

## The Clamping Optical Sensor

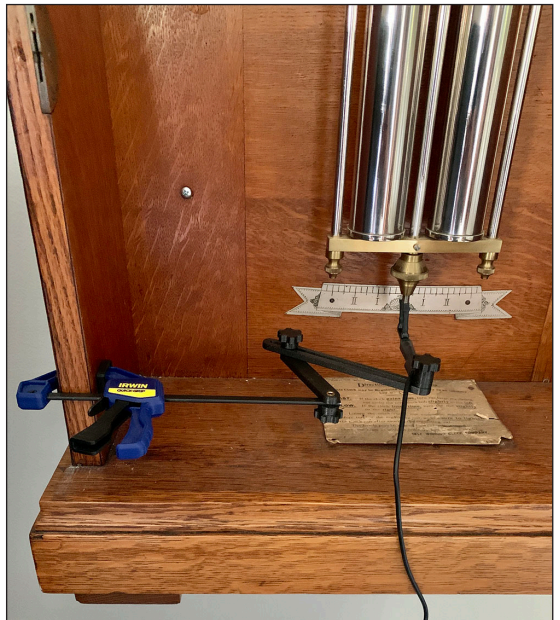


The clamping optical sensor will allow you to use the optical sensor on wall hanging clocks or on house calls much more easily. The sensor is based on a bar clamp with rubber jaws. You can safely clamp this to the side of the clock. A jointed arm is fastened to the clamp with an optical sensor at the other end. You can position the arm to locate the optical sensor under the bob of the clock you're working on.

Loosen the thumb screws and arrange the sensor to be blocked by the tip of the pendulum when it's at rest. Tighten the screws and start the clock to make your measurements.

If there is no room to position the sensor below the bob, you can also measure from the pendulum rod above the bob. The optical sensor tip has two holes at right angles, so the sensor can be arranged to point up or to the side. To change the orientation loosen the thumb screw that holds the sensor tip to the end of the jointed arm. Rotate the tip 90° to change the sensor orientation, and tighten the thumb screw.

(The sensor is shipped in the sideways orientation to protect it in transit.)



When measuring from the side you have to arrange the sensor so the pendulum rod is above the bob and blocks the sensor at the left side of the swing. Make sure the pendulum will not run into the sensor when it's running at full amplitude.

If the pendulum rod is wide (wooden rather than a metal rod) you are likely to get only one trigger for every two beats. This will make the MicroSet readings half as fast as you expect (1800 BPH instead of 3600 BPH). It's just as accurate this way, but it may be confusing at first.

On metal rods, if the sensor is close to the left side of the swing, you can get two blinks from MicroSet that are very close together. If you move the sensor higher up on the rod, where the swing is less wide, you can position the sensor closer to the center so the blinks are more equally spaced.



If you bought the clamping arm without the sensor, you can use cable ties to secure your optical sensor to the arm.

**Mumford Micro Systems**  
**3933 Antone Road, Santa Barbara, CA 93110**  
**(805) 687-5116**  
**info@bmumford.com**