Monitoring of medical technology accessories using RFID
Where is microsensys technology placed, our goal and mission

microsensys connecting the REAL WORLD of THINGS with the VIRTUAL WORLD of DATA

RFID technology is our mission and passion. We are continuously looking for stunning innovative solutions.

Real Objects

Virtual Data
RFID Components and System Structure

- Transponder/Sensor
- Read/Write Units and Modules
- Host Device
- System Integration

Interconnections:
- **ENERGY**
- **DATA**
- **AIR Interface**
- **HOST Interface**

RFID solutions
RFID Air Interface

**frequencies and protocols**

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- **LF – 125-134KHz**
  - based on inductive coupling, mid range comm. distance, low data rate

- **HF – 13.56MHz**
  - based on inductive coupling, short distance, high data rate (up to 848kbps), worldwide one frequency, high power transmission (1mW)

- **UHF – 868, 915, 940MHz**
  - based on electromagnetic waves, long distance comm. (up to 2m), bulk data capture, very low power transmission (1μW), very high field absorption in water

**protocol standards:**

- different ISO standards, EPC ....
- special security solutions: Mifare, LEGIC, NFC ...
Our RFID-Components - Advantages

- Contactless
- Miniaturized
- No Battery
- Long lifecycle
- Functionality in harsh environment
- Sterilizable
- Extra high level of data security
- Easy customization
- Simple integration in a medical device
- Meets international standards
Identification of Replacement Parts & Disposables

iID-MINI-TAGs and customized reader modules

Unique Identification and Brand Protection
- Closed coupling system solution
- Communication distance: approx. 1 mm HF
  approx. 2 cm UHF
- Security features available:
  ► OTP
  ► Password
  ► Authentication
  ► Encryption
- Customization of reader equipment

Measurement of Consumption State
- Using of TELID-TAGs (conductivity measurement)
- Storing of using cycles at disposables
Surgical Instrument Tagging
best with mic3® TAGs or TAGs on metal and iID® PEN readers

Medical Instrument Identification
• for identification of instruments and sterilization process control
• life cycle management

Applications & Features
• ensure a fully documented lifecycle of a single instrument available as data on the object
• sterilization at 136°C possible and 3.2 bar autoclaving process
• brand protection

Hedström File with mic3® 64RO
• smallest transponder world wide

MINI-TAGspecial 4.5
• mounting in metal
• worldwide unique identification
Process monitoring
Best with iID®DESKTOPsmart and TELID®311

Supervision of cleaning and disinfection processes

TELID®311 Temperature Data Logger

- **System**: iID-3000, 13.56 MHz, based on ISO 14443
- **Memory**: 256kbit E²PROM, 8,000 samples
- **Dimension**: D27 metal or peek
- **Working Temperature**:
  - Special Types:
    - -45°C … +125°C
    - -30°C … +140°C sterilization proofed
- **Accuracy**: +/- 0.5°C, calibration available
- **Protection**: IP65
- **Mounting on metal possible**
- **Operation modes**: Sleep, Stop Full, Roll Over
- **Definition of starting time, measuring time intervals, temperature limits in TELID®soft**
Intracranial Pressure Measurement

development of customer specified products based on microsensys standard products TELID®200

Passive RFID Sensors  TELID® 241.rm

- Pressure Range: 500 … +1200 mbar, abs.
- Resolution: 0.1 mbar
- Accuracy: +/-0.7 mbar
- Temperature: +5 … +45°C
- Resolution: 0.1 degree
- Size: D 25 mm
- Sensor-Needle: D 1.5 mm
- RFID Front End: ISO14443
- ADC: 16bit
- EEPROM: 256bit
- ID-No (OTP) calibration data encryption und checksum
- Sample Rate: 5 Hz
- EEPROM und sensor access with pass word
Create results in the medical technik with the products of Micro-Sensys

- Risk minimization for patients and medical staff
- Data Management
- Trademark Protection
- Cost Reduction
- Improvement in the Quality Management
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