

Datasheet T-Sonic9 (FS.TSO9.001)

Description:

T-Sonic9 is a directional Ultrasound Transmitter including 9 transducers. Designed for tightness inspection of constructions or industrial products, T-Sonic9 should be used in combination to an Ultrasound Receiver as the SDT270 or the SDT200.

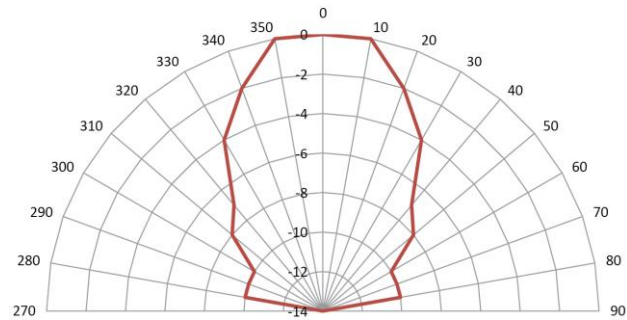


Figure1: Dimensions mm (in.)

Specifications:

General					
Transmitter frequencies		39.9 and 40.1 kHz	Wobulation period		80 ms
Power supply			USB Power Supply 5VDC @ 1A		
			6 AA batteries		
Transmitted Sound Pressure Level at 1m, Ref. 0 dB=20 µPa	Level 1	85 dB SPL	Battery lifespan <i>With Alkaline Batteries AA LR6</i>	Level 1	24h
	Level 2	95 dB SPL		Level 2	21h
	Level 3	101 dB SPL		Level 3	19h
	Level 4	105 dB SPL		Level 4	18h30
	Level 5	111 dB SPL		Level 5	11h
	Level 6	117 dB SPL		Level 6	5h30

Beam Angle



Environmental

Operating temperature range	-10 to +50 °C (14 to 122 °F), Non-condensing
IP rating	40
Approvals	EMC (2014/30/EU), ROHS (2011/65/EU)

Mechanical

Housing material	Acrylonitrile Butadiene Styrene (ABS)-PC
Weight (including batteries)	400 g (14oz)

Wireless Communication (remote control)

Type	Bluetooth® 4.0 Certified ISM 2.4GHz module
Frequency band	2402 – 2480 MHz
Transmitter power max.	4 dBm
Using distance	20 m/65 ft

Kit content (FS.TSO9.001):

Reference	Designation
FU.TSO9.001	US transmitter device without batteries
FU.TSO9.002	Remote control
FA.TSO9.DVP	Protection holster EPDM with magnets
FAHOLSAC-01	Carrying strap
SICABUSBAUSBMM	Cable USB type A & mini USB – 1,8 m
SIBAT1,5VALK-AA	Battery alkaline 1,5 V AA
FA.TSO9.DM	User guide & datasheet
FATOOLSCRDRIV	Screwdriver set
SI.TSO9.MMF.010-01	Ultrasound attenuator disk (see user guide)

Safety recommendations:

Ultrasound at sufficient sound pressure levels can cause hearing damage even if it cannot be heard. Safety standards and guidelines have been developed with the goal of protecting against hearing damage. Safety procedures for the protection of personnel are similar to those used for audible noise. The objective is to ensure that sound pressure levels do not exceed the recommended maximum permissible exposure level. SPL (Sound pressure Level) exposure limits differ somewhat for ultrasound and audio frequencies where $0 \text{ dB}_{\text{spl}} = 20 \text{ }\mu\text{Pa}$.

In short:

- Reference 1 : Heath Canada :
Max $110 \text{ dB}_{\text{spl}}$ for frequencies from 25 kHz to 50 kHz.
This exposure limit is independent of the exposure time.
- Reference 2 : International standard EN 61010-1:
max $110 \text{ dB}_{\text{spl}}$ from 20 kHz to 100 kHz.

Laboratory measurements on several calibrated devices emitting in open air show that, in order to keep the level below $110 \text{ dB}_{\text{spl}}$

When using a T-Sonic 9 at its highest emission level, the operator shall either stay at a distance larger than 3 m (10 feet) from the transmitter, or wear ear protection. Earmuffs or headphones will fit, e.g. the provided headset used with SDT devices will also fit. If the transmitter is placed inside a closed volume and the operator stays outside checking for tightness, ultrasound outside the volume is so strongly attenuated that an operator outside the closed volume does not incur any risk.

4	CMA 2022/03/25	Addition of the attenuator disk used for functional tests	CGR
3	CMA 2021/07/15	New layout, safety recommendations	CGR
2	JPE 2018/05/15	Revised version	CGR
1	AKP 2017/08/29	Original version	JPE
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.*