Monument Pins Overview

Monument Pins

[Back to comparison table](#)	Mount Commonly Used	Stability	Cost	Install Time	Labor	Substrate	
	[campaign GPS/GNSS antenna mount](#)	⬆ med-high	🟡 $15-50	🕐 <1 hr	🧍 1	BR, R	

Danish geodetic marker near Kangerlussuaq, Greenland (left); simple stainless steel pin at site DOIW in Afar, Ethiopia (right).
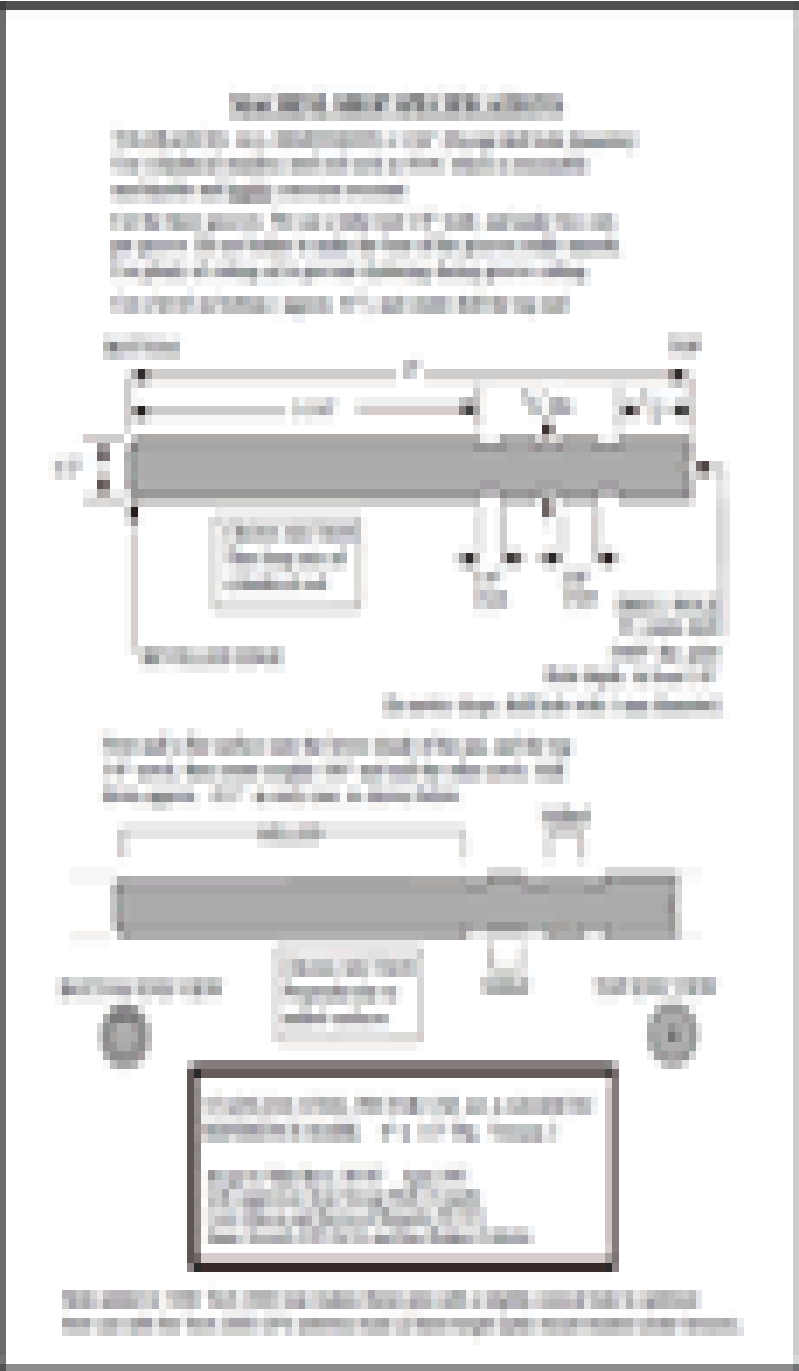
Pros

- Inexpensive (e.g. $15-50, depending on marker design)

- Can be installed with a battery-powered drill

- Small footprint, low profile

- Short installation time (<1 hr, can be as little as 15 minutes)

- Materials and machining are available in most cities

- Can be installed on a rooftop or other stone or cement structure

- Can be occupied with a wide variety of antenna mounts

Cons

- Can only be installed in solid material

- Must be occupied with a temporary antenna mount

Design and Construction

There are a variety of marker designs. In general, markers consist of a post with a 1 mm dimple or intersecting crosshairs on top. The marker most commonly used by UNAVCO is the dimpled monument pin, or "Bevis pin." The Bevis pin is a 6-inch long, 1/2-inch diameter stainless steel pin machined with notches on the sides to prohibit rotation and a 1 mm dimple on the top. Machine and installation instructions are given below.

Bevis pin machining instructions (.pdf)

[**Bevis pin installation instructions (.pdf)**](#)

Approximate Cost

$15-50; varies depending on marker design.

Materials

- pin

- epoxy or quick-setting, expansive concrete and water

Tools

- battery-powered drill

- tube to blow rock flour out of the hole

- level (optional but preferable)

- needle-nosed pliers for rescuing pins from over-drilled holes (recommended)

Mount Commonly Used

Many mounts can be used with a monument pin, including the Tech 2000 mast, UNAVCO fixed-height spike mount, standard, short, or fixed-height tripod, or bipod. See the UNAVCO Resources: GNSS Antenna Mounts page.

Send questions or comments about this page to Support (support@ unavco.org).

Online URL: https://kb.unavco.org/article/monument-pins-overview-640.html