

# TELID® - smart sensor transponders



TELID® product line combines wireless identification with sensor applications.

Scope of this document is an overview of both battery-less **TELID®200** HF or NFC sensor transponders and **TELID®400** UHF sensor transponders with wireless frontend to be used with *iID*® contactless RFID interfaces and *iID*® software components for field service and condition monitoring.

**Identify • Measure • Evaluate**



# ... for all kind of sensing



**TELID® 200** HF sensor transponders for OEM applications in industrial, medical and pharma environment





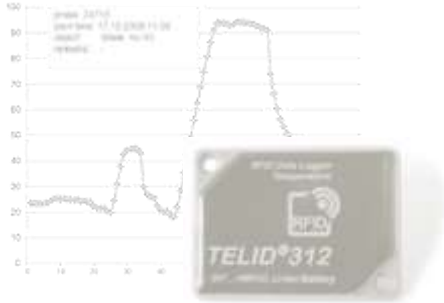

**TELID® 200.nfc** sensor transponders for mobile field service and general NFC smartphone assisted applications.



**TELID® 400** UHF sensor transponders for industrial condition monitoring, environmental sensing and long range applications in particular.

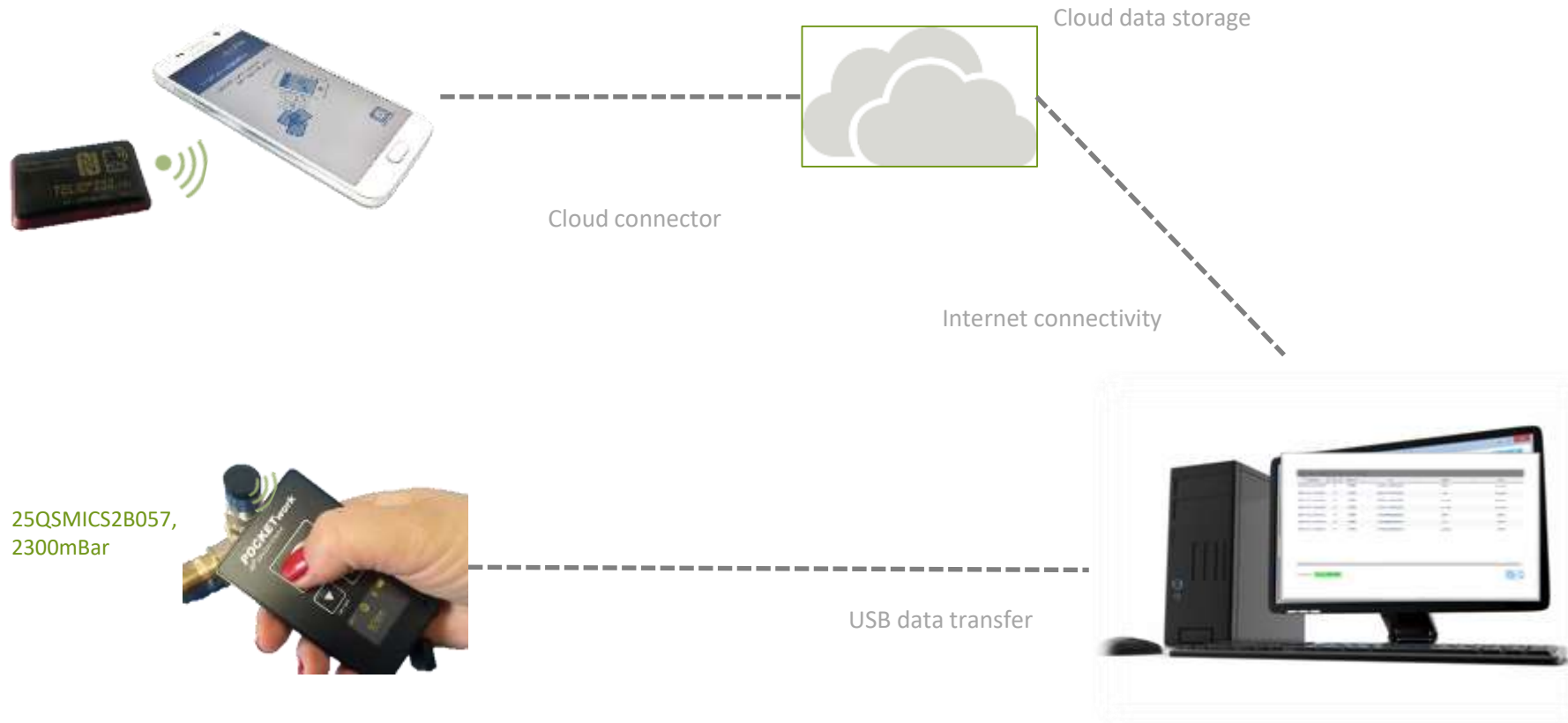


# Classification

	RFID-Transponder	Passive TELID®200 and TELID®400 RFID-Sensor-TAGs	Semi-Passive TELID®300 RFID Data logger	Active components
Function	Identification, Data storage	Identification, Data storage, sensing	Identification, Data storage, sensor monitoring	Identification, sensing
Technology	HF, UHF	HF, NFC, UHF	HF, UHF	BLE, LoRa, 5G, ...
Operation	batteryless	batteryless, sensor measurement while scanning	Battery assisted, continuous or event-based measurement	Battery-support for sensor measurement and data transmission
Properties	Maintenance free	Maintenance free, short range or medium range	Long life, battery assisted measurement, short range passive data transmission	Medium life time, long range communication
Example				



# Overview – mobile process (HF, UHF or NFC)



Passive **TELID®** sensor transponders are suitable for mobile maintenance and field service applications.

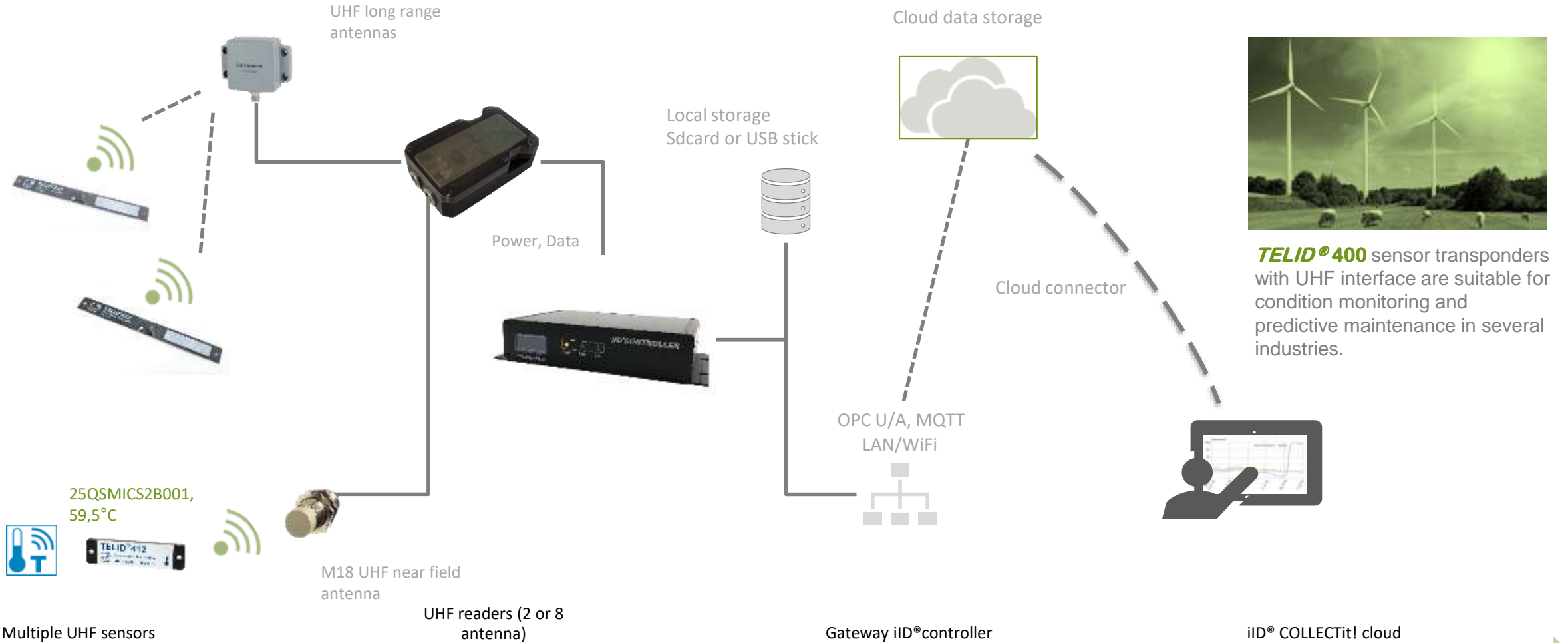
HF or UHF sensors

Mobile RFID datacollector or industrial handheld or Smartphone

Data upload or data storage on mobile device

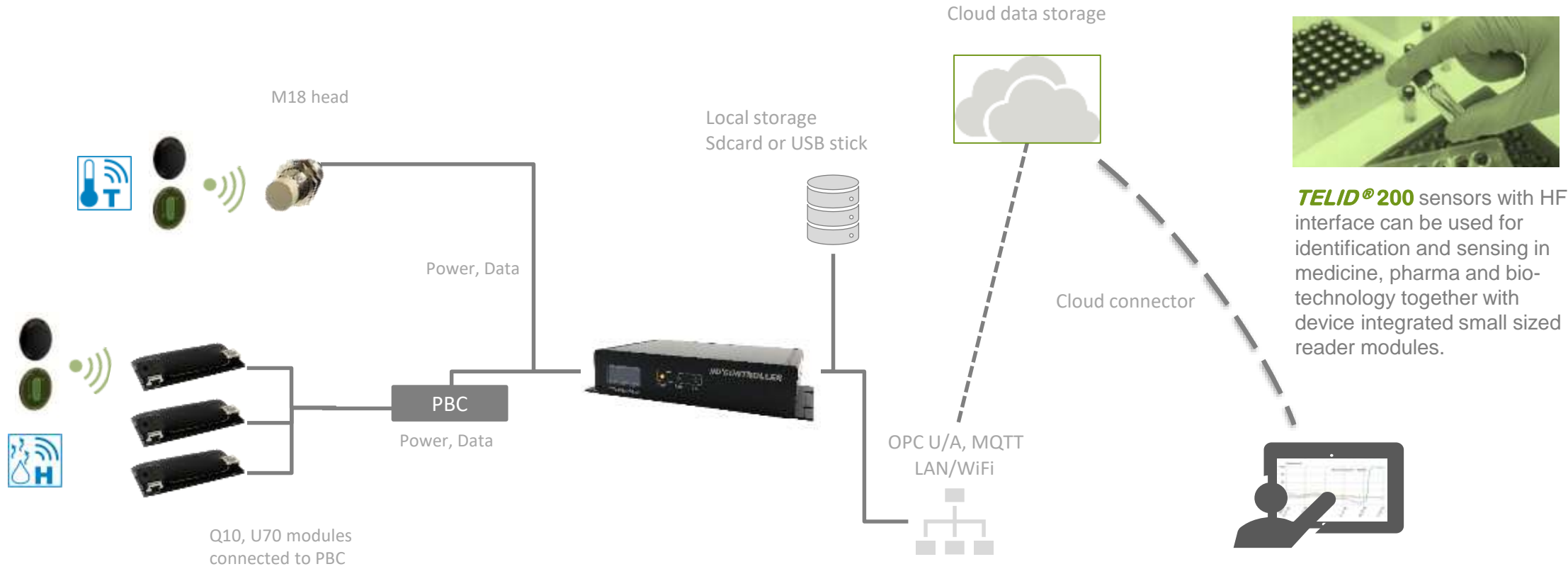
iID® COLLECTit! cloud

# Overview – fixed setup UHF (near field / long range)



**TELID® 400** sensor transponders with UHF interface are suitable for condition monitoring and predictive maintenance in several industries.

# Overview – fixed setup HF (near field)



**TELID<sup>®</sup> 200** sensors with HF interface can be used for identification and sensing in medicine, pharma and biotechnology together with device integrated small sized reader modules.

HF sensors







bus converters

Gateway iID<sup>®</sup> controller

iID<sup>®</sup> COLLECTit! cloud

Reader modules or readers

# Overview – TELID®200 HF – standard products







TELID® Type	Picture	Product code	Technicals	Remarks
<b>TELID®211.02, 211.03</b> Temperature Sensor TAG 		<b>12.211.109.02</b> <b>12.211.112.00</b>	Working temperature: -25°C...+85°C Accuracy: +/- 0.5 K ... +/- 1.0 K ISO14443-B / iID®-L, ISO15693, iID®-M	
<b>TELID®231, 231.02</b> Humidity Sensor TAG  		<b>12.231.210.00</b> <b>12.231.212.00</b>	Relative Humidity: 0 ... 100% RH Working temperature: -25°C...+85°C ISO14443-B / iID®-L, ISO15693, iID®-M	
<b>TELID®235</b> Humidity Sensor TAG  		<b>14.235.282.00</b>	Relative Humidity: 0 ... 100% RH Working temperature: -25°C...+85°C ISO15693, iID®-M	Miniaturized form factor – for laboratory use
<b>TELID®241, 241.01</b> Pressure Sensor TAG  		<b>12.241.100.00</b> <b>12.241.102.00</b> <b>12.241.112.00</b>	Pressure Range: 10 ... 1200 mbar ISO14443-B, iID®-L Gel protected, pressure Range: 0..2bar, 0..30bar ISO15693, iID®-M	
<b>TELID®243</b> Pressure Sensor TAG  		<b>12.243.439.01</b>	Pressure Range: 0 Bar .. 3Bar / 100bar ISO14443-B, iID®-L	1/4" fitting, D17M













# Overview – TELID®200 HF – project types

TELID® Type	Picture	Product code	Technicals	Remarks
<b>TELID®271</b> 1D Magnetic Field Sensor TAG 		<b>12.271.109.30</b>	Design D14, 14mm diameter Field Range: -1 ... +1mT ISO14443-B, iID®-L	On request
<b>TELID®251</b> ADC Sensor TAG 		<b>12.251.109.xx</b>	Asym/Diff: 0 ... +/- 2V Resistance (2point/4point): 100Ohm ... 1MOhm Resistance (full bridge): 1k ... 100kOhm ISO14443-B, iID®-L	On request
<b>TELID®281.3Dm</b> 3D acceleration Sensor TAG 		<b>12.281.250.10</b>	Measurement range: -/+2 , -/+8 g, -/+16 g Sampling rate: up to 1600Hz 12.281.250.10 8kbit E²PROM, 24kbit RAM ISO14443-A	Special evaluation software available
<b>TELID®203.io2</b> Digital input TAG 		<b>13.203.109.20</b>	2 pin digital input ISO14443-B, iID®-L	Not for new projects
<b>TELID®282.i</b> Inclination Sensor TAG 		<b>13.282.159.30</b>	Design Q43S, dimension: 42x27x4mm Measurement range: -/+1.0 g, -/+45 grd Resolution: 0.5 grd ISO14443-B, iID®-L	







# Overview – TELID®200.nfc

TELID® Type	Picture	Product code	Technicals	Remarks
<b>TELID®212.nfc</b> Temperature Sensor TAG 		<b>13.212.714.10</b>	Design Q43S, dimension: 42x27x4mm Temperature Range: -30°C...+65°C ISO14443A, NFC compatible	
<b>TELID®232.nfc</b> Humidity Sensor TAG 		<b>13.232.714.10</b>	Design Q43S, dimension: 42x27x4mm Relative Humidity: 0 ... 100% RH Temperature Range: -30°C...+65°C ISO14443A, NFC compatible	
<b>TELID®257</b> Moisture Sensor TAG 		<b>12.257.114.00</b>	Dimension: 25x30x3mm, pin 120x15x1.5mm capacitive measurement of VWC Resolution: 1% ISO14443A, NFC compatible	app “TELID®257.nfc FLOWERpot” available in Google™ Play store <a href="#">click here...</a>





# Overview – TELID® 400

TELID® Type	Picture	Product code	Technicals	Remarks
<b>TELID®412.Q72</b> Temperature Sensor TAG 		<b>16.412.333.00</b>	Design Q72, dimension: 70x18x4mm Temperature Range: -30°C...+65°C	For medium temperature application, moving objects, short measurement time
<b>TELID®412.02, 412.03</b> Temperature Sensor TAG 		<b>16.412.333.02</b> <b>16.412.303.03</b>	Design Q72, dimension: 70x18x4mm Temperature Range: -40°C...+150°C	For high temperature application, measurement time up to 500 msec
<b>TELID®402</b> Digital InputTAG 		<b>16.402.125.01</b>	Design Q72, dimension: 70x18x10mm Binder M5 connector, 1 digital input	Only for projects
<b>TELID®472.Q72</b> 1D Magnetic Field Sensor TAG 		<b>16.472.124.11</b>	Design Q72, dimension: 70x18x5mm Reed sensor, Switch level: 1.8 – 4.5 mT	For proximity sensing
<b>TELID®402.I2</b> RED/GREEN LED TAG 		-	Design Q22100, dimension: 100x22x3mm Actuator transponder, two LEDs for optical visualization	For digital workplace and intelligent material management

# Overview – TELID® 400

TELID® Type	Picture	Product code	Technicals	Remarks
<b>TELID®412.Q10100</b> Temperature Sensor TAG 		-	Design Q10100, dimension: 10x100x3mm Temperature Range: -30°C...+65°C	
<b>TELID®422.I.uv.Q10100</b> Light Sensor TAG  		-	Design Q10100, dimension: 10x100x3mm Ambient light: 0 ... 100klux UV index: 0..15	On inquiry
<b>TELID®432.Q10100</b> Humidity Sensor TAG  		-	Design Q10100, dimension: 10x100x3mm Humidity: 0 ... 100% RH, Working temperature: -25°C...+85°C	
<b>TELID®442.Q10100</b> Pressure Sensor TAG  		-	Design Q10100, dimension: 10x100x3mm Pressure: 300hPa... 1100hPa Working temperature: -25°C...+85°C	On inquiry
<b>TELID®452.Q15160</b> ADC Sensor TAG 		-	Design Q15160, dimension: 15x160x2.5mm Voltage: 1.8V Resistance 2point: 0kOhm..40kOhm Resolution: 12bit	On request

# Ordering information – TELID<sup>®</sup> starter kits

Bundle Type	Picture	Ordering information	Content	Remarks
TELID <sup>®</sup> 200 Starter Kit		<b>TELID200-KIT19</b>	1 x iID <sup>®</sup> M30 HEAD (USB interface) 2 x TELID <sup>®</sup> 211.03, 1 x TELID <sup>®</sup> 231.02, 1 x TELID <sup>®</sup> 241.01, 1 x TELID <sup>®</sup> 282.i 1 x USB stick with iID <sup>®</sup> DEMOSoft containing SENSORdemo	sensor transponders measuring temperature, humidity, pressure or inclination.
TELID <sup>®</sup> 251 ADC Starter Kit		<b>TELID251-KIT19</b> (project specific)	1 x iID <sup>®</sup> M30 HEAD (USB interface) 5 x TELID <sup>®</sup> 251 (different measurement types possible) 1 x USB stick with iID <sup>®</sup> DEMOSoft containing SENSORdemo	sensor transponders for voltage measurement with current source
TELID <sup>®</sup> 400 Starter Kit		<b>TELID400-KIT19</b>	1 x iID <sup>®</sup> INDUSTRY0906ext (USB interface) 1 x UHF patch antenna T7, 1 x antMod m50.250 2 x TELID <sup>®</sup> 412 (Q72) and 1 x TELID <sup>®</sup> 431, 1 x TELID <sup>®</sup> 441, 1 x TELID <sup>®</sup> 402.I (all types Q10100) 1 x USB stick with iID <sup>®</sup> DEMOSoft containing SENSORdemo	sensor transponders measuring temperature, humidity, pressure inclination or light
TELID <sup>®</sup> 452 ADC Starter Kit		<b>TELID452-KIT19</b> (on request)	1 x iID <sup>®</sup> INDUSTRY0906 (USB interface) 1 x UHF patch antenna T7, 1 x antMod m50.250 5 x TELID <sup>®</sup> 452 (different measurement types possible) 1 x USB stick with iID <sup>®</sup> DEMOSoft containing SENSORdemo	sensor transponders for voltage measurement with current source

# TELID® 200 Sensor Bundle mobile



**TELID® 200 Sensor Bundle mobile comes in soft case and contains following items:**

**Sensor transponders:**

- 2 x TELID®211.03 temperature sensor transponder
- 2 x TELID®231.02 temperature & humidity sensor transponder
- 1 x TELID®241.01 temperature & pressure sensor transponder
- 1 x TELID®282.i inclination sensor transponder

**iID contactless mobile RFID interface:**

- 1 x iID®POCKETwork HF
- 1 x script "Pwo\_T2xxMAX\_v1.2.script" pre-installed on iID®POCKETwork
- 1 x QuickStartGuide iID®POCKETwork HF

**Software:**

- 1 x USB stick with iID® MPC DATAload software for data download to PC and Documentation (as PDF)

## Description

- Complete solution including
  - Diverse passive sensor transponders
  - iID® POCKETwork handheld RFID reader with display and real time clock for mobile datacapture
  - iID® MPC DATAload PC software for data download and export for evaluation and reporting
- RFID sensor transponders come with industrial packaging for harsh environment conditions and encapsulated for using in fluid (depending on sensor type)

# TELID® 400 Sensor Bundle mobile



**TELID® 400 Sensor Bundle mobile comes in soft case and contains following items:**

**Sensor transponders:**

- 2 x TELID®412 Q72 temperature sensor transponder
- 2 x TELID®431 Q10100 temperature & humidity sensor transponder
- 1 x TELID®441 Q10100 temperature & pressure sensor transponder
- 1 x TELID®422 Q10100 ambient light and UV sensor transponder

**iID contactless mobile RFID interface:**

- 1 x iID®POCKETwork UHF
- 1 x script "Pwo\_T4xxSensorV4.script" pre-installed on iID®POCKETwork
- 1 x QuickStartGuide iID®POCKETwork UHF

**Software:**

- 1 x USB stick with iID® MPC DATAload software for data download to PC and Documentation (as PDF)

## Description

- Complete solution including
  - Diverse passive sensor transponders
  - iID® POCKETwork handheld RFID reader with display and real time clock for mobile datacapture
  - iID® MPC DATAload PC software for data download and export for evaluation and reporting
- RFID sensor transponders come with industrial packaging for harsh environment conditions and encapsulated for using in fluid (depending on sensor type)

# TELID® 200.nfc sensors – smartphone ready



## TELID® bundles come in card board package and contain following items:

### Sensor transponders:

- 3 x TELID®257 soil moisture sensor
- 1 x TELID®212.nfc temperature sensor transponder
- 1 x TELID®232.nfc temperature and humidity sensor transponder

### Software:

- 1 x TELID®257 flower pot, available available in Google™ Play store: [click here...](#)

## Description

- Complete solution including
  - TELID®257 soil moisture sensor transponder
  - diverse passive sensor transponders with NFC frontend
  - iID® software demo for Android™ based smartphones with NFC interface
- RFID sensor transponders come with industrial packaging for harsh environment conditions and encapsulated for using in fluid (depending on sensor type)



# TELID<sup>®</sup> 200 sensor data collector bundle stationary



## TELID<sup>®</sup> bundles come in card board package and contain following items:

### Sensor transponders:

- 2 x TELID<sup>®</sup>211.03 temperature sensor transponder
- 2 x TELID<sup>®</sup>231.02 temperature & humidity sensor transponder
- 2 x TELID<sup>®</sup>241.01 temperature & pressure sensor transponder
- 2 x TELID<sup>®</sup>282i inclination sensor transponder

### RFID interface:

- 1 x iID<sup>®</sup>controller CCU with RS232TTL serial interface
- 1 x M30 head with RS232TTL serial interface
- 1 x QuickStartGuide iID<sup>®</sup>sensor data capture HF

### Software:

- 1 x iID<sup>®</sup> sensor data capture (pre-installed) and Documentation (as PDF)

## Description

- Complete solution including
  - Diverse passive HF sensor transponders
  - iID<sup>®</sup> controller CCU with RS232TTL serial interface
  - pre-installed data capture software for automatic, stand alone long time sensor data logging to USB data storage
  - M30 HF reader with RS232 TTL serial interface
- RFID sensor transponders come with industrial packaging for harsh environment conditions and encapsulated for using in fluid (depending on sensor type)

# TELID® 400 sensor data collector bundle stationary



**TELID® bundles come in card board package and contain following items:**

**Sensor transponders:**

- 2 x TELID®412 Q72 temperature sensor transponder
- 2 x TELID®412.03 Q72 high temperature sensor transponder
- 2 x TELID®432 Q10100 temperature & humidity sensor transponder
- 2 x TELID®442 Q10100 temperature & pressure sensor transponder
- 2 x TELID®402.I Q10100 UV sensor transponder

**RFID interface:**

- 1 x iID®controller CCR with integrated UHF RFID interface
- 2 x antenna T7
- 1 x QuickStartGuide iID®sensor data capture UHF

**Software:**

- 1 x iID® sensor data capture (pre-installed) and Documentation (as PDF)

## Description

- Complete solution including
  - Diverse passive UHF sensor transponders
  - pre-installed data capture software for automatic, stand alone long time sensor data logging to USB data storage
  - External UHF antenna with 2m cable
- RFID sensor transponders come with industrial packaging for harsh environment conditions and encapsulated for using in fluid (depending on sensor type)

# Questions?

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