

TELID® 281.3Da

intelligent 3D acceleration sensor transponder

- wireless passive RFID acceleration sensor
- 3D vibration measurement 0...6400 Hz, up to $\pm 16g$, 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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This data sheet is subject to change
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TELID281.3Da-007.doc

Connecting Technology:	RFID system iID®2000	wireless closed coupling passive HF sensor
Chip Type:	TELID®200 with integrated micro controller	
Carrier Frequency:	13.56 MHz	based on ISO 15693
Communication Distance:	0 ... 20 mm	depending on reader type and environmental conditions
Integrated Microcontroller:	ARM Cortex	ultra low power
Architecture / Clock Frequency:	32 bit / 4 MHz	
Operating System:	TELID®281advanced	last review, upgradeable*
Functionality:	wireless communication, intelligent measurement, transient analysing, Fast Fourier Transformation	
Internal Memory:	EEPROM	read write endurance >100.000 cycles, data retention >10 years
Static Memory:	16 kbit	parameters, calibration data and UID
Free Memory:	14 kbit	free for customer data
Acceleration Data Memory:	RAM	max. 512 samples for one axis max. 512 samples per axis in 3D mode
Acceleration Sensor:	MEMS sensor, 3D	
Recording Range:	0 g ... $\pm 16g$	adjustable max. range: 2 g, 4 g, 8 g or 16 g
Resolution:	10 bit, 12 bit or 14 bit	depending on settings
Clock Accuracy:	2 %	
Transient Measurement:	x-, y-, z- axis	
Sample Rate / Bandwidth:	400 Hz ... 6.4 kHz / max. 2840 Hz	adjustable, -3 dB, sinus
Noise Performance:	20 mg	at max. bandwidth
FFT Spectral Measurement:	x-, y-, z- axis	
Sample Rate / Bandwidth:	400 Hz ... 1,6 kHz / max. 710 Hz	adjustable, -3 dB, sinus
Spectral Resolution:	Sample Rate divided by 10	adjustable
Acceleration Accuracy:	$\pm 0.05 g$	for low frequency range
Radial / Tangential Acceleration:	MEMS sensor, 2D (x-, y- axis)	only type .252 and .253
Sample Rate / Bandwidth:	max. 6.4 kHz / max. 2840 Hz	adjustable, -3 dB, sinus
Noise Performance:	20 mg	at max. bandwidth
Rotation Speed Sensor:	HALL sensor	
Range:	0 ... 2000 rpm	
Accuracy:	10 %	
Temperature Sensor:	SEMICONDUCTOR sensor	
Working Range:	-40°C ... 85°C	
Resolution:	1°K	
Measure Modes:	ON-LINE MEASUREMENT	transient, spectral, scalar
Basic Functions:	read UID, programming of sampling parameters and object data memory	
Parameters:	frequency range, filter limits, sample rate, measurement range	calibration data (optional)
Battery:	no battery	
Working Temperature:	-25°C ... +85°C	
Storage Temperature:	-35°C ... +105°C	recommended 25°C

Mechanicals:	2 different cases available, cylinder and half lens form on metal type .500 non metal type .200	
Dimensions:	D15 mm, thickness max. 5 mm	D14 mm, thickness max. 4 mm
Weight:	<2 g	<1 g
Marking:	laser printed product type on top, optional: unique ID-No	
Certifications:		
Protection Class:	IP 67	
Mounting Instructions:	on metal possible	see Application Note
Appropriate Communication Devices:		
RFID Reader:	M30 or M18 iID®HEAD reader with RS232TTL or USB for industrial application Customized iID®contactless reader modules with RS232TTL or I²C iID®POCKETwork with USB or Bluetooth	
NFC Reader Devices:	Android Smart Phones please ask microsensys technical support Industrial Handheld Computers please ask microsensys technical support	
Software:	special TELID application or evaluation software for Windows and Android mobile devices	

Product Code:	12.281.230 12.281.530	12.281. 231* 12.281. 531*	12.281. 251 12.281. 551	12.281. 261* 12.281. 561*	*on inquiry
Type	3D	3DF	5D	5DN	
Sensors + Functions	MEMS	MEMS+FFT	HALL+MEMS+FFT	HALL+MEMS+FFT+N	
Application	generally	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 Acceleration	-	-	0 ... +/- 8	0 ... +/-8	g
Rotation Speed	-	including position	100 ... 2000	0 ... 10000	rpm