

HP SitePrint

Spherical Prism Accessory



The accuracy advantage of one-face prisms

Looking for precision that keeps your data rock solid? 360° prisms, often used with robotic total stations, reflect signals from any direction. But when accuracy really counts, the multi-faceted design can introduce small errors that add up fast. That's why pros turn to single-face prisms for high-precision work. Their consistent optical performance delivers reliable results, setting the standard for tight-tolerance surveying.

360° prisms – key limitations

- Face transitions cause inconsistent measurement.
- Prism errors depend on orientation to the total station.
- Errors can reach ± 6 mm, during movement.

These limitations make 360° prisms less suitable for applications requiring tight accuracy tolerances.

Why single-face prisms?

- Single optical face ensures precisely aligned optical center.
- Tighter manufacturing tolerances lead to more consistent and reliable offsets.
- Typical deviations are as low as ± 0.1 mm.

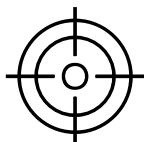
Single-face prisms eliminate angular inconsistencies, ensuring reliable, repeatable measurements for high-accuracy applications.



Unlock next-level precision with HP SitePrint's most precise prism

Enhance layout and floor deviation marking accuracy for demanding jobs with an easy-to-install, future-ready accessory that is compatible with HP SitePrint robots.

Plug in high precision

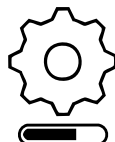


Automatically rotates a single-face prism for optimal alignment with the total station.

Delivers floor deviation marking precision¹ up to ± 1 mm or $\pm 1/32$ inch.

Improves layout accuracy up to ± 2 mm or $\pm 3/32$ inch.¹

Future-ready platform



Compatible with existing HP SitePrint units.

Scalable solution grows with your needs.

Unlocks new capabilities for your investment.

Easy to use



No workflow changes, continue with the same experience.

Securely transport the accessory using your existing HP SitePrint carrying case.



¹ Accuracy tolerance when operating at distances between 5 m and 30 m (15.4 ft and 98.4 ft), using a high-accuracy setup with the HP SitePrint Spherical Prism, High Accuracy Print Mode, and a 1" Total Station (tested with Leica TS16/TS60 1", Topcon GT1201 1", and Trimble S9 1").

FAQ

1. When should I use the Spherical Prism accessory?

Use the Spherical Prism accessory for jobs that demand high precision, when accuracy requirements are tighter than ± 3 mm.

Applications requiring such level of precision include:

Printing Layout

- Fiducial marking for AGV and ARM efficient navigation.
- Layout of advance manufacturing equipment such as robotic arms and conveyor systems.
- Accurate marking for racking base plates and anchor points.
- Mezzanine layout for column positions, staircases, and load-bearing structures.

Floor Level Service

Floor levelness check for:

- Automated storage systems.
- Assembly line tracks and platforms.
- Installation of vibration-sensitive equipment.
- Mobile platforms and lifting equipment.

2. Is the Spherical Prism compatible with all total stations?

Most total stations supported by HP SitePrint are compatible with the Spherical Prism accessory. Please refer to the Total Station Compatibility section in the Technical Specifications sheet to see if your model is supported.

Technical Specifications

General	
SKU	BF9J1A
Product Description	HP SitePrint Spherical Prism
Power Specifications	
Input Voltage	5 Vdc
Max Current	0.5 A
Max Power	2.5 W
Environmental Specifications	
Operational Temperature Range	- 10 to 50 °C
Storage Temperature Range	- 40 to 70 °C
IP/NEMA Protection	IP44 / NEMA1
Mechanical Specifications	
Weight	0,50 Kg (including Spherical prism ball)
Dimensions	150x102x86 mm (including Spherical prism ball)
Interface	USB

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3. How much does the accessory improve accuracy?

The Spherical Prism primarily reduces errors caused by face changes in traditional 360° prisms, helping minimize the number of elements out of tolerance, which increases robustness across all compatible total stations.

When using a high-accuracy setup¹, it delivers a tighter accuracy specification: Printing Tolerance of ± 2 mm ($\pm 3/32$ in); Floor Level Tolerance ± 1 mm ($\pm 1/32$ in).

4. Is it a user installable accessory?

No, the Spherical Prism accessory is simple to assemble but it requires a calibration between the SitePrint robot and the Spherical prism that can only be performed by an HP SitePrint specialist. This calibration corrects for minor variations in how each robot's prism is positioned.

5. Is a firmware update required to use this accessory?

Yes, you'll need firmware version VP4.1 or higher.

6. Does the accessory reduce battery autonomy?

Battery consumption is minimal. You can expect less than a 2% impact on the robot's overall battery autonomy.

¹ High-accuracy setup: HP SitePrint Spherical Prism, High Accuracy Print Mode, and a 1" Total Station (tested with Leica TS16/TS60 1", Topcon GT1201 1", and Trimble S9 1")

Spherical Prism Specifications	
Centering Accuracy Error	± 0.1 mm
Acceptance Angle (FoV)	± 20 deg
Roundness Diameter	38.1 ± 0.03 mm
Reflective Surfaces Diameter	25 mm
Prism Constant	K = -16.9
Material	Magnetic stainless steel
Total Station Compatibility	
Leica TS-16 / TS-60	
Leica ICR70 / ICR80	
Trimble RTS 573	
Trimble S9	
Topcon GT-1200/600	
Topcon LN-150 / LN-160	