

## Leica TPS1200+ Frequently Asked Questions



- **What is the TPS1200+?**  
The new TPS1200+ is the successor of the well established TPS1200. It delivers overall improved sensor performance and additional benefits based on innovative new technologies.
- **Why does the telescope of the TPS1200+ look different as compared to the TPS1200?**  
In order to achieve performance improvements in the EDM and ATR some changes in the technical design of the telescope sensors were done. In addition, the new hardware technology also prepares the basis for future developments.
- **When measuring with IR mode to prisms, one can sometimes see red light from the telescope - is this normal? Is it a safe laser and within the safety regulations?**  
The TPS1200+ EDM uses a measurement beam in the red visible spectrum for measurements to prisms; so the red light seen by the operator is a normal behaviour. Note that there is no change in terms of laser classification. Measuring in prism (IR) mode continues to conform to laser class 1; therefore, the beam is safe to the eye like the previous infrared EDM in the TPS1200. Measuring in reflectorless mode continues to conform to laser class 3R.
- **Is the EDM measurement time the same as for TPS1200?**  
When measuring in “Standard” mode the measurement time has slightly increased in order to achieve highest measurement accuracy and precision. However, other modes are not affected by this time increase. “Fast” mode is equally fast as before and easily fulfils accuracy requirements for all standard surveying applications.

- **What is the difference between the Pinpoint R400 and Pinpoint R1000 EDM?**  
 These are the two different reflectorless EDM modules that are available for TPS1200+ instruments. The numbers indicate the ranges that are achieved with these EDMs on a 90% reflective surface (Kodak White standard). The Pinpoint R400 measures distances >400m while the Pinpoint R1000 measures distances >1000m reflectorless.
- **When the EDM measures a distance I can here a clear “clack – clack” noise? Is this normal?**  
 This is due to the new design of the EDM and does not affect the performance. This sound comes from the internal calibration process that takes place when a measurement is carried out, so that the highest performance is guaranteed.
- **How can I adjust the RL beam? I cannot see any adjustment screws on the telescope.**  
 With the new optical/mechanical design the stability of the beam has been improved, therefore there is no need for such adjustment. Once the alignment is accurately performed during assembly, it stays stable throughout the TPS life-time.
- **The new telescopes have plastic covers. Aren't the metallic ones more robust and durable?**  
 The synthetic material used for the telescope covers conforms to Leica Geosystems highest quality requirements. They are designed to be robust and durable. They are lighter and more stable during temperature changes than metallic covers. In fact Leica's most accurate and robust TPS, the TCA2003, has telescope covers made of synthetic material as well.
- **What are the main changes in the EDM? How are the improvements in range and accuracy achieved?**  
 The main changes are in an optimized electronics and opto-mechanical concept of the EDM and a new generation of the “System Analyser” processing algorithm. These changes combined allow higher stability and optical characteristics of the EDM beam as well as higher accuracy and longer reflectorless range. This makes the TPS1200+ EDM the best in its class in the market with an accuracy of 1mm+1.5ppm when measuring to prisms and 2mm+2ppm in reflectorless mode. In reflectorless mode distances >1000m can be measured.
- **What are the main changes in the ATR?**  
 The main changes in the ATR are in new hardware (high quality optics and a high resolution CMOS chip) and improved software, which ensure a superior angular accuracy of 1” and a base positioning accuracy of 1mm.
- **How is the LOCK mode affected by the changes in the ATR?**  
 Lock mode in the TPS1200+ benefits from the overall improvements of the ATR. In addition, the instrument's firmware was further optimized to guarantee very robust prism tracking at high speeds and in difficult conditions.
- **Why is the PowerSearch sensor in the upper part of the telescope now?**  
 This change is a result of the overall re-design of the telescope, which was done to achieve the above mentioned improvements. The position of the PS module does not affect its performance.
- **Can I upgrade my existing TPS1200 instrument to a TPS1200+?**  
 No, due to major differences in the hardware and technologies used in both instruments an upgrade from an existing TPS1200 to a TPS1200+ is not possible.