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4 to 20 mA

SOUND LEVEL TRANSMITTER

Model : TR-SLT1A4

Socket type



Caution Symbol



Caution :

- * Do not apply the overload voltage, current to the input terminal !
- * Power off before
 - @ Disconnecting the " Power Source " from the " AC Power Input Terminal "
 - @ Disconnecting the " Output Signal Wires " from the " Signal Output Terminals "
 - @ Taking away the " Sensor Plug " away from the " Sensor Plug Input Terminal ".
- * Cleaning - Only use the dry cloth to clean the plastic case !

Environment Conditions

- * Installation categories II.
- * Pollution Degree 2.
- * Altitude up to 2000 meters.
- * Relative humidity 80% max.

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1. SPECIFICATIONS

Measure Range	Range 1 : 30 - 80 dB.
	Range 2 : 50 - 100 dB.
	Range 3 : 80 - 130 dB.
Output	4 - 20 mA
	Range 1 : 30 dB : 7.69 mA. 80 dB : 13.84 mA.
	Range 2 : 50 dB : 10.15 mA. 100 dB : 16.3 mA.
	Range 3 : 80 dB : 13.84 mA. 130 dB : 20 mA.
Accuracy ($23 \pm 5 ^\circ\text{C}$)	Frequency weighting meet IEC 61672 type 2, calibrating input signal on 94 dB (31.5 Hz to 8 kHz), then the accuracy of A weighting is specified as following: 31.5 Hz - ± 3.5 dB, 63 Hz - ± 2.5 dB, 125 Hz - ± 2.0 dB, 250 Hz - ± 1.5 dB, 500 Hz - ± 1.9 dB, 1 kHz - ± 1.4 dB, 2 kHz - ± 2.6 dB, 4 kHz - ± 3.6 dB, 8 kHz - ± 5.6 dB Characteristics of A weighting.

Frequency Weighting Network	A weighting : The characteristic is simulated as "Human Ear Listing" response.
Frequency	31.5 Hz to 8,000 Hz.
Time Weighting	Fast time weighting <i>@ t = 200 ms</i> <i>@ Fast time weighting is simulated the human ear response time weighting.</i>
Calibrator	B & K (Bruel & Kjaer) : Multi-fuction acoustic calibrator, model :4226
Microphone	Electric condenser microphone.
Size of Microphone	1/2 inch standard size.
Range Selector	30 to 80 dB, 50 to 100 dB, 80 to 130 dB, 50 dB on each step.
External Adjustment	SPAN VR (20 mA adjust VR)
Max. Output Load	200 ohms.
Power Supply	90 - 260 ACV 50 Hz/60 Hz
Power Consumption	AC 110 V : Approx. 1.3 VA. AC 220 V : Approx. 1.6 VA.
Mounting	Din rail or wall.
Case	ABS plastic
Operation Temperature	0 to 50 °C (32 to 122 °F)
Operation Humidity	Less than 80 %RH
Dimension	See page 7.
Accessory Included	Instruction manual..... 1 PC. Sound sensor probe..... 1 PC.

2. INSTALLATION

- 1) Connecting the " Power Supply " (90 to 260 ACV) and the " 4 - 20 mA Output wires " to the " Wires Layout Socket " (3-5, Fig. 1) as following :

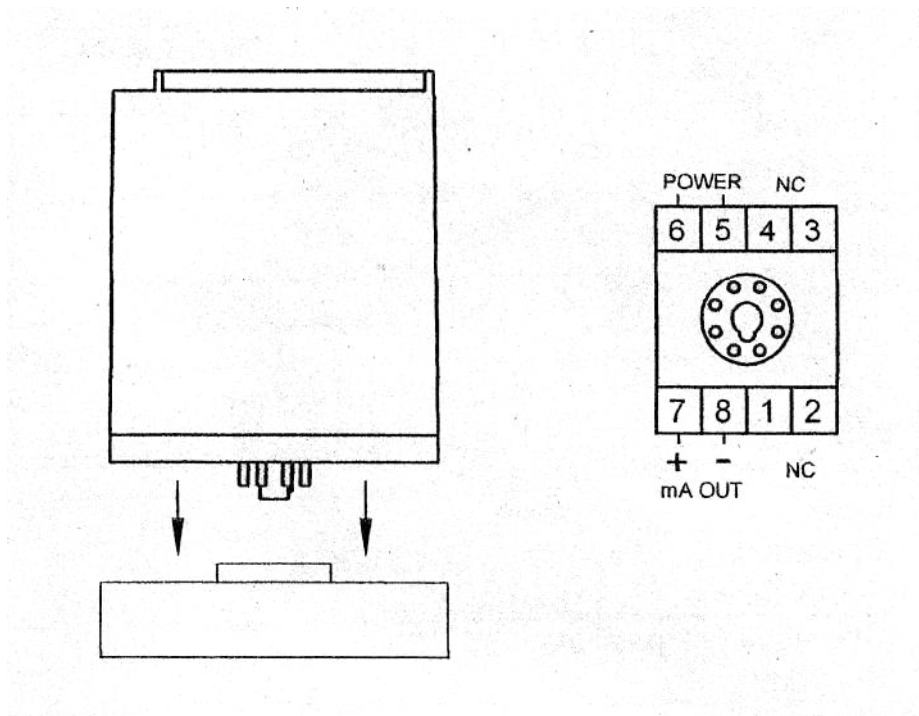
Terminal 5, Terminal 6 :

Power supply (90 to 260 ACV, 50/60 Hz)

Terminal 7 (+ output), Terminal 8 (- output) :

4 to 20 mA signal output to the external Indicator, Controller or Data access system... that can accept 4 to 20 mA signal.

- 2) Plug in the " Transmitter Output Connector " (3-4, Fig. 1) to the " Wires Layout Socket " (3-5, Fig. 1).



- 3) Insert the " Probe Plug " (3-6, Fig. 1) into the " Plug Input Socket " (3-3, Fig. 1)
- 4) Determine proper measuring range by selecting the " Range Switch " (3-9, Fig. 1) to minimize the tolerance of readout.

@ When the " Over Range Indicator " (3-10, Fig. 1) is light, " Range Switch " should select the higher range.

@ When the " Under Range Indicator " (3-11, Fig. 1) is light, " Range Switch " should select the lower range.

- 5) The transmitter will generate 4 to 20 mA current output that according the vibration value which measuring from the head of " Sound Probe " (3-7, Fig. 1).

Note :

Range 1 :
30 dB = 7.69 mA.
80 dB = 13.84 mA.
Range 2 :
50 dB = 10.15 mA.
100 dB = 16.3 mA.
Range 3 :
80 dB = 13.84 mA.
130 dB = 20 mA.

- 7) The Max. load for the output terminal is 200 ohm.
So the total internal impedance of connecting wire should less than 200 ohm, other wise the accuracy will be changed and beyond the specification.

3. FRONT PANEL DESCRIPTION

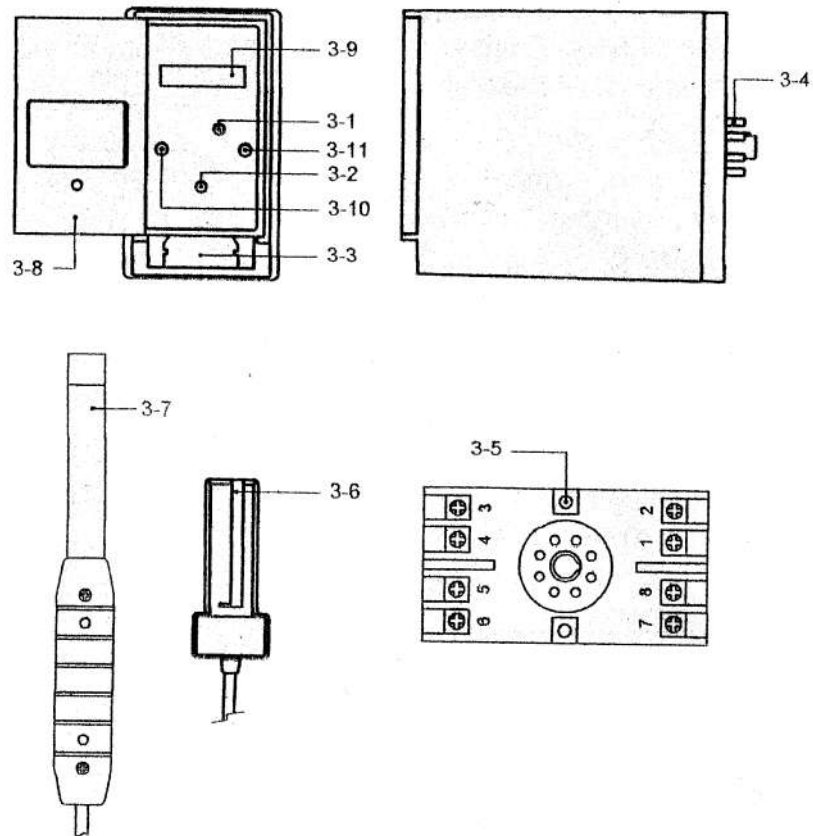


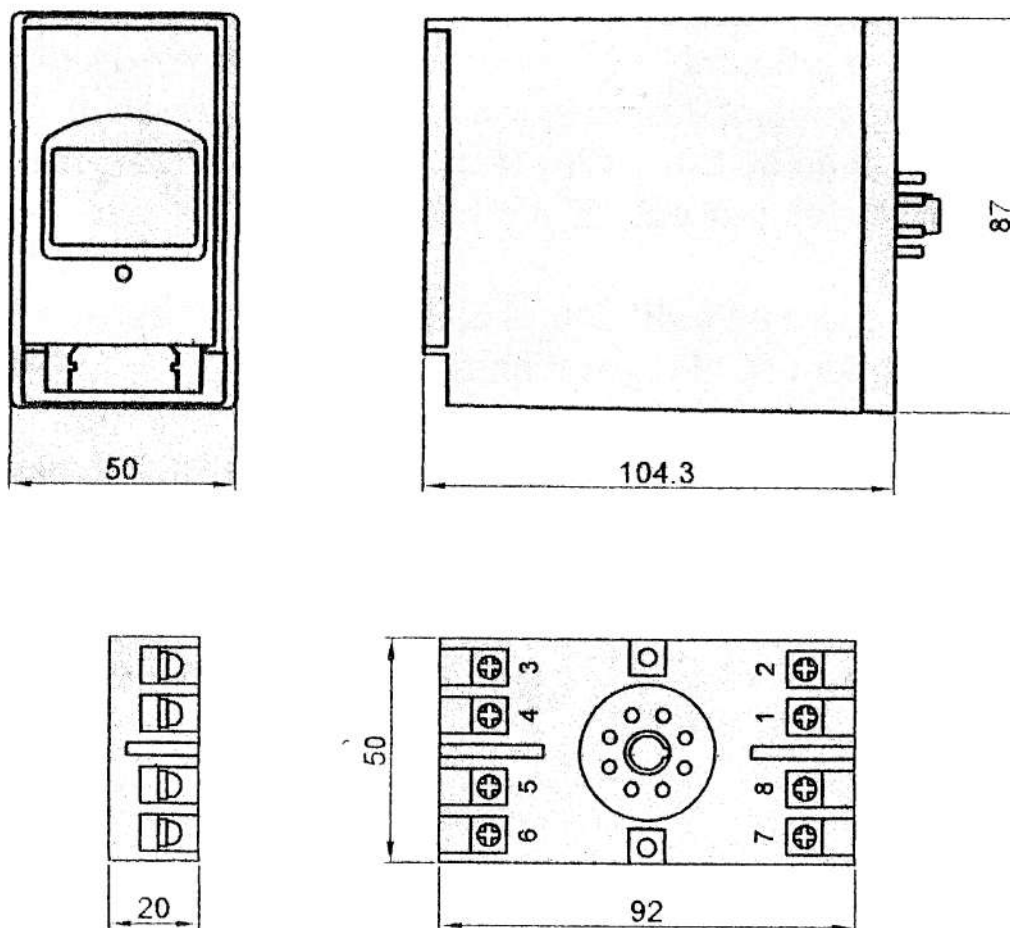
Fig. 1

- | | |
|----------------------------------|----------------------------|
| 3-1 Span Adjust VR | 3-6 Probe Plug |
| 3-2 Power Indicator | 3-7 Sound Probe |
| 3-3 Probe Input Socket | 3-8 Windows |
| 3-4 Transmitter Output Connector | 3-9 Range Switch |
| 3-5 Wires Layout Socket | 3-10 Over Range Indicator |
| | 3-11 Under Range Indicator |

4. CALIBRATION

- 1) The Sound Level Transmitter already made the precision calibration when it is produced. We do not strongly recommend the user to make any calibration again when you receive the unit.
- 2) After the Sound Level Transmitter already be used for a long period, if intend to make the new calibration, it should do by the qualify technician people only, the calibration procedures are following :
 - a. Prepare a 94 dB Sound Calibrator, such as Model : SC-941 (optional).
 - b. Power on the Sound Calibrator & plug calibrator output into the head of " Sound Probe " (3-7, Fig. 1).
 - c. Slide the Range Switch (3-9, Fig. 1) to " 50 - 100 dB " position.
 - d. Carefully adjust the " Span Adjust VR (20 mA adjust VR) " (3-1, Fig. 1) until output terminal generate the 15.57 mA DC.

5. DIMENSION DIAGRAM



6. FREQUENCY WEIGHTING CHARACTERISTICS OF A FREQUENCY NETWORKS

Frequency	A Weighting Charac.	Tolerance (IEC 61672 type 2)
31.5 Hz	-39.4 dB	± 3.5 dB
63 Hz	-26.2 dB	± 2.5 dB
125 Hz	-16.1 dB	± 2.0 dB
250 Hz	-8.6 dB	± 1.5 dB
500 Hz	-3.2 dB	± 1.9 dB
1 k Hz	0 dB	± 1.4 dB
2 k Hz	+1.2 dB	± 2.6 dB
4 k Hz	+1 dB	± 3.6 dB
8 k Hz	-1.1 dB	± 5.6 dB

7. FAST TIME WEIGHTING CHARACTERISTICS

Max. response ref. continuous signal	Tolerance (IEC 61672 type 2)
- 1.0 dB	+ 1 dB, - 2 dB

8. THE ADDRESS OF AFTER SERVICE CENTER

