

# WATT PILOT

Motorized Attenuator

## QUICK START GUIDE



## I. Introduction

This guide is designed to help you quickly install Watt Pilot. When connected to a host computer (operating system Windows 98 or further version) via USB interface, Watt Pilot can be used as stand-alone device or integrated in custom design systems.

Three optical components are used in Watt Pilot: two high-performance thin film polarizers and a wave plate  $\lambda/2$ . Polarizers reflect s-polarized light while transmitting p-polarized light. The intensity of the beam is continuously varied without alteration of other beam parameters by rotating the wave plate.

Full specifications and explanations of the Watt Pilot features are given in [Watt Pilot Manual](#) (coming soon).

Powder free gloves must be worn while mounting optical components. Avoid touching and scratching optical surfaces.

## II. Package

Check the package for damage and confirm that all parts have been delivered.



Figure 1. Watt Pilot package.

Package contains:

1. Zero order  $\lambda/2$  phase retardation waveplate.
2. Two brewster type thin film polarizers.
3. Adapter for polarizers.
4. Motorized waveplate mount.
5. Control unit.
6. USB cable.
7. USB disk drive.
8. Power supply.

### III. Assembling



Figure 2. Assembling the Watt Pilot.

Watt Pilot assembling steps:

- Step 1** Place polarizers into mechanical adapter. Polarizers must face each other with surfaces coated with polarizing coating. Polarizing coating is marked with an arrow, so you have to put the polarizers with the arrows on the sides facing each other. Then fix polarizers with the plastic bolts (use all 4 plastic bolts to fix one polarizer).  
NOTICE: do not tighten up the bolts too much since it can bend the polarizer and thus distort the laser beam.
- Step 2** Put wave plate into attenuator between two mounting rings as shown. Be sure the wave plate is immobilized tightly.
- Step 3** Attenuator consists of two mechanical parts. You should assemble both mechanical parts together.
- Step 4** Use fixing screw for tightening both parts together.

## IV. Electrical connections

1. Connect attenuator to the controller box via RS232 plug from the micro step motor.
2. Connect controller box to PC via USB cable or plug in TTL signal (see more [Watt Pilot Manual](#)).
3. Connect control unit power supply.

## V. Software installation

1. Launch WattPilotSetup.exe (from USB stick) program to install control program.
2. Please notice that if you don't have Windows Framework installed, you will be prompted to do that. Windows Framework can be downloaded from Microsoft [web page](#) automatically or, alternatively, it can be found a copy in USB (file dotnetfx.exe).
3. When the software is installed you can launch the controller program.

If the controller software does not detect attenuator hardware, please check which USB Serial Port is used by Watt Pilot.

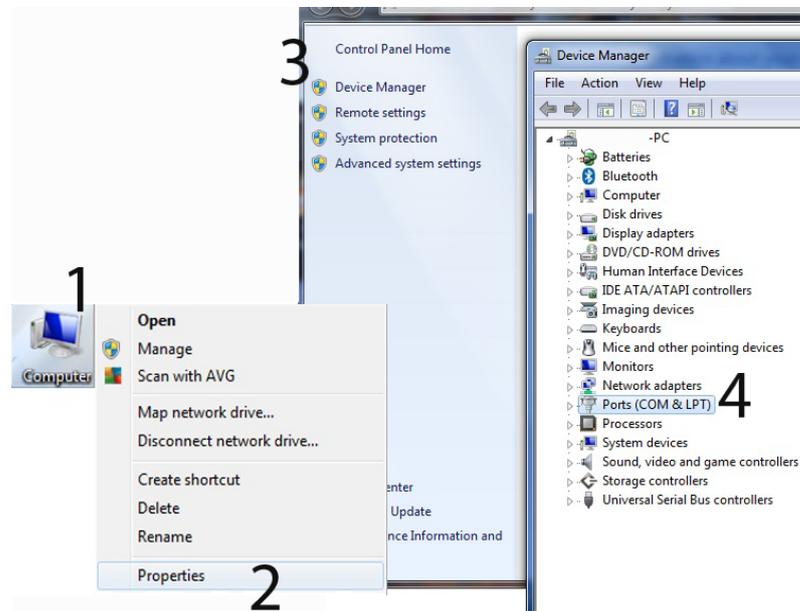


Figure 3. Detecting USB port

Right click My Computer (1) → Properties (2) → Device Manager (3) → Ports (COM & LPT) (4). Find a port called USB Serial Port in the list (Watt Pilot controller box must be connected to PC). Remember the number of this port (e.g. COM9). Now open attenuator control software menu Configuration and check if the serial port set correctly.