Ultrasound Solutions

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

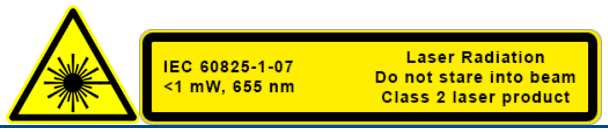
Datasheet LUBEXPERT (FU.LBX.001)

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 sensors	Infrared temperature Laser tachometer
Languages	English, French, Dutch, German, Spanish, Italian, Russian, Turkish, Polish
Display	Graphic backlighted LCD (128 x 64)
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
Firmware	Regular updates
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 (sensor recognition)

Filter	6th order Butterworth
Default mixer frequency	38.6 kHz (best audible rendering), tuneable
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 Ksamples/s (dynamic version)
Temperature module (on-board)	
Type	High precision non-contact infrared thermometer
Available units	Celsius, Fahrenheit, Rankine
Adjustable emissivity	[0.01 to 1]
Measuring range	-70 °C to +380 °C (-94 °F to +716 °F)
High accuracy in a wide temperature range 50°C--32°F to 122°F)	± 0.5 °C
Field of view (attenuation of 50%)	10° : 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	50 mm to 2000 mm (2 in to 80 in)
Measuring range	~10 to 99 999 RPM *a reflective band must be stick on the rotating part to perfo measurement
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 Maximum audio output (protection) Headset	jack ¼" (6.35 mm) SDT provided headset only (Peltor) Compliant with directive 2003/10/EC, noise exposure, health and safety protection using SDT devices and provided headsets +83 dB SPL with the provided headset 25 dB NRR with Peltor quality heaphones
Warranty	
Lifetime warranty	Visit www.sdtultrasound.com for details

NB: Additional details are available from the download section of SDT website

Make sure you always 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 proceed.

Safety recommendations:

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

• Always read and follow the user manual

• 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

3	CMA 2021/07/19	Harmonisation	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.