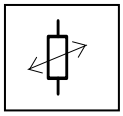
Thermosensor for TUNING-SET CTS-7-CE(PE) and CTS-32-C

Quick instructions for thermosensor CTS-7-CE(PE)

Plug in the thermosensor.

Socket for thermosensor



Important: At all adjustments at the tuning device which concern the thermosensor it must be plugged in. If the therosensor is missing, these options are skipped automatically.

1. Test the thermosensor

First the correct function of the sensor should be tested. To this you are looking for the following adjustment with the menu control (see chapter 3.0 in the operating instructions):

```
THERMOSENSOR
korr. 0.0  17.4°C
```

With a thermometer you check whether the correct temperature is meassured. If the right value does not match with the actual room temperature, you enter an correction value with the button pair "Func" so that the correct room temperature is displayed on the on the right.

```
THERMOSENSOR
korr. 1.0  18.4°C
```

When leaving the menu, the correction value is then stored firmly in the tuning device.

Since firmware version 1.30 the sensor can be uses immediately with the instrument program „Organ“. Here the sensor offset ist set to 20°C (18°C since firmware 1.50) and the rate to 3.2 Cent/°C .

In all other cases, a instrument program must be entered now. In this instrument program all adjustments will be stored for your application and can be reproduced again quickly.

2. How to enter the instrument program

In order to produce the instrument program, with the menu control find this indicaton on the display :

```
ENTER INST.  209
INSTRUMENT____09
```

Using the “Func“ keys, find, for example, memory number 14 (the last two digits of the menu indication correspond to the memory number). You can access memory number 9 thru 60..

```
ENTER INST. 214
INSTRUMENT____14
```

Now, press the “E” key. On the bottom line of the display a moving line appears: “Go ahead with “S+F” !“. To go ahead, keep “S” pressed and tap ”F“ (for memory protection). This indicator appears on the display:

```
*
INSTRUMENT_____14
```

You now may assign an easily remembered name to the memory. In the “Menu Control Overview “ delivered with the set you will find a quick reference how to enter a name(lower right hand side).

In this example we want to change “INSTRUMENT 14” to “PIANO_____14“.

Tap the “Func >“ key several times, until this indicator appears:

```
*
TIASTRUMENT____14
```

Press the “Note >“ key once. After that, tap the “Func >“ key several times, until this indicator appears on the display:

```
 *
THASTRUMENT____14
```

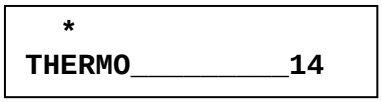
Press the “Note >“ key once. After that, tap the “Func >“ key several times, until this indicator appears on the display:

```
  *
THESTRUMENT____14
```

Repeat the above steps as long as you receive the following indication:

```
    *
THERMOMENT_____14
```

Press “Note >“ once. After that, keep the “S” key pressed and tap the “Note >” key several times, until this indicator appears on the display:

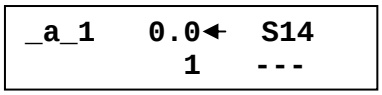


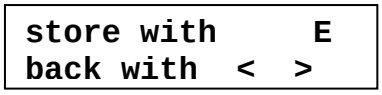
Confirm the operation by pressing key “E”“.

You will see this indicator. Here you can enter a concert pitch you want to start your application. In this example we leave 440 Hz.

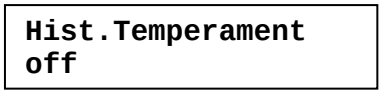


Press the “E“ key. The standard pitch will be stored to the instrument program, the Tuning Set enters the input mode. Here you can assign a cent value and a partional to every tone. In this example we skip this option and press the button “E” second times.





At this point, setting the option “Hist.Temperament“ to “on“, will allow you to select an historical temperament before entering the tuning mode (not otherwise). Press the ”E“ key

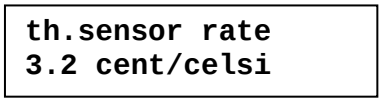


Now you enter the real parameters of the thermosensor:

Using the “func“ keys, enter the room temperature offset at which you expect the tuning of your music instrument.The concert pitch (440 Hz in this example), you entered for this instrumentprogram, is assigned to this room temperature offset. Simple description: If the room temperature reaches the value entered here (20°C in this example), the cent correction value of the sensor becomes zero.

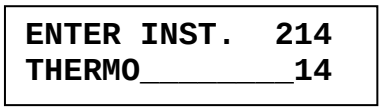


Press key “E” again. Using the “func“ keys, enter the cent rate value, corresponding to the pitch difference of your music instrument when the room temperature rises by 1 degree centigrade. For example 3.2 cent for air-pipes



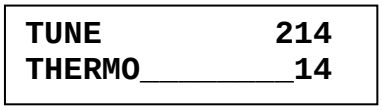
To confirm press key “E“.

You instrument program will now be stored.



3. How to call your instrument program

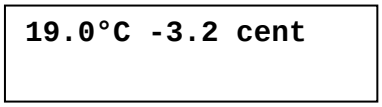
In order to use the instrument program with the thermosensor, with the menu control find this indicaton on the display.



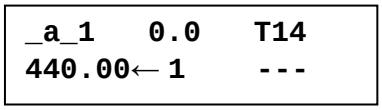
Press key “E“.

If you have entered a cent-rate not equal to zero in your instrument program, you receive now a walking indikation “Thermo Cents !!! go ahaed with key S + F”

Press key “E“again. You receive this indication. On the left side the actual room temperature and on the right side the cent correction value of the sensor will be indicated.

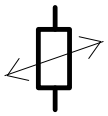


Press key “E“again. The device is now in the tune-mode. Remark: The cents which are inicated here does nor relate to the thermosensor. They will be added to this. Approx. every 30 secons the thermo cents will be updated by the sensor.



Quick instructions for thermosensor CTS-32-C

Plug in the thermosensor on the tuning set.



Icon for thermosensor socket

First you should test the thermosensor. For this reason, you make a calibration of the thermosensor input (see manual chapter 2.4.5)

The parameter of instrument programs for organ are pre-adjusted for the thermosensor as follows:

Thermosensor rate: 2.0 Cent per degree Celsius.

Thermosensor reference: 20 ° Celsius (18°C since firmware 1.38)

This program you can use with the sensor immediately.

If you need other parameters, you have to create an own instrument- program. You have to do this only one time and can reuse it anytime.

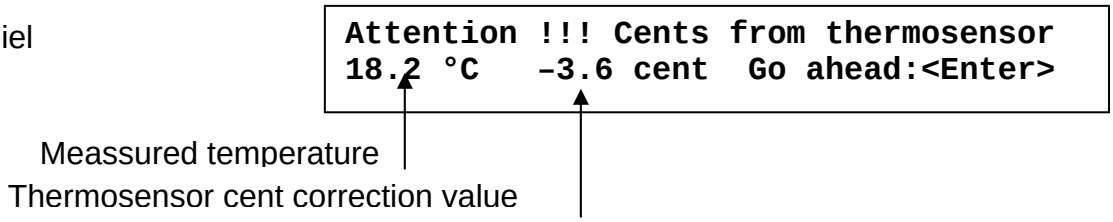
For this reason please read following chapters in the manual of CTS-32-C:

2.2 The instrument programs
2.3 Creating an individual instrument program
2.3.3 Changing the parameter of an instrument program
2.3.3.6 Th. Sensor-Rate
2.3.3.7 Th. Sensor-Reference

How to work with the thermosensor

If the thermosensor- rate of the active instrument- program is not zero, the sensor will affect target frequency of the tuning set. The cent deviation (Cent) and the corresponding temperature (degree Celsius) will be indicated before you enter tuning mode.

zum Beispiel



The cent setting of the tuning program is not influenced by the cent adjustment of the Thermosensor. For the creation of the target frequency, both values are added up. In the tuning program, the sensor is reanalyzed. The evaluation also occurs during the recording of a tone at least once per minute.

Operating range of the thermosensor: 0°C to 50°C

If you set the bargraph mode to "TSEN", you can watch the thermosensor values in the tune mode.

See manual CTS-32-C chapter 2.1.6.6 BARGR (bar display).