

# AUTOMATIC IDENTIFICATION OF MOUNTING DEVICES ON LIEBHERR HYDRAULIC EXCAVATORS

COUNTRY: GERMANY

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## THE NEW TOOL MANAGEMENT

Liebherr has been providing fully automatic coupling systems for hydraulic excavators for 25 years. Six years ago, Liebherr extended its product selection with the modularly designed, patented LIKUFIX quick change system. This system is used for fast changes of all hydraulic mounting devices on a hydraulic excavator from the cab.



Fig. 1: Liebherr hydraulic excavators with mounting tools

Liebherr presented the latest development phase of the LIKUFIX system with a new TOOL MANAGEMENT system at Bauma 2007. With the inductive RFID system Pepperl+Fuchs IDENT-I System P, the mounting tool is automatically detected by LIKUFIX during the change process. All necessary parameters are set on the excavator by the control system. This TOOL MANAGEMENT system makes excavators even more economical and prevents incorrect operations by the excavator driver. The result is lower operating and maintenance costs with greater productivity.



Fig. 2: Quick change system with fully potted IPH-18GM-V1



Fig. 3: Mounting tool with fully potted IPC03-16GK data carrier

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**Fig. 4:** Quick change system with mounting tool

The IPH-18GM-V1 read/write head is mounted in the excavator's quick change system. Each mounting tool also contains a fully potted IPC03-16GK data carrier. Relevant information such as oil quantity, pressure, and type, or operating hours of mounting tools is recorded in this RFID chip and transferred inductively. The information is communicated through the IC-KP1-B16-LBH-SUBD control interface via a CAN-Bus interface from the IPH-18GM-V1 write/ read head directly to the excavator control unit.

## ADVANTAGES OF THE PEPPERL+FUCHS RFID SYSTEM

- Sturdy design with fully potted electronics in the IPH-18GM-V1 write/read head
- High temperature resistance
- Serial communication allows for mounting between write/read head and IC-KP1-B16-LBH-SUBD control interface independent of length
- Direct communication with excavator control via CAN-Bus interface
- Rugged IPC03-16GK passive data carriers with protection type IP68/ IP69K
- Standardized economical data carriers