Ultrasound Solutions

Commercial document DC.R340.DAT.001

Datasheet SDT 340

Description:

The SDT340 is the perfect platform for advanced Asset Health Evaluation by means of Ultrasound and Vibration synergy. The SDT340 offers an unbeatable performance level boosted by a high sample rate, a long acquisition time and supported by a well-scaled 4Gb data memory. The device benefits from the innovative ultrasound SDT FocUS Mode for an unparalleled impact detection of bearing and gearing faults. It incorporates the tools to conduct on-field first level diagnosis.

Key Performance specifications:

- 2 input channels
- Up to 100 kHz Bandwidth
- 256 kHz sample rate
- 10 minutes record length
- 6.5 GB data memory
- On-board temperature and rotational speed measurements
- 3.5” full color display 320x480

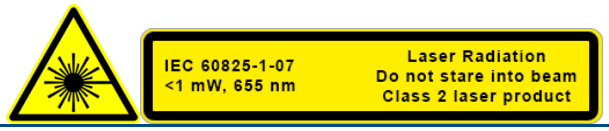
Key features:

- Tree database structure
- Quick and intuitive navigation through database nodes
- On-screen time waveform and spectrum
- Spanning and zooming functions for navigation through a record
- TWF and FFT 10 highest values table
- 4 Scalar indicators for ultrasound and vibration measurements
- Off-route and on-route data collection modes
- Recall of historical data in-the-field
- Dual Bluetooth for wireless audio and data streaming
- Signal play back

Specifications:

General		
Function		Handheld data collector
Operable with		Provided sensors
Input interface		2 channels via 7 pole LEMO connector
Display		Full color TFT 3.5” screen 320x480. Active area: width 48.96 mm (1.93”) x height 73.44 mm (2.89”)
Support languages		English, French, Dutch, German, Spanish, Italian, Russian, Turkish, Polish
Keyboard		14 functions keys
Measuring frequency range	kHz	Up to 100
Input type		Voltage
Amplification		6 stages of + 10 dB
Refresh RMS period time	ms	500 (default)
Max. sampling frequency	kHz/ksps	256
ADC Resolution	bits	16
Resolution on display		Max 4 digits
Auto power down	min	Never, 15, 30, 45, 60, 90
System features		
CPU	MHz	400 (ARM9)
RAM	MB	256
Available memory	GB	6.5
Firmware		Regular updates
Database		SQLite
Cumulated recording (based on the mounted SD card)	h	~30 hours at 32 kHz ~15 hours at 64 kHz ~7 hours at 128 kHz ~3.5 hours at 256 kHz
Max acquisition time per recording	s	600 seconds at 32 kHz 300 seconds at 64 kHz 150 seconds at 128 kHz 75 seconds at 256 kHz
Recording format		.wav
Environmental		
Operating temperature range	°C (°F)	-15 to +60 (5 to 140), non-condensing
IP rating		IP 42
Approvals		EMC compliant (directive 2014/30/EU) ROHS compliant (directive 2011/65/EU) LVD compliant (directive 2014/35/EU), applied to the AC/DC charger
Mechanical		
Housing material		Extruded aluminum, shock proof rubber protections
Dimensions	mm (in)	L x W x H : 221 x 93.5 x 44 (8.7 x 3.7 x 1.7)
Weight	g (oz)	720 (25.4), battery included
Audio connector		6.5 mm jack
Utility connector		USB type C (import/export data and update the firmware)

(Cannot be used as a recharging port)		
Battery		
Battery pack		Rechargeable and removable, type NiMh
Nominal capacity	mAh	3600
Voltage	V	4.8
Autonomy	hours	~ 7
Recharge time	hours	6-7
Charger station (Please only used the provided charger)		100 to 240 VAC, 50/60 Hz, 600-300 mA
Audio		
Operable with		SDT provided headset only (Peltor)
Safety Note		Compliant with directive 2003/10/EC, noise exposure, health and safety protection using SDT devices and provided headsets
Maximum audio output (protection)	dB SPL	+83 with SDT provided headset
Headset		25 dB NRR with Peltor quality heaphones
Bluetooth		
Type		Dual mode for data and audio streaming
Frequency band		2.4 GHz
Maximum data rate		1.6 Mbps
Transmitter power		Class 2 <4 dBm (audio) and <10 dBm (data)
Certification		Certified 4.2 audio module
Ultrasound measurement (black channel)		
Operable with		SDT provided sensors only
Compatible sensors (built-in preamplifier = +10 dB)		Contact type : RS2T, RS2T(IP65), RS2NL100-200-500, LUBSense1 Airborne type : FLEXID2, PARADISH2, AIRSense, ULTRASense, TTS2
Sensitivity		Class I exceeding ASTM 1002-11 requirements for gas leak detection with the appropriate sensor
Reference calibrated voltage		V_0 = 1 µV = 0 dBµV
dB scale definition		X dBµV = 20log(V/V_0) where V is measured then converted in X dBµV
Typical measuring range		from -10 dBµV to 109 dBµV using gain function *depending on sensors
Sampling rate	ksps	32 (heterodyned) 128 and 256 in FocUS Mode (non-heterodyned)
Available filters		Applied with the sensor recognition
Indicators		RMS, Max RMS, Peak and Crest Factor. RMS averaged over an acquisition
Refresh rate	ms	500
Spectral post-process method		FFT and envelope FFT
Audible rendering		Indirect via heterodyne method
Mixer frequency	kHz	Tunable, default mixer from the sensor recognition to provide the best audible rendering.
Vibration measurement (red channel)		
Compatible accelerometers		Any 100 mV/g ICP accelerometer
Vibration units		Accelerometry [g] and velocity [mm/s, ips]

Measuring range		0.01 g to 20 g (PEAK)
Sampling rate	ksps	32, 64
Available filters		[5 Hz-1 kHz] [10 Hz-1 kHz] (ISO 10816-3) [10 Hz-10 kHz]
Indicators		RMS velocity, RMS acceleration, Peak velocity, Peak acceleration, Crest Factor
Refresh rate	ms	500
Post-process spectral method		FFT
Audible rendering		Direct
Temperature module (on-board)		
Type		High precision non-contact infrared thermometer
Available units		Celsius, Fahrenheit, Rankine
Adjustable emissivity		[0.01 to 1], 1 by default
Measuring range	°C (°F)	-70 to +380 (-94 to +716)
High accuracy in a wide temperature range (0°C to 50°C--32°F to 122°F)	°C	± 0.5 °C
Field of view (attenuation of 50%)		10° : cover a spot of 10 cm (1/3 ft) at a distance of 10 cm (1 ft)
Rotational speed module (on-board)		
Type		Optical sensor
Units		RPM/CPM and Hz
Type of source		Red laser Class II 
Cautions		• *Never look directly to the laser beam* • *Never point the laser beam at a person' eye* • *Do not aim the laser at specular reflective surfaces* • *Never view the laser using an optical instrument*
Recommended measuring distance	mm (in)	50 to 2000 (2 to 80)
Measuring range		~10 to 99 999 RPM *a reflective band must be glued on the rotating part to perform a measurement
Warranty		
Lifetime warranty		Visit www.sdtultrasound.com for details

NB: Additional details are available in the download section of the website

The information herein is believed to be accurate to the best of our knowledge.
Due to continuous research and development, specifications are subject to change without prior notice.

Compatibilities:

SDT 340 receiver is designed to work in combination with the provided sensors and the associated cables of predefined length.

Sensors denomination	type	Non-exhaustive pillar applications
SDT RS2T (IP 50 & IP 65)	contact	Mechanical, steam trap
SDT RSNL100-300-500	contact	Mechanical, steam trap, valves, hydraulics
SDT LUBSense1	contact	Lubrication
SDT FLEXID2	airborne	Leak, electrical, tightness
SDT ULTRASense	airborne	Leak, electrical, tightness
SDT AIRSense	airborne	Leak, electrical, tightness
SDT PARADISH2	airborne	Electrical
SDT TTS2	airborne, enclosed	Tightness for Tank test
100mV/g ICP accelerometer, Hansford	contact	Mechanical

In addition, SDT 340 receiver is compatible with SDT softwares running on windows OS. The communication is ensured with the provided USB cable.

Software	Usage
UAS Lite (32-bits windows OS)	Simple
UAS 3 (64-bits only windows OS)	Advanced
SDT Updater	Update your firmware, also available in the software

Make sure you run the latest version of the software & firmware to take advantage of new features. Please refer to the user manual for instructions on how to update your instrument.

To get the maximum benefit of SDT340, contact us to get a second battery.

Safety recommendations:

• Do not expose the equipment to rough handling or heavy impacts

• Please read the user manual carefully before first use

• Opening the housing of the instrument may result in hazardous mishandling and voids warranty

• The equipment should not be used in areas where there is a risk for explosion

• Do not expose the equipment to high humidity or direct contact with water

• All repair work must be performed by SDT or authorized services

• Using any other headset or any sensor than the one supplied with the instrument can cause internal damage to the device

6	CMA 2022/01/07	Digits/resolution	MCD
5	CMA 2021/07/19	Table update	MCD
4	CMA 2021/02/23	New layout	MCD
3	MCD 2020/01/24	Change frequency range	CMA
2	MCD 2019/05/27	Add IP Rating	CMA
1	JPE 2018/09/07	Original version	AKP 2018/12/31
Ver.	**Editor**	**Nature of modification**	**Verified**

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