Ultrasound Solutions

Commercial document **DC.LUBEx.DAT.001**

Datasheet LUBEXPERT (FU.LBX.001)

Description:

SDT LUBExpert is an ultrasound solution designed to help you grease bearings right. It contains significant innovations for ultrasound driven lubrication of rolling element bearings. LUBExpert provides real-time feedback that guides lube-techs to a perfect, precision result. LUBExpert even alerts you when bearing conditions are evolving toward failure. Eliminate the guesswork and make over and under lubrication of bearings a thing of the past.

Specifications:

General	
Operable with external sensor	SDT LUBESense1 only
Software compatibility	Ultranalysis Suite 3
Built-in sensor	Laser pyrometer (temperature)
Supported languages	English, French, Dutch, German, Spanish, Italian, Russian, Turkish, Polish
Display	Graphic backlighted LCD
Keyboard	12 functions keys
System	
CPU	ARM9
CPU clock	400 MHz
Internal memory	DDR2, 256 Mb
Data memory	256 Mb
Dedicated firmware	Lubrication assistance algorithm
Signal processing	
ADC Resolution	16 bits
Raw sampling frequency	256 kHz
Amplification stage	step of 10 dB
Response time	<10 ms
Ultrasound measurement	
Reference calibrated voltage	V_0 = 1 µV = 0 dBµV
dB scale definition	X dBµV = 20log(V/V_0) where V is measured
Typical measuring range	-13 to 99.9 dBµV
Resolution	0.1 digits
Ultrasound bandwidth	36.1 to 40.7 kHz
Filter	6^{th} order Butterworth
Default mixer frequency	38.6 kHz (best audible rendering)
Residual audible bandwidth	250 Hz to 2.5 kHz
Indicators	RMS, MAX sub-RMS, Peak and Crest factor
Refresh rate of RMS	250 ms
Heterodyne audio rate (.wav)	8 K samples/s (dynamic version)
Temperature module (built-in)	

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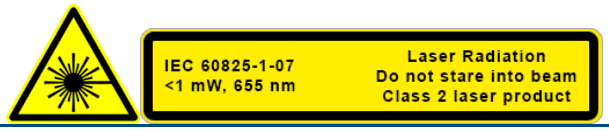
Type	Non-contact infrared thermometer
Available units	Celsius, Fahrenheit, Rankine
Adjustable emissivity range	[0.01 to 1]
Measuring range	-70 °C to +380 °C (-94 °F to +716 °F)
Accuracy in a wide temperature range	± 0.5 °C (0°C to 50°C/-32°F to 122°F)
Field of view (attenuation of 50%)	10°: spot of 10 cm (1/3 ft) at a distance of 10 cm (1 ft)
Type of pointer	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*
Data collector	
Memory capacity	More than 10,000 data distributed over more than 10,000 measurement locations
Environmental	
Connector	LEMO 7 female
Housing	Extruded aluminum, shockproof rubber protections
Dimensions	226 x 90 x 40 mm / 8.90 x 3.54 x 1.57 in (L x W x H)
Weight	830 g / 29.3 oz
Operating and storage temperature	-15 °C to +60 °C / 14 °F to 140 °F non-condensing
Communication	USB Mini
IP rating	IP 40
Approvals	EMC compliant (directive 2014/30/EU) ROHS compliant (directive 2011/65/EU) LVD compliant (directive 2014/35/EU), battery charger
Power/charger	
Battery	Internal, rechargeable NiMH battery
Nominal capacity	4000 mAh
Voltage	4.8 V
Autonomy	~ 8 hours
Battery charger (Please only used the provided charger)	specific for SDT2XX/LUBEx NiMH battery pack Power supply: 230 or 110 VAC +15% /-10% -50/60Hz Output voltage: +4.0 or 8.5 V DC (depends on operating mode) Current: 1000 mA maximum Recharge time: 5 to 6 hours typical in fast mode / 12 to 14 hours typical in slow mode. Protection: temperature protected; limit set at 60°C / 140 °F
Audio	
Interface Operable with Safety note	jack ¼" (6.35 mm) provided headset only (Peltor) Compliant with directive 2003/10/EC, noise exposure, health and safety protection using SDT devices and

Maximum audio output (protection) Headset	provided headsets +83 dB SPL with the provided headset 25 dB NRR with Peltor quality headphones
Warranty	
Lifetime warranty	Visit https://sdtultrasound.com/support/lifetime-warranty/ for details

NB: Further information can be found in the download section of the SDT website.

Ensure you regularly utilize the latest software and firmware versions to fully leverage new features. Kindly consult the user manual for detailed instructions on how to proceed.

In case of a prolonged period without use, please ensure a full battery charge.

Safety recommendations:

- Read and follow the user manual carefully.
- Do not expose the equipment to rough handling or heavy impacts.
- Do not attempt to disassemble the instrument.
- Refrain from using the equipment in areas where its usage is prohibited such as Ex Zones.
- Do not expose the equipment to high humidity or direct contact with water.
- All repairs and calibrations must be performed by SDT or authorized service centers.
- Using any headset or other sensor than the ones supplied with the instrument can result in internal damage to the equipment.
- Inspectors should avoid listening at max volume for extended periods of time.

4	CMA 2023/08/16	Precision on the built-in pyrometer	CGI
3	CMA 2021/07/19	Harmonization	MCD
2	CMA 2021/06/04	New layout + additional specs	MCD
1	JPE 2013/07/13	Original version	MCD
Ver.	**Editor**	**Nature of modification**	**Verified**

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.