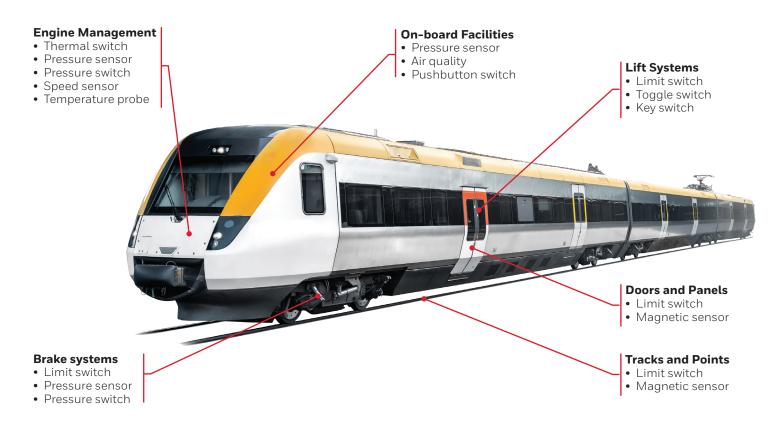
## TRAINS & RAIL SYSTEMS

## **Advanced Sensing Technologies**



	contact on sensing	erature ng	Pushbutton switches	y position	ure nes	es and rs	sensors	Thermal switches	switches	ure sensors		Limit switches	ality ors	switches	Magnetic ICs	Engines
	Non-con position	Tempera sensing	Pushbut switches	Rotary	<b>Pressure</b> switches	Toggles rockers	Speed	Thern	Basic	Pressure	₽	Limit	Air quality monitors	Key sı	Magn	Scan
Doors and panels			✓			✓			✓			✓			✓	
Engine management		✓			✓		✓	✓		✓					✓	
Braking systems		$\checkmark$		✓			$\checkmark$			$\checkmark$		$\checkmark$				
Onboard facilities			$\checkmark$		$\checkmark$					$\checkmark$			$\checkmark$			
Platform lifts	✓		✓	✓		✓			✓			✓		✓	✓	
Barrier controls									$\checkmark$			$\checkmark$				✓
Track switching												✓			✓	
Maintenance vehicles	$\checkmark$				$\checkmark$	✓	$\checkmark$	✓		$\checkmark$	$\checkmark$	$\checkmark$		✓		

TRAIN RELIABILITY AND SAFETY							
Application		Growth Factor	Primary Products	Secondary Products			
Doors and panels		Increasing use of inter-connected systems to ensure safety and security	• Limit switches	Magnetic ICs			
Engine management		Implementation of means to monitor and control engine operation and performance	<ul><li>Pressure sensors</li><li>Speed sensors</li></ul>	<ul><li>Temperature probes</li><li>Temperature switches</li></ul>			
Braking systems		Preventative maintenance routines to monitor effectiveness to reduce downtime	<ul><li>Limit switches</li><li>Pressure sensors</li><li>Pressure switches</li></ul>	• Thermistor			

PASSENGER ASSISTANCE							
Application		Growth Factor	Primary Products	Secondary Products			
Onboard facilities		Sensing systems to control and regulate enclosed water supply and air quality	Pressure sensors	<ul><li>Pressure switches</li><li>Air quality monitors</li></ul>			
Platform lifts		Adjustable platforms and steps for train access and wheelchair lifts	<ul><li>Limit switches</li><li>Basic switches</li></ul>	<ul><li>Magnetic ICs</li><li>Toggle switches</li></ul>			

INFRASTRUCTURE AND EXTENDED ENVIRONMENT							
Application		Growth Factor	Primary Products	Secondary Products			
Barrier controls		Reliable performance with consistent repeat operation for platform and traffic control	<ul><li>Limit switches</li><li>Enclosed basic switches</li></ul>	Scan engines			
Track switching		Low energy, reliable position sensing for exposed environments	• Limit switches	<ul><li>Magnetic ICs</li><li>Position sensors</li></ul>			
Maintenance vehicles		Specialist vehicles with a range of features and devices to be controlled	<ul><li>Toggle switches</li><li>Limit switches</li></ul>	<ul><li>Speed sensors</li><li>Key switches</li></ul>			

WARRANTY/REMEDY
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