

FL-Inspector

Microwave Moisture Measuring System for wireless measured value transmission in concrete truck mixers



Usage and applications

Our new development, the FL-MOBI-MIC-Inspector, consists of a microwave moisture measuring probe, a consistency measuring bar with transmission unit and a Touch-Pad to receive and display the measuring signals. The wireless transfer of humidity measurement signals between the transmitter and the Touch-Pad is useful in applications where the operation of wired sensors has been impossible. Our system enables accurate monitoring of the moisture gradient in concrete truck mixers. In addition to product moisture, other process parameters such as slump, concrete consistency, residual water, product temperature, filling level, rotating direction and speed of the mixing drum are collected for full process monitoring.

The readings are transmitted via wireless transmission to the Touch-Pad. We selected an industrial standard for the connection to ensure reliable data transfer at long range even under challenging conditions. The transmitting unit is powered by a rechargeable battery. The operation time can be extended by using a rechargeable battery pack which is offered separately. If the transmission unit is out of range of the Touch-Pad or the mixing drum is standing still, the probe and transmission unit enter a power saving mode automatically, extending the system's operation time. The probe, consistency measuring bar and transmission unit can be installed easily in the drum flap of the truck mixer.

Special Features

- Moisture and Consistency measurement of concrete in rotating mix drums of truck mixers.
- Application in ready mix and precast concrete industry.
- Compact dimensions of microwave probe and transmission unit.
- Reliable transmission of measurement signals at a long range by using industrial-strength wireless standard.
- Easy parameterization and calibration through Touch-Pad.

Technical Data (Technical Data)

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| Cover / Weight | Stainless Steel Base Plate / UV resistant plastic cover / IP 65 / 2,0 kg |
| Dimensions | Ø: 150 mm Total Height incl. Consistency Measuring Bar: 220 mm |
| Moisture sensor surface | High wear resistant ceramic |
| Consistency Measuring Bar | Stainless Steel / Length: 180mm / ∅: 30mm |
| Working Range of Temperature Probe | 0°C – 80°C (32° - 176°F) |
| Supply Voltage / Power Consumption | 2.4 V – 5 V via battery pack / 0,7 Watt (incl. probe) |
| Measuring Range | 0-15% or 0-XX.X% (depending on measured medium) |
| Accuracy | Depending on measuring range and material (approx. +/-0,3%) |
| Operating time per battery charge Optional battery pack | Appr. 16h continuous operation Appr. 7-day continuous operation |