

# PRODUCT DATASHEET

TELID® RFID Sensors

## TELID® 281.3Da preliminary

### intelligent 3D acceleration sensor transponder

- wireless passive RFID acceleration sensor
- 3D vibration measurement 0...6400 Hz, up to ±16g, including integrated FFT and rotation speed sensor
- mid size hard TAG, mountable on metal objects
- contactless data communication based on ISO15693

RFID Sensor TELID® devices are an integral part of microsensys iID® system solution. These devices are very useful for intelligent wireless sensors applications in industrial solutions, for condition monitoring and in maintenance processes. TELIDs are operating optimal with microsensys standard RFID reader



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RFID in motion

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This data sheet is subject to change  
contact microsensys for latest information

TELID281.3Da-003 pre

<b>Connecting Technology:</b>	RFID system iID®2000	wireless closed coupling passive HF sensor
<b>Chip Type:</b>	TELID®200 with integrated micro controller	
<b>Carrier Frequency:</b>	13.56 MHz	based on ISO 15693
<b>Communication Distance:</b>	0 ... 20 mm	depending on reader antenna and environmental conditions
<b>Integrated Microcontroller:</b>	ARM Cortex	ultra low power
<b>Architecture / Clock Frequency:</b>	32 bit / 32 MHz	
<b>Operating System:</b>	TELID®281advanced	last review, upgradeable
<b>Functionality:</b>	wireless communication, intelligent measurement, transient analysing, Fast Fourier Transformation	
<b>Internal Memory:</b>	EEPROM	read write type endurance >100.000 cycles, data retention > 10 years
<b>Static Memory:</b>	16 kbit	parameters, calibration data and UID
<b>Free Memory:</b>	14 kbit	free for customer data
<b>Acceleration Data Memory:</b>	RAM	max. 512 samples for one axis max. 512 samples per axis in 3D mode
<b>Acceleration Sensor:</b>	MEMS sensor, 3D	
<b>Recording Range:</b>	0 g ... ±16 g	adjustable max. range: 2 g, 4 g, 8 g or 16 g
<b>Resolution:</b>	10 bit, 12 bit or 14 bit	depending on settings
<b>Clock Accuracy:</b>	2 %	
<b>Sample Rate / Bandwidth:</b>	Transient Measurement:	x-, y-, z- axis
<b>Noise Performance:</b>	400 Hz ... 6.4 kHz / max. 2840 Hz	adjustable, -3 dB, sinus
	20 mg	at max. bandwidth
<b>Spectral Resolution:</b>	FFT Spectral Measurement:	x-, y-, z- axis
<b>Acceleration Accuracy:</b>	Sample Rate divided by 10	adjustable
	± 0.05 g	for low frequency range
<b>Radial / Tangential Acceleration:</b>	x-, y- axis	optional, only type .252/253
<b>Sample Rate / Bandwidth:</b>	max. 6.4 kHz / max. 2840 Hz	adjustable, -3 dB, sinus
<b>Noise Performance:</b>	20 mg	at max. bandwidth
<b>Rotation Speed Sensor:</b>	HALL sensor	
<b>Range:</b>	0 ... 2000 rpm	
<b>Accuracy:</b>	10 %	
<b>Temperature Sensor:</b>	SEMICONDUCTOR sensor	
<b>Working Range:</b>	-40°C ... 85°C	Storage Range: -40°C ... 125°C
<b>Resolution:</b>	1°K	
<b>Measure Modes:</b>	ON-LINE MEASUREMENT	transient, spectral, scalar
<b>Basic Functions:</b>	read UID, programming of sampling parameters and object data memory	
<b>Parameters:</b>	frequency range, filter limits, sample rate, measurement range	calibration data (optional)
<b>Battery:</b>	no battery	
<b>Working Temperature:</b>	-25°C ... +85°C	
<b>Storage Temperature:</b>	-35°C ... +105°C	recommended 25°C
<b>Mechanicals:</b>		
<b>Dimensions:</b>	D15 mm, thickness max. 6.0 mm	half lens form
<b>Packaging:</b>	D14special package	on metal type
<b>Marking:</b>	laser printed product type on top	optional unique ID-No

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<b>Weight:</b>	<1 g	
<b>Certifications:</b>		
<b>Protection Class:</b>	IP 67	
<b>Mounting Instructions:</b>	on metal possible	see Application Note
<b>Appropriate Communication Devices:</b>		
<b>RFID Reader:</b>	M30 or M18 iID®HEAD reader Customized iID®contactless reader modules iID®POCKETwork	with RS232TTL or USB for industrial application with RS232TTL or I²C with USB or Bluetooth
<b>NFC Reader Devices:</b>	Android Smart Phones Industrial Handheld Computers	please ask microsensys technical support please ask microsensys technical support
<b>Software:</b>	special TELID application or evaluation software for Windows and Android mobile devices	

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Product Code:	12.281.250	12.281. 251*	12.281. 252	12.281. 253*	*on inquiry
Type	3Da	3Da-FFT	3Da-FFT-TR	3Da-FFT-TR-N	
Application	generally	horizontal shafts	shafts	shafts	
Vibration Transient	0 ... 0.625/2.5	0 ... 0.625/2.5	0 ... 0.625/2.5	0 ... 0.32/1.28	s
Vibration Spectrum	-	0 ... 800	0 ... 800	0 ... 800	Hz
Radial Acceleration	-	-	0 ... 8	0 ... 8	g
Tangential Acceler.	-	-	0 ... +/- 8	0 ... +/-8	g
Rotation Speed	-	including position	100 ... 2000	0 ... 10000	rpm