

RFID ACCELERATES TOOL EXCHANGE ON MOBILE EQUIPMENT



BRANCH: MOBILE EQUIPMENT

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The simple, safe, and at the same time fast exchange of tools is an important sales feature for mobile equipment

Application:

Depending on the work at hand, the tools on mobile equipment are changed frequently. This must be accomplished quickly and safely at the same time.



RFID CAN-Bus Coupler

Goal:

Protect tools from being damaged by automatically adjusting pneumatic operating parameters. Increase yield as unproductive exchange times can be shortened. Better rental time management with integrated operating hour counter.

Requirements:

Mechanically and electrically robust hardware. Reliable correlation between tool and pneumatic operating parameters.

Customer advantage:

Fully automatic tool exchange configuration process for highest machine reliability.

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What has been done:

Inside the cab the RFID interface is connected to the onboard CAN bus of equipment. A compact 18 mm read head is mounted at the front of the excavator arm and is then connected to the RFID interface using a shielded cable with M12 connection. RFID tags are flush mounted in each attachable tool or bucket and are thus well protected from the elements by the steel of the tool itself. The tags carry a unique ID allowing the mobile equipment to determine the correct pneumatic operating data for the tool. Once the tool has been mechanically linked, the RFID tag is automatically read and the correct parameters are set, assuring proper operation and preventing damage. No additional manual steps are needed, which reduces the tool exchange time. Frequently, mobile equipment is rented or leased. The RFID system allows the accurate determination of actual usage hours which can be used to calculate rental fees. It is now also possible to optimize service intervals as the actual usage hour for each tool is known.



Fast and safe tool exchanges save time and prevent machine damage

The process parameters for the various tools and buckets can be read and adjusted faster and more safely using an RFID solution.