



BRS4.0

Belt Rip Scanning

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The BRS4.0 system continuously monitors a belt conveyor for belt rips and can detect loops on the conveyor to create an image of the belt in real time. The system uses real-time loop diagnostics to stop the belt in case of damage, reducing further damage and downtime. It provides real-time information and can be accessed locally or remotely.

Belt rips can quickly become a costly problem and lead to long shutdown times in critical conveyor belt infrastructure. For decades Becker Mining Systems has offered a reliable solution to this problem with its belt rip scanning system BRS.

The BRS4.0 is the latest product generation Belt Rip Scanner. The principal task remains the same: providing a reliable monitoring

system for critical transport infrastructure. The BRS4.0 constantly monitors a conveyor installation for possible damage. Detecting any type of damage, the system will immediately stop the driving motors of the belt, limiting the implicated costs.

Becker's BRS has been proven for many years to be the most reliable solution available on the market.

- Up to 15 m/s belt speed
- Remote diagnostics and control
- Advanced interfacing: TCP/IP, OPC UA, RS485, ModBus RTU
- RFID loop detection
- Environmental Protection: IP65, -43 °C – +50 °C
- Flexible drive direction
- Available as ATEX/IECEX Version
- Local Wi-Fi interface for comfortable access



How it works

To enable monitoring of steel cord belts, induction loops are embedded in the belt structure. Once installed, the BRS4.0 system detects the loops on the conveyor belt and assigns them numbers. It creates a real-time image of the belt and loops to monitor their condition.

The system includes two types of sensors, namely the BR2010 transmitter and the BR2020 receiver, which are placed under the belt with a maximum distance of 250 mm. These sensors continuously monitor the condition of the line in real time: if a rip is detected, BRS4.0 stops the line to minimize further damage and downtime.

The system provides detailed information about loop positions, their status and the last ten status changes of each loop.

Monitoring the BRS4.0 system is easy, as it can be accessed either locally via the 15-inch touchscreen display or remotely via PC or mobile device. Other notable features of the system include accurate belt speed measurements, real-time graphics, forward and reverse, and local and remote password protection, and the system log records the last 10,000 system changes.

BR1010 Control Unit

The BR1010 control unit is the PLC unit that processes the information from transmitter and receiver. It visualizes the belt status in real time. It can be controlled either locally via the 15" touchscreen display or remotely via ethernet TCP/IP, ModBus RTU and OPC UA. It also has a local WiFi interface that can be used to access via a mobile device.

The BRS4.0 comes with integrated User Access Management for different control levels.

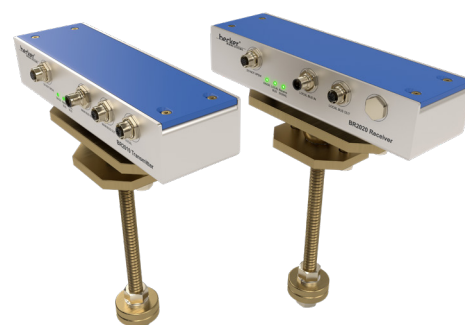
User interface and data visualization have been completely revised. Special attention was paid to maintain the intuitive UI of the previous version.



BR2010 Transmitter and BR2020 Receiver

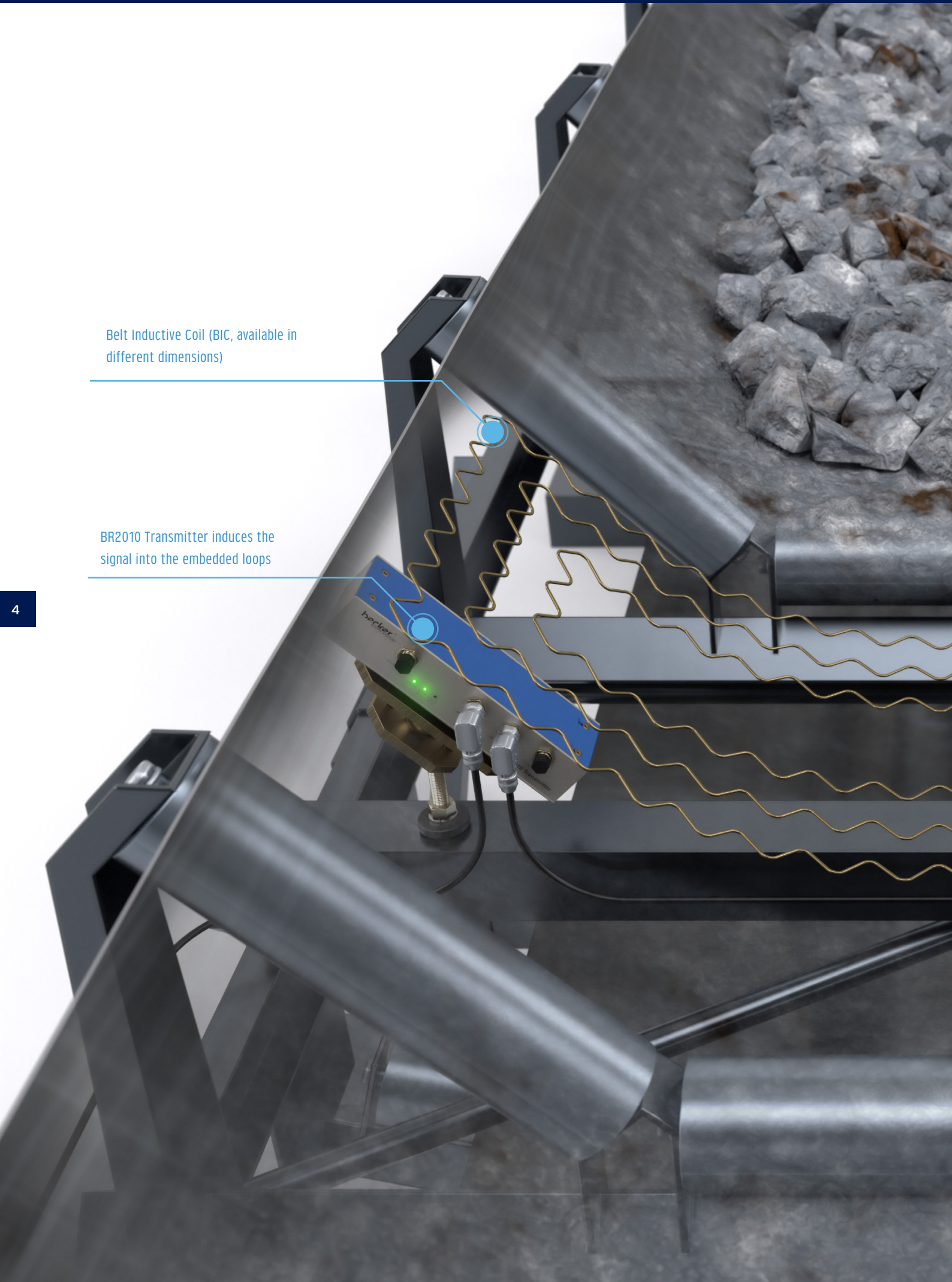
Transmitter and receiver are the core sensors to enable the rip detection. Both, BR2010 and BR2020, are entirely developed and manufactured by Becker Mining Systems. Built for extreme environmental conditions, the sensors come with IP65 protection and are rated for temperatures between -43 °C and +50 °C. The devices are also available as ATEX and IECEx certified versions.

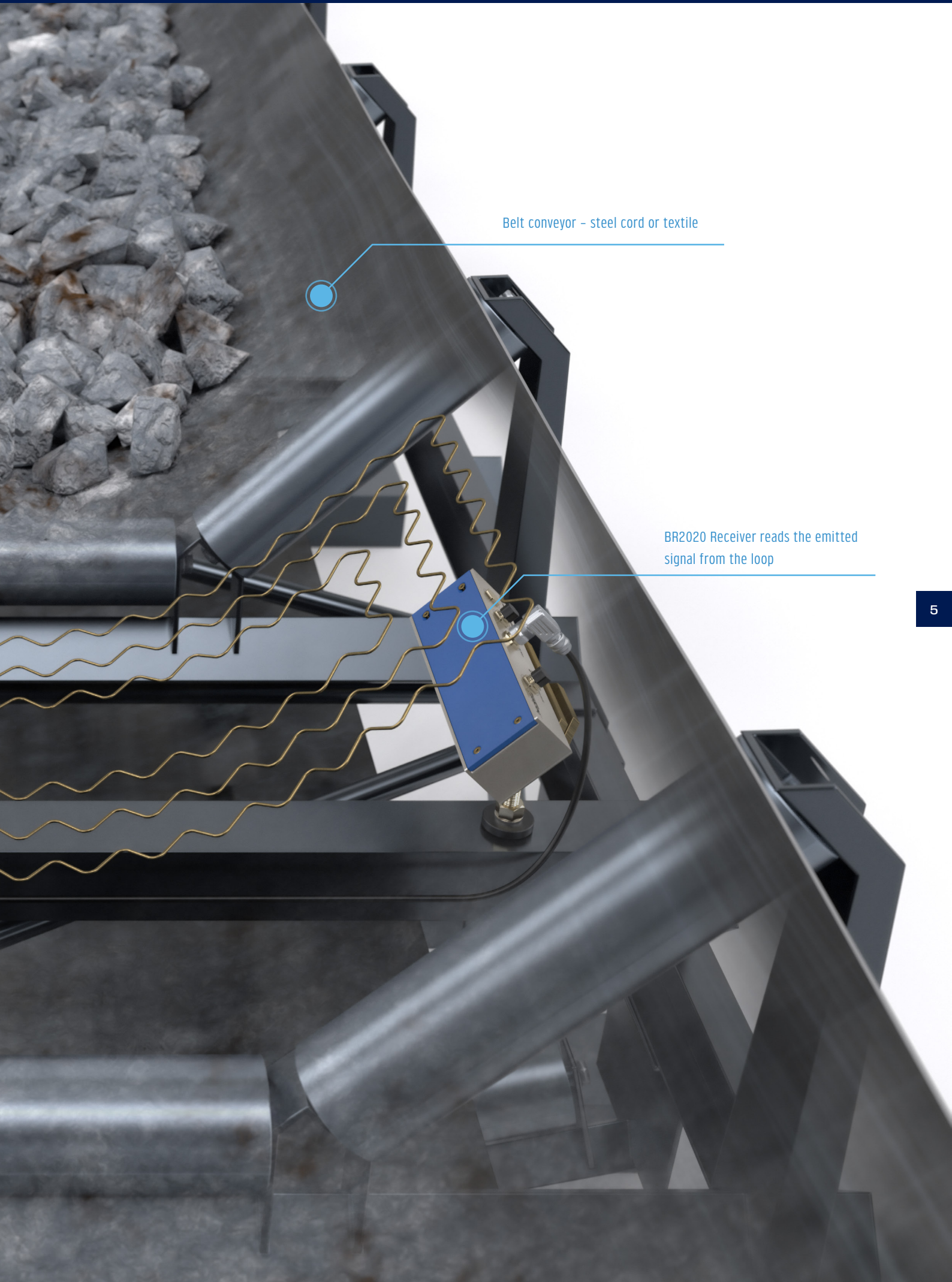
The transmitter is connected to the BRS4.0 control unit and communicates via BTS (Becker Telegram Standard).



Belt Inductive Coil (BIC, available in different dimensions)

BR2010 Transmitter induces the signal into the embedded loops





Belt conveyor - steel cord or textile

BR2020 Receiver reads the emitted signal from the loop

Customized Services

We support our customers and partners from initial concept to final commissioning and are also at your side with our individ-

ualized solutions. Local subsidiaries and distributors ensure fast service support.



Custom System Designs

Every mine is different, so should a system layout be: From energy supply to communication systems and transport solutions. We analyse all the available information and find the best possible solution.



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Our technicians can support your team on-site or remotely to get things done right.



Emergency Support

We offer emergency onsite support for our customers. Depending on geographic and travel distance, on-site service can be as quick as 6 hours.



Technical Trainings & Workshops

With your Becker products you can count on technical trainings for all your staff. Depending on your needs we suggest regular workshop onsite and remote to keep technicians up to speed with your Becker products.

Contact Us

Becker Mining Systems accompanies and supports you from the first moment to find the best solution for your needs.

 sales@becker-mining.com

Send an inquiry and contact a sales representative today – we help you and your company to focus on the essentials.

Technical Data

BR1010.* Control Unit

Ambient Temperature Range	-43 °C - 50 °C
Ingress Protection	IP65
Supply Voltage	90 V AC - 264 V AC
Rated Power	Approx. 550 W
Frequency	47 Hz - 63 Hz
Height x Width x Depth	535 mm x 540 mm x 190 mm
Weight	30.2 kg
Touchscreen Size	15"
Touchscreen Resolution	1024 x 768

BR2010 Transmitter / BR2020 Receiver

Ambient Temperature Range	-40 °C - 60 °C
Ingress Protection	IP65
Supply Voltage	10 V DC - 15 V DC
Operating Current	≤ 400 mA
Carrier Frequency	56 kHz
Modulation Frequency	Approx. 3.5 kHz
Height x Width x Depth	55 mm x 270 mm x 80 mm
Weight	3 kg
Bus (RS485)	9 600 Baud - 115 200 Baud



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