

PLS360 and PLS SLD Applications

The **PLS360** is a compact and durable, self-leveling laser tool. The **PLS360** provides the building professional with a bright and crisp horizontal laser line which is accurate to 1/8" at 100'. The **PLS360** incorporates PLS's unique "automatic beam shutoff" when the tool exceeds its self-leveling range of eight degrees. The advantage of the **PLS360** over competitive rotating lasers is that there is no need for slow rotating of the beam to see it in bright conditions. There are no confusing buttons on the **PLS360**, just one for off and on. An adjustable wall bracket is included in the carrying case to fasten the **PLS360** to wall molding for use in hanging acoustical ceiling tile.

Acoustical Ceiling Installation

The contractor should remove the **PLS360** from its carrying case and first make certain that the laser tool has batteries by turning on the tool. Then take the wall bracket and attach it to the bottom of the **PLS360** by turning the black knob clockwise. Once the wall bracket and the **PLS360** are tightly connected, loosen the black vertical knob that allows the tool to slide to the bottom of the wall bracket. Turn on the **PLS360** and then place your hand over the top of the laser and squeeze the spring-loaded lever to the left to open the bracket. Carefully insert the bracket over the wall molding and release the spring-loaded lever to form a tight clamp onto the molding. The bottom of the wall bracket should be resting against the wall to give added support to the laser.

If the task at hand is to complete the hanging of the wall molding on the jobsite, raise the **PLS360** up until the laser line is aligned perfectly with the wall molding to which the wall bracket is attached. Tighten down the black adjustment knob. The contractor now has a bright and accurate laser "chalk line" to reference when fastening the rest of the wall molding.

Now it is time to install the grid. Because the wall molding has been installed completely around the room, you must choose the proper place to mount your **PLS360** for optimum performance. It is best to choose a spot where your laser "chalk line" is uninterrupted and can be seen clearly throughout the jobsite. Try to mount the **PLS360** on a bearing wall if possible and avoid mounting the laser above heavily trafficked places such as doorways or where another sub-contractor might be staged and working. Taking these precautions will minimize transferring any unnecessary vibrations to the **PLS360** and assure the contractor of a stable and accurate laser line to work with on the jobsite.

There are two ways to install the grid using the **PLS360**. The first is to align the beam exactly with the wall molding after the **PLS360** has been re-mounted to the wall. Now hang the grid to the laser line that is visible throughout the room. The second and more efficient method is to use an optional magnetic laser target. This method allows the contractor to avoid having the grid that has already been installed block the laser beam from the rest of the job. This method also offers a more precise and quick placement of the grid.

Magnetically fasten the target to the wall molding across the room from the **PLS360**. Loosen the black vertical adjustment knob and lower the **PLS360** until the laser line is aligned with the offset mark that is precisely two inches from the bottom of the finished grid height. Now that the contractor has established "instrument height" for the **PLS360**, the magnetic target can now be fastened to any piece of grid and tied off to the exact

position. Depending on the size of the job, a contractor might have as many as ten targets available to the installers to use. This affordable magnetic ceiling target is available from PLS as an accessory.

Electrical

The **PLS360** may be used for a variety of electrical installation projects: establishing precise heights for the installation of hanging fixtures such as chain-hung fluorescent lights in a commercial space, providing a level laser line for installation of receptacles and switches and providing a reference line for chases and for the installation of wall-hung fixtures.

Exterior Applications

The **PLS360** may be used outdoors with the PLS Laser Detector (**PLS-SLD**) for a wide variety of construction projects. The **PLS-SLD** is a rugged, water-resistant detector that affords the contractor the ability to locate the laser beam in bright light environments. The **PLS-SLD** has two liquid crystal displays, one on the front and another on the back. These LCDs indicate the detector's position relative to the laser beam with an "up" arrow indicating that the detector is too low and a "down" arrow meaning that the detector is too high. A solid line in the center of the display means that you have found exact level. The **PLS-SLD** also provides an audible tone so that the contractor does not have to look at the displays in order to find level on his projects. A fast beep means the detector is too high, a solid tone means that you have located grade or level and a slow beep means that the detector is too low. The **PLS-SLD** also has a setting for detection accuracy. This feature may be set from "superfine" to "coarse" depending on the application. The **PLS-SLD** is sold with a universal grade rod clamp that will fasten to most available grade rods.

Checking Grade

The **PLS360** may be used to check grade elevations when preparing a site for excavation. Rough level a tripod in a safe location somewhere on the property. It is important not to set up a tripod directly in the area that is to be excavated. Fasten the **PLS360** to the tripod and turn on the laser. Then fasten the **PLS-SLD** to your grade rod and find the predetermined finished pad height also known as a benchmark. Slide the **PLS-SLD** up or down the grade rod until the "on Grade" symbol is seen on the LCD. Take note of the detector's position on the grade rod for that day. You may place a piece of tape on the position as a reminder of its location. You will never be able to set up the **PLS360** and tripod at the same elevation every day, so each morning you must set the "instrument height" on the grade rod. You are now ready to check grade throughout your jobsite. Walk to one corner of the proposed building pad, place the grade rod on a spot and hold the grade rod plumb "vertical" and slide the **PLS-SLD** up or down until grade "level" is found. If you had to lower your **PLS-SLD** to find grade, then you are on a high spot that needs to be cut; if you had to raise your detector above instrument height, then it is necessary to add fill as you are in a low spot. As each measurement is taken you would mark the earth with spray paint denoting the cut or fill amount needed. When finished, you will have many strategically placed circles with numbers inside that say, for example, +7 or -7. The operator of the machinery that cuts the building pads now has elevations for guidance.

Foundations

The contractor must set the “instrument height” on the **PLS-SLD** the same as if he were checking grade. Find the benchmark on the jobsite that denotes the finished slab or footing height. Many contractors will simply use a notched wooden stake instead of a grade rod when setting their forms boards. This is because one had will be used to hold the notched stake with the attached **PLS-SLD** against the top of the form board, and the other hand on a hammer to drive in the duplex nail to fasten the form board to the concrete stakes. A grade rod would be too ungainly for this task. Generally, a contractor would use two **PLS-SLDs** for each team of workers setting the form boards. One person at each end of the form board would raise or lower the stake with the **PLS-SLD** attached until a solid tone indicating level is heard.

Then fasten the form board to the concrete stakes and move onto the next form board. It is advisable to periodically check the current instrument height against the original known fixed mark or benchmark. Tripod legs could potentially settle into the earth resulting in a level operating laser but the original instrument height would be changed.