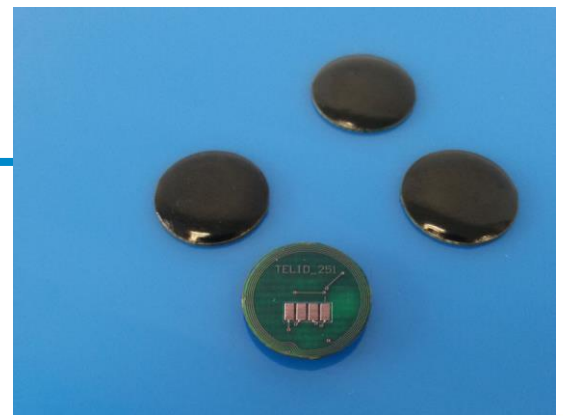# PRODUCT DATASHEET

TELID® RFID Sensors

TELID® 251

RFID analog I/O transponder

- passive ADC transponder for contactless sensors
- contact pads for analog input or output on back side
- non flexible hard TAG, package D14
- contactless data communication ISO 14443

RFID Sensor TELID® devices are an integral part of *microsensys* iID® system solution.

These devices are very useful for wireless sensors applications in industrial solutions. TELIDs are operating optimal with microsensys standard RFID reader.

RFID Technology:	RFID system TELID®200	iID®3000 based on ISO 14443B
Chip Type:	iID-L	closed coupling HF sensor solution
Carrier Frequency:	13.56 MHz	
Communication Rate:	106 kbps	
Communication Distance:	0 ... 20 mm	depending on reader antenna and environmental conditions
Data Memory:	EEPROM	read write type endurance >100.000 cycles, data retention > 10 years
Static Memory:		parameters, calibration data, manufacturer OTP
Free Memory:	128bit	higher memory on inquiry
ADC:	low power, 16 bit analog to digital converter with internal reference	
Working Range:	-2.048 V … +2.048 V	analog input voltage
Resolution:	16 bit	theoretical 62.5 µV
Input Impedance:	6 MΩ	typical
Sample Rate:	8 sps	ADC supports up to 860 sps
Voltage Source:	approx. 2.2 V	stabilized
Source Impedance:	<100 Ω	for full bridge device
	10 kΩ	for 2 point and 4 point resistance measurement devices
Operating Mode:	PASSIVE SENSOR	
Measure Modes:	ON LINE MEASUREMENT	
Basic Functions:		programming of sensor parameters and data memory commands
Parameters:		calibration data (optional)
Battery:	no battery	
Working Temperature:	-25°C ... +85°C	
Storage Temperature:	-40°C ... +150°C	maximum range
Dimensions:	D 14 mm, max. TH 2.0 mm (half lens housing)	
Packaging:		epoxy (black) on glass fiber enforced substrate
Contacts and Forms:	Type 12.251.109	gold pads on back side, half lens
	Type 12.251.219	with customized cable, lens form
Marking:		laser printed product type on top, optional unique ID-No
Mounting Instruction:		no using on metal
Appropriate RFID Reader:	M30-HEAD reader	with RS232TTL or USB
	PEN reader	with RS232TTL, USB or Bluetooth
	POCKETwork	with Bluetooth
	UNI13 module	OEM product
Software:	iID driver engine, iID DEMOsoft,	
	TELID application software for Windows PC and mobile devices on inquiry	

Type :	**12.251.109.40**	**12.251.109.41***	**12.251.109.10***	**12.251.109.20**	**12.251.109.30***
Functionality:	ADC-ASYM	ADC-DIFF	RESIST-2P	RESIST-4P	FULL BRIDGE
PIN Assignment 1:	OPEN	OPEN	OPEN	2.2V, 10kΩ	2.2V
PIN Assignment 2,3:	ADC IN,GND	ADC IN,IN	ADC HI,GND	ADC IN,IN	ADC IN,IN
PIN Assignment 4:	GND	OPEN	OPEN	GND	GND *) on inquiry