

# BENDIX® iSENSE™ AIR DISC BRAKE WEAR SENSING

## TAKE THE GUESSWORK OUT OF AIR DISC BRAKE (ADB) PAD REPLACEMENT AND LOWER YOUR TOTAL COST OF OWNERSHIP.

Downtime – there’s no avoiding it. Wouldn’t it be great to know when your vehicle’s pads and rotors need replacement – before they reach the end of their service life? How much would efficiency improve if you could proactively schedule maintenance? What about the boost to your fleet’s bottom line through optimized truck productivity and increased uptime?

The Bendix® iSense™ Air Disc Brake Wear Sensing Systems can provide your fleet with powerful information that can:

- Reduce maintenance costs, time, and effort – know when pads are approaching replacement conditions without removing the wheels
- Optimize your friction replacement schedule by alerting your fleet back office via telematics
- Streamline maintenance by enabling your technicians to perform other service along with the necessary pad replacement
- Protect expensive components (rotor and caliper\*) from damage through early detection of worn ADB pads

*\*Typical cost to replace a rotor in the aftermarket: \$600 (parts and two hours labor)*



## Bendix offers two brake wear sensing systems – iSense™ Pro and iSense™

Bendix iSense Pro and iSense are available for the industry-leading family of OE Bendix® ADB22X® air disc brakes (both tractor and trailer) through an always expanding list of OE tractor and trailer manufacturers.

### iSense™ Pro Air Disc Brake Wear Sensing

The iSense Pro package is our most robust system.

iSense Pro shares the same connectivity (J1939 CAN) and communications to your fleet back office as iSense, but goes much further in the specific data it provides. iSense Pro provides continuous wear sensing, and:

- Provides, by axle, percentage of remaining brake life versus replacement condition at each wheel end
- Notifies if one side is wearing faster than the other via cross axle data
- Supplies constant J1939 messaging which can be accessed by your telematics program

#### Here’s how iSense Pro works:

The wear sensor (positioned inside the adjuster on the back of the caliper) continuously measures the combined total wear of the inboard pad, rotor, and outboard pad by converting the rotation of the adjuster into an electrical signal. The electrical signal is carried by a cable to the ECU (electronic control unit), then on to your fleet via a range of telematics providers, the Bendix® ACom® PRO™ remote diagnostic software, or the SafetyDirect® video-based driver safety platform.



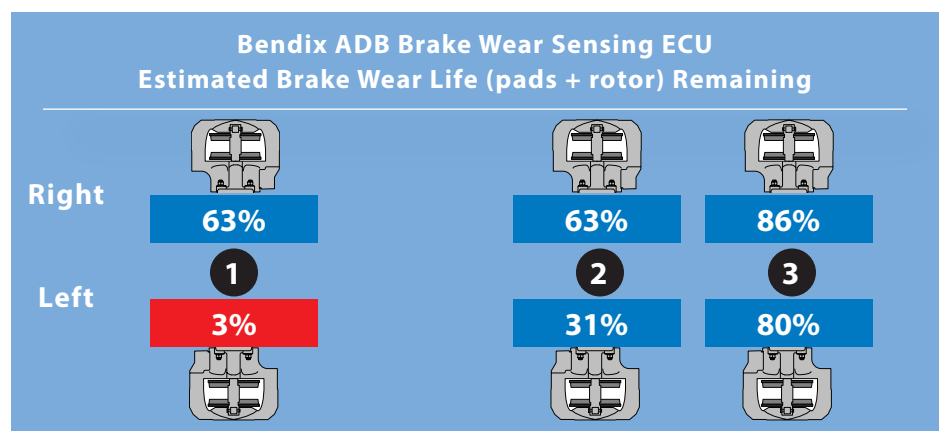
The cable carries data to the ECU, then the ECU shares data via telematics

#### Communication to Fleet Operations

Here’s an example of wear life remaining for each wheel end as seen via ACom PRO’s color coordinated readout. In this example, service personnel would see that the wear across the axle is not consistent and proactively take steps to investigate.

Fleets can access remaining life data at any time. See *Service Data Sheet SD-31-7570 (iSense Pro)* or *SD-31-70082 (iSense)*.

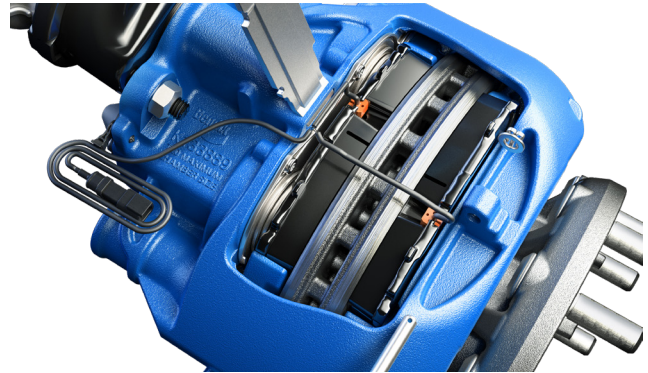
#### Telematics Example Displaying Varying Degrees of Brake Life



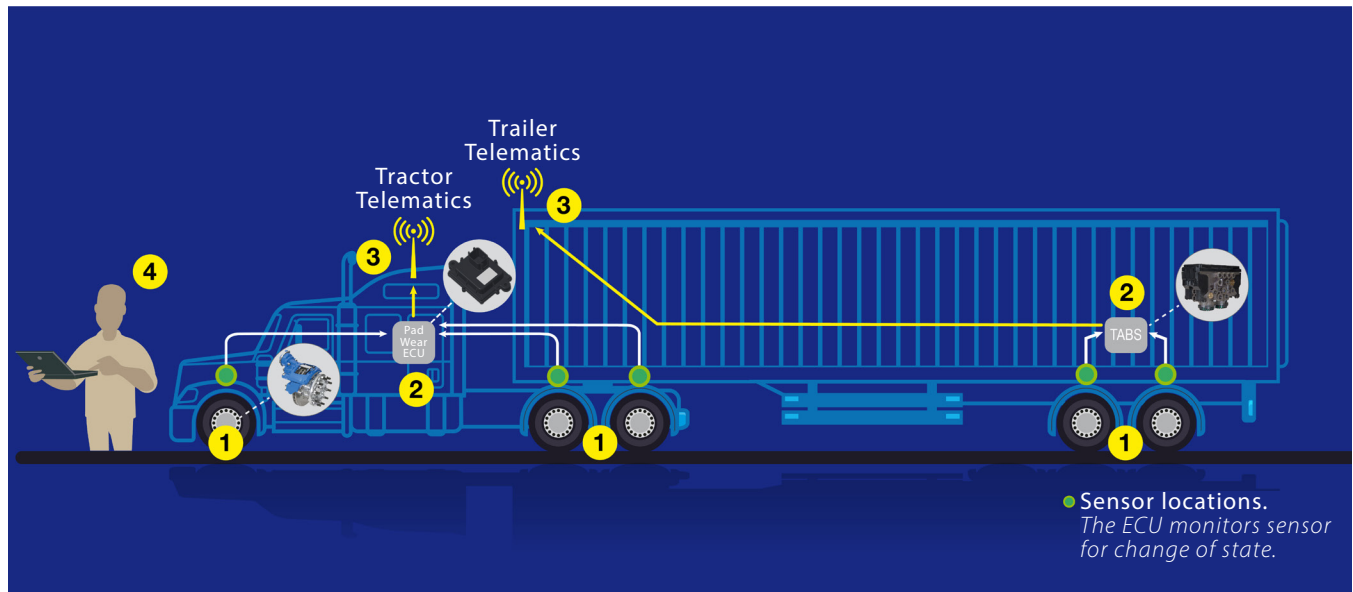
## iSense Brake Wear Sensing

Sensors mounted to the ADB pads detect when the pad thickness is approaching replacement condition. Next, the system records a diagnostic troubleshooting code (DTC), and the signal is received by the ECU (electronic control unit) on the tractor or the TABS (trailer antilock braking system) unit on the trailer.

The code is transmitted on the CAN bus protocol via the J1939 to a range of telematics providers. Telematics (if equipped) notifies your fleet office that pad replacement is needed.



## How iSense Pro/iSense works



1. The sensor detects that the pad or brake wear life is nearing replacement condition.
2. The ECU (tractor) or the TABS unit (trailer) receives the iSense/iSense Pro replacement signal, triggering a diagnostic troubleshooting code (DTC).
3. Vehicle telematics (if equipped) signals your fleet home office of the need to replace the air disc brake pads and/or rotors.
4. The service technician uses a remote diagnostics tool or the Bendix® ACom® PRO™ remote software diagnostic software to identify the location of the worn brake pads and/or rotors.

Which iSense™ product is right for your fleet?

	iSense™	iSense™ Pro
<b>Condition-based Monitoring</b> <i>Alert of required maintenance</i>	Pad replacement alert only	Continuous monitoring of % of pad and rotor life
<b>Connectivity on Vehicle</b> <i>(J1939 CAN)</i>	✓	✓
<b>Communications to Fleet Operations</b> <i>Telematics reporting</i>	✓	✓
<b>Continuous Wear Sensing</b> <i>Measures combined pad and rotor wear progression</i>	N/A	✓
<b>Wheel End Identification</b> <i>Identifies wheel end requiring maintenance, including a view across the axle</i>	N/A	✓

Replacement Parts

It's easy to service iSense™ Pro and iSense™.

Product	Part Number	Description	Instructions
iSense™ Pro	K129276	BX276™ OE Pads	Once new pads are installed, the system resets and will resume monitoring brake wear life. Continue to evaluate rotor wear and replace as needed.  If you suspect the adjuster cover or wear sensor is damaged, refer to the <i>ADB Service Data Sheet</i> (SD-23-7541).
iSense™	K162217 (Version 1) K196276 (Version 2)  K162565 (Version 1) K195039 (Version 2)  <i>Version 1: Kenworth vehicles already in service. Version 2: all other vehicles.</i>	BX276™ OE Pads with sensors  Sensors only	Install the pads according to Bendix standard procedure*.  Insert the wear sensors into position in the new pads, the route sensor cable through the table plate channel and secure the plate with the mounting hardware retained at disassembly.

\*For installation instructions, or other maintenance information, see the Bendix® Air Disc Brake Service Data Sheet (SD-23-7541) available on the Document Library at B2Bendix.com.

Discover more about Bendix iSense™ Air Disc Brake Wear Sensing. Contact your Bendix Sales Representative today, call 1-800-AIR-BRAKE (1-800-247-2725) or visit bendix.com today.

