensor IC**  
(Power seat motor) SS400 Series
- 8 Hall-effect position sensor**  
(Door position sensing) 103SR Series
- 9 Thermostat**  
(Fire suppression sensing) 3000 Series
- 10 Packaged temperature probes**  
(Hydraulic oil sensing) R300 Series, LTP Series
- 11 Speed sensors**  
(Hydraulic pump and wheel speed sensing)  
VRS Series, LCZ Series, SNDH-T Series, SNG-Q Series
- 12 Heavy duty pressure transducers**  
(Hydraulic, braking system, and fuel tank level sensing)  
PX3 Series, MLH Series, SPT Series, 13 mm Series, 19 mm Series,
- 13 Linear Hall-effect position sensor IC**  
(Stability control system, remote mirror with memory control, power steering control) SS490 Series
- 14 MICRO SWITCH compact limit switch**  
(Bucket position detection) NGC Series
- 15 SMART position sensors**  
(Vehicle and load non-contact, absolute position sensing)  
SPS Series linear and rotary configurations
- 16 Push/pull switch**  
(Emergency stop) 87000 Series
- 17 Shifter**  
(Forward-neutral-reverse) 81248
- 18 Turn signal**  
(Multi-purpose turn signal)
- 19 MICRO SWITCH limit switch**  
(Level sensor for cab position) GLS Series
- 20 Inertial measurement unit**  
(Vehicle angulation, acceleration, inclination) TARS Series IMU



# Work Smarter with Honeywell Sensors and Switches

## Work smarter with...

Honeywell sensors, switches, and controls can be found throughout vehicle bodies such as front loaders, buses, locomotives, ambulances, trucks, etc. They are used as operator/ride controls, automation guides, asset trackers, and provide security and comfort. Honeywell shifters, key switches, limits, SMART position sensors, temperature and pressure sensors are rugged, reliable, and backed by Honeywell's engineering expertise. Honeywell heavy-

duty equipment manufacturers' needs include productivity, high reliability, comfort, safety, and simpler operations for less-skilled operators. Honeywell provides these and much more.

## Comfort/safety

- Cabin climate and temperature maintained with ES-110 Series and LTP Series packaged temperature probes
- Limit front loader operability by operator certification level with SMART key
- Back-up alarm controlled by MICRO SWITCH BZE Series basic switch
- Door position sensed by 103SR Series Hall-effect position sensor
- Hydraulic braking system monitored with PX2 Series, MLH Series, SPT Series, 13 mm Series, and 19 mm Series heavy-duty pressure transducers
- Vehicle and load non-contact absolute position sensing with SPS Series SMART position sensors
- Emergency stop originated by MICRO SWITCH 87000 Series push-pull switch
- Fire suppression monitored with 3000 Series thermostats
- Stability control, remote mirror with memory control, and power steering control using SS490 Series linear Hall-effect position sensor ICs
- Level sensing for cab position using MICRO SWITCH GLS Series limit switches
- Vehicle angular rate, acceleration, and inclination reported by Transportation Attitude Reference Sensor (TARS Series) Ruggedized Inertial Measurement Unit (IMU)

## High reliability

- Hydraulic oil temperature measured with R300 Series and LTP Series packaged temperature probes
- Hydraulic pump and wheel speed measured with VRS Series, LCZ Series, SNDH-T Series, and SNG-Q Series speed sensors
- Engine use tracking with 85000 and 98000 hour meters
- Engine on/off controlled with three-position key switches

## Productivity

- Vehicle direction and indication controlled by multi-purpose turn signal and 81248 forward-neutral-reverse shifter
- Bucket position detection provided by MICRO SWITCH Series NGC Series compact limit switches

## Simpler operations

- Fuel tank level sensing conducted with PX3 Series, MLH Series, 13 mm Series, 19 mm Series, and SPT Series heavy duty pressure transducers
- Manual operator switches throughout the cab utilize MICRO SWITCH toggle switches
- Power steering control with SS490 Series linear Hall-effect position sensor ICs
- Power seat motor controlled by SS400 Series Hall-effect bipolar position sensor ICs

## 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](http://sps.honeywell.com/ast) or call:

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**Honeywell**