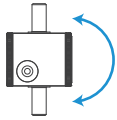
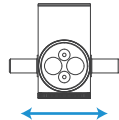
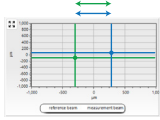


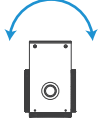
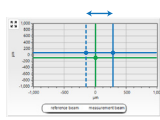
IL1 Adjustment aid



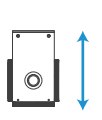
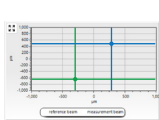
Green and blue beams move relative to each other in horizontal plate



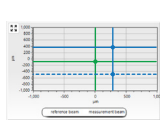
Green beam stays and blue beam moves in horizontal plate



Green and blue beams move relative to each other in vertical plate



Green beam stays and blue beam moves in horizontal plate



Contacts

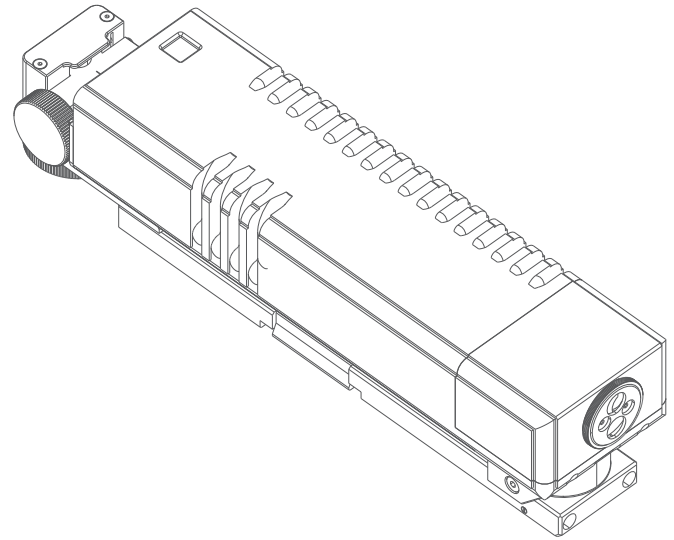
Lasertex sp. z o.o.
ul. Swojczycka 26,
50-501, Wrocław, Poland

fax : +48 71 372 43 06
phone: +48 881 241 405 or +48 509 495 023
e-mail: sales@lasertex.eu

HPI-3D



Quickstart guide



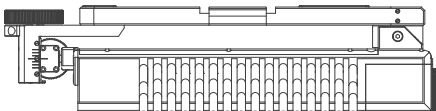
For standard set

Linear measurement



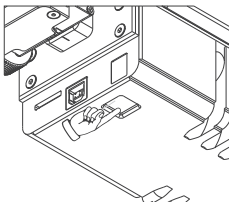
Install the reflector RL1 The reflector should be installed in the closest position to the instrument, taking into account that an interferometer IL1 will be installed between the instrument and the reflector.

Step 3



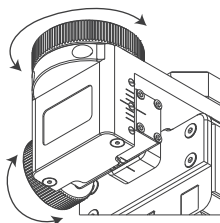
Connect the device to the power line and to the computer. Turn on the device by pressing the luminous button for about a second. A laser beam should appear.

Step 2



Install the device in the direction of the measured axis as evenly as possible. The adjustment screws on the back of the instrument must be in the neutral position.

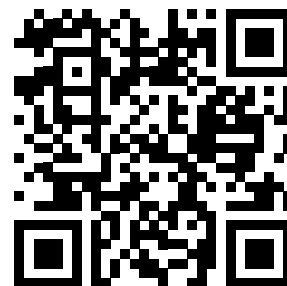
Step 1



For MacOS use Parallels Desktop Application and allow USB port access.

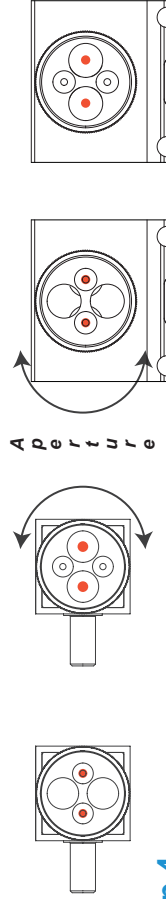
There is a copy of the HPI Software on the pen drive in the case if no internet connection is available.

<https://lasertex.eu/support/download/>



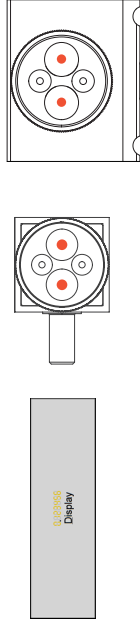
Download and install latest version of the HPI-3D software from:

Before you start measuring



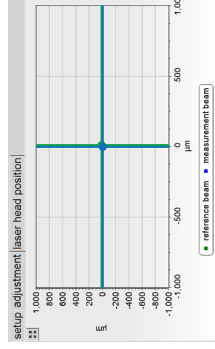
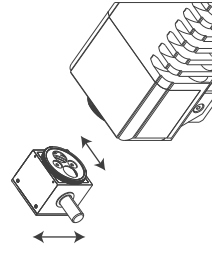
Step 4

Adjust the reflector RL1 so that the beam hits the center of the reflector inlet as accurately as possible and, returning to the instrument, as accurately as possible to the center of the receiving hole. To simplify the adjustment use the diaphragm, it reduces the diameter of the laser beam and allows you to more accurately determine its location. The beam output of the instrument is indicated by the red arrow.



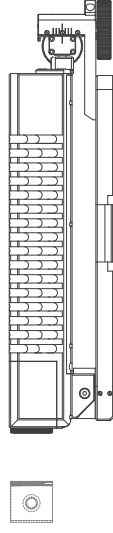
Step 5

Open the HPI software, connect the device at startup or via the "Configuration" window. Go to window "Display". Move the diaphragms on the device and on the reflector to the open position.



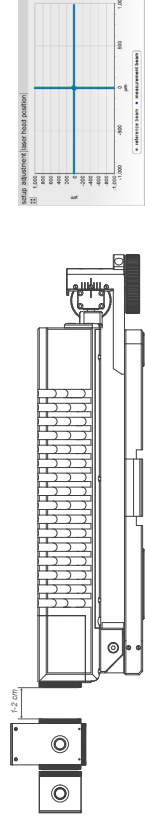
Step 6

Check the position of the cross in the adjustment section. It should be as close to the center as possible. Using the movement of the machine elements, move the prism so that the crosshairs are in the center. You can also use the adjustment screws on the tripod head or manually change the position of the reflector. **ATTENTION!** For this step, you do not need to use the adjusting screws on the instrument itself.



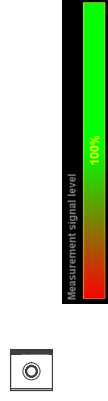
Step 7

Move the reflector along the measured axis to the furthest position. Check the crosshairs in the alignment section of the screen menu. Use the adjusting screws at the back of the device to adjust it so that the crosshairs are centered again. Move the reflector to its original position. Crosshairs can move away from the center. This is fine. Repeat steps 6 and 7 until the crosshairs are as close to the center as possible for both extreme positions on the measured axis.



Step 8

Move the reflector along the axis to the position as close as possible to the instrument. Install an interferometer IL1 between the instrument and the reflector. Red arrow indicates beam direction. It is better not to install the interferometer close to the device, leave a distance of about 1-2 centimetres. The interferometer and reflector are best placed as close to each other as possible. Align IL1 so that both crosshairs are as close as possible to the center and to each other. On top of the interferometer there is a bubble level for quick position checking.



Step 9

After installing the interferometer, you should check the signal strength by moving the reflector IR1 along its measured axis. The signal should stay at 100%. If the signal is lost, then you need to perform the adjustment from point 8 again. **ATTENTION!** To set the correct position use the interferometer IL1 only. Do not use the adjustment screws of the instrument and/or the tripod and the machine movement.

Step 10

Install the T1, T2 & T3 sensor along the measuring axis. Install the TH sensor near the laser beam. At least one temperature sensor and TH sensor should be used for calibration. Be aware of the interference caused by the machine parts. Turn off unused temperature sensors in "Display" screen.

Step 11

Go to 3D dynamic positioning and in the "CNC" menu select the "Generate CNC Path" item. Enter the desired parameters with a margin of 2 mm at the extreme positions of the axis and click "generate". Save the code and transfer it to the machine.

Step 12

Run the program on the machine at low speed to check for collisions. The program stops on instruction M0, this is normal. After checking, start the program, and when it stops at M0, select 100% speed on the machine, press "start" in the software and start on the machine. The measurement takes place automatically. **ATTENTION!** Follow the safety rules! Do not interrupt the laser beam or change the speed of the machine.

To compensate the machine, after the first measurement, **BACKUP** and zero out the compensation table in the machine, then measure once again. After the measurement is done go to CNC -> CNC compensation table, generate and upload the comp. table to the machine and reset it. Measure once again and compare with the first measurement. For more info read the HPI manual.