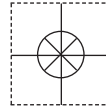


1 YEAR
WARRANTY



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HHLT-1 **Ultrasonic Leak Detector**



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The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING: These products are not designed for use in, and should not be used for, human applications.

1. INTRODUCTION

Ultrasonic sound (20 kHz to 100 kHz) is generated by turbulence created by air or a gas forced through a small orifice. Ultrasonic sound is very directional in nature and can be used pinpoint the exact location of the leak point. Leaking air or gas is generally considered to be viscous flow and as the flow velocity increases, the frequency of the ultrasonic sound emitted will become higher. The **HHLT-1R** amplifies and converts these sounds to frequencies and levels that the human ear can hear. The **HHLT-1T** transmitter can supply ultrasonic signals for locations where the gas/air leak does not have sufficient pressure to create an ultrasonic sound. This transmitter will allow the ultrasonic detection of cracks and openings.

2. Detection Principle

When a gas passes through a restricted orifice under pressure, it is going from a pressurized laminar flow to low pressure turbulent flow. The turbulence generates a broad spectrum of sound called "white noise". There are ultrasonic components in this white noise. Since the ultrasound will be loudest by the leak site, the detection of these signals is usually quite simple.

3. SPECIFICATIONS

HHLT-1R

Frequency Response:36kHz—44kHz(Centered at 40kHz)

Indicator: LED and Earphone

Operating Temperature: 0°C to 40°C

Operating Humidity: <80%RH

Storage Temperature: -10°C to 40°C

Power supply: 9V alkaline battery

Weight: 125.5g

Dimensions:150mm(L)X90mm(W)X50mm(H)

HHLT-1T

Transmit Frequency:40kHz

Indicator: LED

Operating Temperature: 0°C to 40°C

Operating Humidity: <80%RH

Storage Temperature: -10°C to 40°C

Power supply: 9V alkaline battery

Weight: 93.5g

Dimensions: 120mm(L)X60mm(W)X38mm(H)

4. Application

- Pressure and Vacuum system Leak Detection
- Exhaust System Leaks
- Tanks, Pipes, etc., Leak Testing
- Steam Trap Inspection
- Gas leaks in general

5. Description Of Parts



- ①Sensitivity wheel ②Trigger Switch③Battery cover
- ④Ultrasonic Probe ⑤Ultrasonic Probe ⑥Power LED
- ⑦Head Set Receptacle ⑧Ultrasonic Probe
- ⑨Power LED ⑩ON/OFF Switch

6.OPERATING INSTRUCTIONS

HHLT-1R	
Name	Function
Trigger Switch	The Ultraprobe is always "off" until the trigger switch is pressed.
Ultrasonic Probe	Receive air-borne ultrasound
Power LED	Power indication
LEAK LED	Leak indication
Sensitivity wheel	Signal gain adjustment : ①Start off with the sensitivity at Maximum.②After the leak is detected(LEAK LED light)reduce the sensitivity setting until the LED go out.③Move closer to the test area as you scan until the LED light again. Repeat steps ② ③, until you are able to confirm a leak.
Head Set Receptacle	Connect the earphones to detect leaks may hear the voice of a certain frequency. Ultrasonic sound larger or more near the orifice, the sound frequency is higher.
Battery cover	Open this cover when replacing the battery NOTE: Do not open the cover by force
HHLT-1T	
ON/OFF Switch	To operate,switch from the OFF position to ON. To turn the instrument off,switch from the ON position to OFF.

Ultrasonic Probe	Transmit the 40kHz ultrasonic signal
Power LED	Power indication

7. MAINTENANCE

WARNING

To avoid electrical shock or damage the meter, do not let water come into it. If the meter fails to operate, check battery, test leads, etc and replace them if necessary. If the meter still does not work, double check operating procedure as described in this manual.

- Please power off the meter when not using. Take out of the battery if it is not used for a rather long term.
- Clean the case periodically by wiping it with a damp cloth and detergent. Do not use abrasive cleaners or solvents. Do not immerse the probe in liquids.

Battery Replacement:

Turn off the meter and unlatch the battery cover. Replace the battery with a 9V alkaline battery. Replace the cover.

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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