User Manual

PCE-SLT Sound Level Meter (Including Transmitter PCE-SLT-TRM)

User manuals in various languages (français, italiano, español, português, nederlands, türk, polski, русский, 中文) can be found by using our

product search on: www.pce-instruments.com

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Contents

1   Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.

- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- The instrument may only be used if the environmental conditions (temperature, relative humidity, …) are within the ranges stated in the technical specifications. Do not expose the device to extreme temperatures, direct sunlight, extreme humidity or moisture.
- Do not expose the device to shocks or strong vibrations.
- The case should only be opened by qualified PCE Instruments personnel.
- Never use the instrument when your hands are wet.
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth. Use only pH-neutral cleaner, no abrasives or solvents.
- The device must only be used with accessories from PCE Instruments or equivalent.
- Before each use, inspect the case for visible damage. If any damage is visible, do not use the device.
- Do not use the instrument in explosive atmospheres.
- The measurement range as stated in the specifications must not be exceeded under any circumstances.
- Non-observance of the safety notes can cause damage to the device and injuries to the user.

We do not assume liability for printing errors or any other mistakes in this manual.

We expressly point to our general guarantee terms which can be found in our general terms of business.

2   Specifications

Sound sensor	
Measuring range	30 ... 130 dB in three ranges
Resolution	0.1 dB
Measuring accuracy	±1.5 dB
Frequency weighting	A
Power supply	via transmitter
Cable length	1.5 m
Wall bracket	screwable (included in the scope of delivery)
Envioronmental conditions	max. 80 % RH / 0 ... +50 °C / 32 ... 122 °F
Microphone	1/2" precision electret microphone
Standard	IEC 61672 Class II
Transmitter	
Housing	ABS plastic
Power supply (depending on model)	90 ... 260 VAC 24 V DC (max. 1,5 A)
Calibration	adjustable via grub screw
Output	4 ... 20 mA
Protection class	IP 50
Environmental conditions	max. 80 % RH / 0 ... +50 °C / 32 ... 122 °F
Digital display	
Input signal from transmitter	4 ... 20 mA
Display	-1999 ... 9999 (1 ... 3 decimal places, depending on measured value / user-selectable)
Programming data (decimal place, limit value...)	are stored in the device
Control output	relay output: 0.5 A / 240 VAC
Alarm output	relay output: 0.5 A / 240 VAC
Power supply	90 ... 260 ACV / 50 ... 60 Hz
Dimensions / panel cut-out according to DIN	92 (+ 0.8) mm x 45 (+ 0.5) mm
Weight	approx. 250 g / 0.56 lb
Envioronmental conditions	max. 80 % RH / 0 ... +50 °C / 32 ... 122 °F
Protection class	IP 60

3 Dimensions

Dimensions shown: 50, 104.3, 87, 50, 20, 92
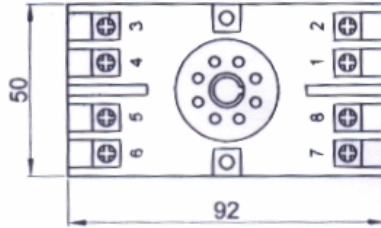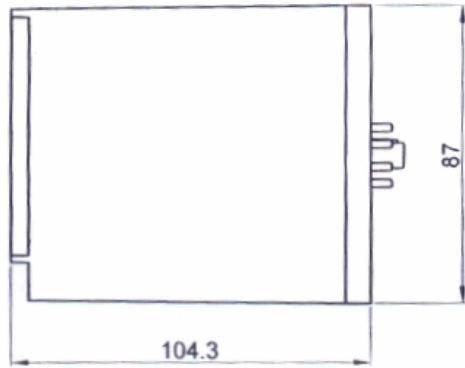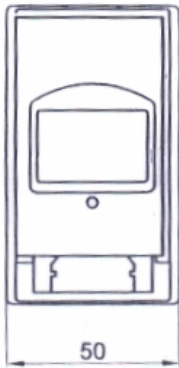
4   Description transmitter
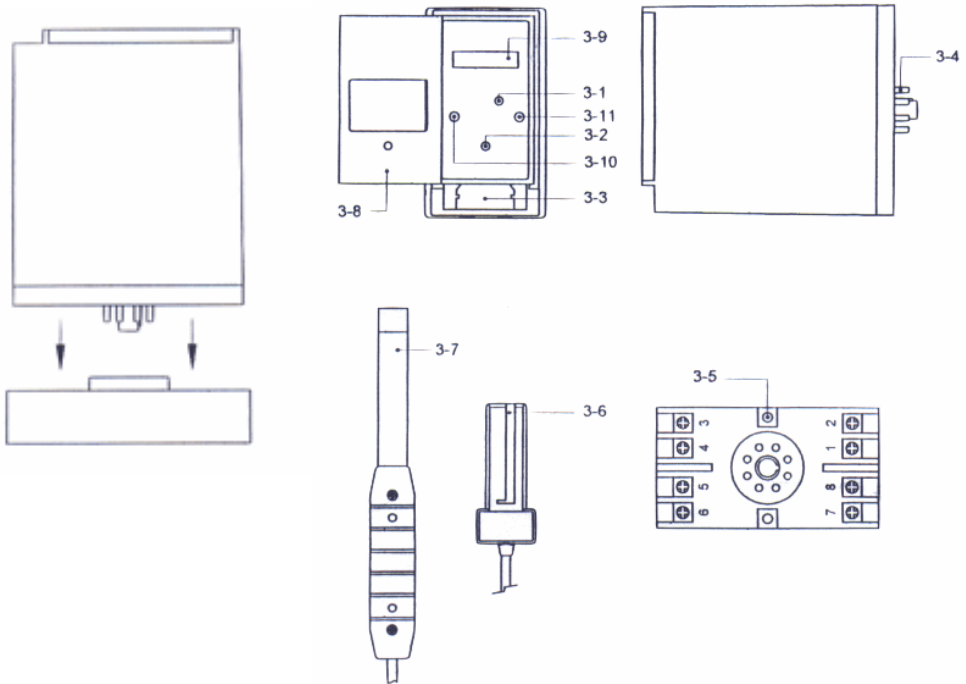
5 and 6 Supply voltage
7 and 8 Current output
1 to 4 Not used

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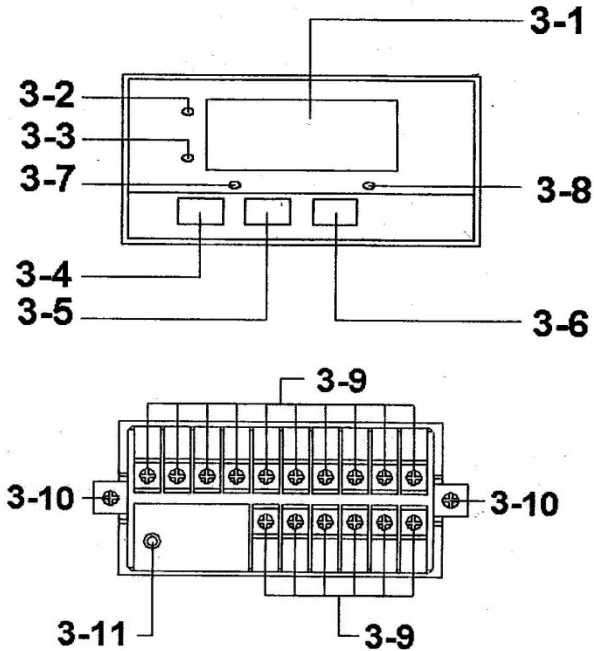
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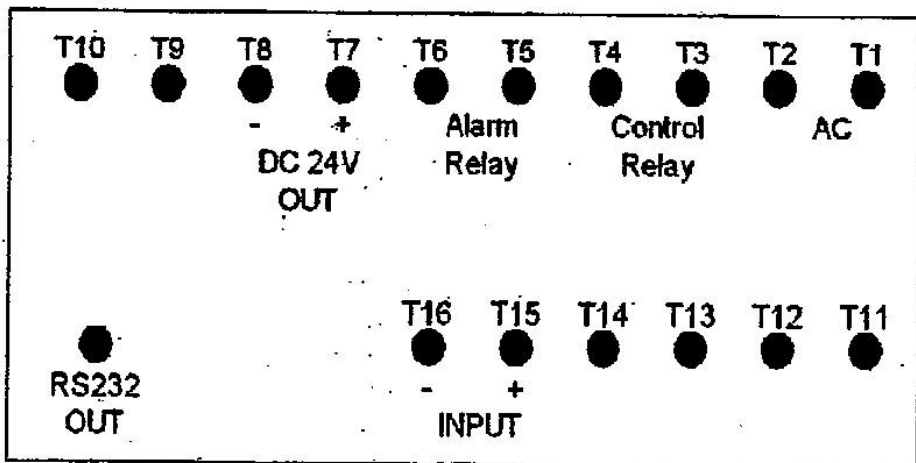
T1 - T2 Power supply
T3 - T4 Control relay
T5 - T6 Alarm relay
T7 - T8 Power supply 24 VDC
T9 - T14 Not connected
T15 - T16 4 ... 20 mA interface

6   Initial commissioning

6.1   Connecting the transmitter

First mount the connection terminal to a designated DIN rail or screw it to a designated surface.
First connect the mains voltage. To do this, use connection 5 and 6 on the connection terminal.
Ensure that the connection cable is initially voltage-free.
Then connect the transmitter to the connection terminal.
Finally, connect the sensor to the transmitter.

Note: For the 24 V version of the transmitter (PCE-SLT-TRM-24V), ensure that the supply ground
is galvanically isolated from the signal ground.

6.2   Connecting the display

First mount the display using the mounting bracket.
For the power supply, connect the mains cable to the T1 and T2 connections on the display
connection terminal. Ensure that the mains supply cable is initially voltage-free.
Now connect the transmitter to the display. To do this, connect pin 7 to T15 (positive) and pin 8
to T16 (negative).

7   Set measurement ranges

First open the transmitter cover. Then remove the internal rubber seal.
The switches for setting the measurement range are now accessible. Use the table on the inside
of the transmitter cover to set the measurement range. Then cover the switches again with the
rubber seal and close the transmitter cover.

8   Calibration

Open the transmitter cover. Turn the potentiometer labelled "SPAN" to adjust the measured value.
To make changes to the potentiometer, use a small slotted screwdriver.

9   Alarm setting (control)

The display has two separate alarm relays. A distinction is made between control and alarm. The
difference is that when the alarm switches, the display also flashes, which is not the case with the
control.

To programme the limit values of the two functions, proceed as follows:
First press the "SET" key briefly. "CtLo" appears on the display to set the lower control value. You
can now set this value directly using the arrow keys. Press the "SET" key to confirm this value
and return directly to the menu.
To set other parameters, press the "SET" key continuously until you have reached your
parameter. The menu is organised as follows.

CtLo   → lower control value
CtHi   → upper control value
ALLo   → lower alarm value
ALHi   → upper alarm value

Once you have set all the parameters, press the "SET" key again to exit the menu.

10 Advanced menu

To access the extended menu, press the "SET" key for two seconds.
This menu is organised as follows:

dPSt   Decimal point shift
4-A4   mA parameter
20-A20 mA parameter
FiLt   Filter function
CtHY   Hysteresis for the control function
ALHY   Hysteresis for the alarm function
oFSt   Offset
GAin   Gain setting
Unit   Set RS232 unit

10.1   Decimal point shift

To move the decimal point, first press the "SET" key for two seconds. "dPSt" appears on the display. Now press the arrow keys to access this configuration mode and to move the decimal point. Press the "SET" key to save the setting.

10.2   4 mA Parameter

To change the parameterisation for 4 mA, first press the "SET" key for two seconds. "dPSt" appears on the display. Press the "SET" key again. "4-A" now appears on the display. Now press the arrow keys to access this configuration mode and to change the parameterisation for 4 mA. Press the "SET" key to save the setting.

10.3   20 mA parameter

To change the parameterisation for 20 mA, first press the "SET" key for two seconds. "dPSt" appears on the display. Now press the "SET" key twice. The display now shows "20-A". Now press the arrow keys to access this configuration mode and to change the parameterisation for 20 mA. Press the "SET" key to save the setting.

10.4   Filter function

To change the parameterisation for the filter function, first press the "SET" key for two seconds. "dPSt" appears on the display. Now press the "SET" key three times. "FiLt" now appears on the display. Now press the arrow keys to access this configuration mode and to change the parameterisation for the filter function. The higher the value, the more filtering takes place. Press the "SET" key to save the setting.

10.5   Hysteresis for the control message

To change the parameterisation of the hysteresis for the control message, first press the "SET" key for two seconds. "dPSt" appears on the display. Now press the "SET" key four times. "CtHY" now appears on the display. Now press the arrow keys to access this configuration mode and to change the parameterisation for the hysteresis. Press the "SET" key to save the setting.

10.6   Hysteresis for the alarm function

To change the parameterisation of the hysteresis for the alarm function, first press the "SET" key for two seconds. "dPSt" appears on the display. Now press the "SET" key five times. "ALHY" now appears on the display. Now press the arrow keys to access this configuration mode and to change the parameterisation for the hysteresis. Press the "SET" key to save the setting.

10.7   Offset

To change the parameterisation for the offset, first press the "SET" key for two seconds. dPSt" appears on the display. Now press the "SET" button six times. The display now shows "oFSt". Now press the arrow keys to access this configuration mode and to change the parameterisation for the offset. Press the "SET" key to save the setting.

10.8   Gain setting

To change the parameterisation for the gain, first press the "SET" key for two seconds. "dPSt" appears on the display. Now press the "SET" key seven times. "GAin" now appears on the display. Now press the arrow keys to access this configuration mode and to change the parameterisation for the gain. Press the "SET" key to save the setting.

10.9 Set RS232 unit

To change the unit for the RS232 interface, first press the "SET" key for two seconds. "dPSt" appears on the display. Now press the "SET" key eight times. The display will now show "Unit". Now press the arrow keys to access this configuration mode and to change the parameterisation for the unit. The correct value can be found in the following table.

|		
00 = No unit	33 = KHz	66 = mF
01 = C	34 = DCV	67 = MHz
02 = F	35 = DCµA	68 = uH
03 = %	36 = DCA	69 = dBm
04 = %RH	37 = DCmA	70 = Red
05 = pH	38 = ohm	71 = Gren
06 = %O2	39 = Kohm	72 = Blue
07 = mg/L	40 = Mohm	73 = Stau
08 = m/s	41 = mH	74 = mSEC
09 = knot	42 = H	75 = uSEC
10 = km/h	43 = nF	76 = SEC
11 = ft/m	44 = µF	77 = Kgc2
12 = ml/h	45 = hFe	78 = mmHg
13 = uS	46 = DIO	79 = mH2O
14 = mS	47 = WATT	80 = inHg
15 = Lux	48 = KWATT	81 = Kgcm
16 = Ftcd	49 = ACmV	82 = LBin
17 = dB	50 = ACV	83 = N-cm
18 = mV	51 = ACµA	84 = CMM
19 = PPM	52 = ACA	85 = CFM
20 = mg	53 = ACmA	86 = mbar
21 = Tesl	54 = COSϴ	87 = Pa
22 = bar	55 = Kg	88 = kPa
23 = PSI	56 = Lb	89 = uHg
24 = cmHg	57 = gram	90 = Torr
25 = iH20	58 = oz	91 = hPa
26 = ATP	59 = NewT	92 = m/s2
27 = RPM	60 = m/m	93 = mm/s
28 = in/m	61 = Hour	94 = mm
29 = cm/m	62 = Min	95 = cm/s
30 = COUT	63 = VA	96 = inch
31 = Hz	64 = KVA	97 = FtS2
32 = DEG	65 = KWHr	98 = in/s

Press the "SET" key to save the setting.

11 RS232

The PCE-SLT has an RS232 interface that can be connected via a 3.5 mm jack.
The jack plug must be constructed as follows:
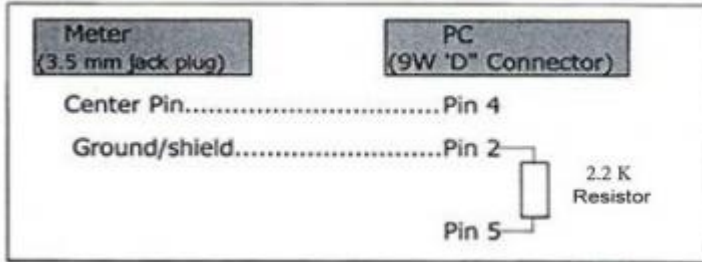
11.1 RS232 settings

To receive the data correctly, set the COM connection on your PC as follows:
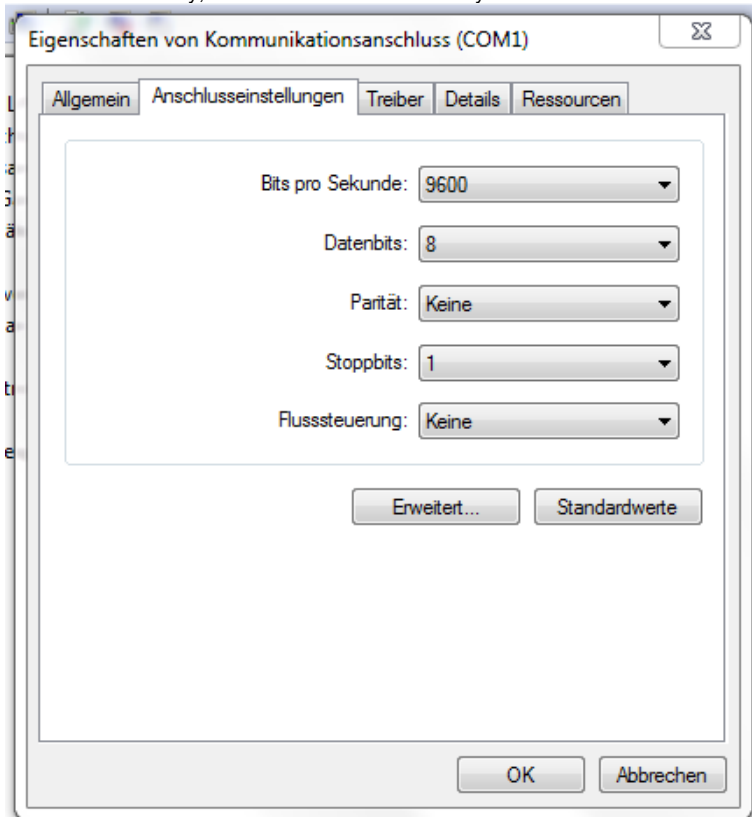
11.2 RS232 protocol

The display transmits a 16-digit protocol. This is structured as follows:

D15	Start word
D14	4
D13	Value too high = 1 Value too low = 2
D12 and D11	Unit, see 10.9
D10	Positive polarity = 0 Negative polarity = 1
D9	The specified value indicates the position of the decimal point from left to right. Values from 0 ... 3 are possible.
D8 ... D1	The specified values show the measured value from D8 to D1. If the measured value is 1234, for example, the following is sent from D8 to D1: 00001234
D0	End word

12 Reset system

To reset the system, proceed as follows.
Press and hold the "SET" and the "Decrease" key for five seconds. "rSt" flashes on the display. The system has now been reset. After this, the device returns to measuring mode. After the reset, the device may need to be re-parameterised.

13 Contact

If you have any questions, suggestions or technical problems, please do not hesitate to contact us. You will find the relevant contact information at the end of this user manual.

14 Disposal

For the disposal of batteries in the EU, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.

www.pce-instruments.com

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