

## MSA Series Stands

For Optical Safety System Sensors or Corner Mirrors

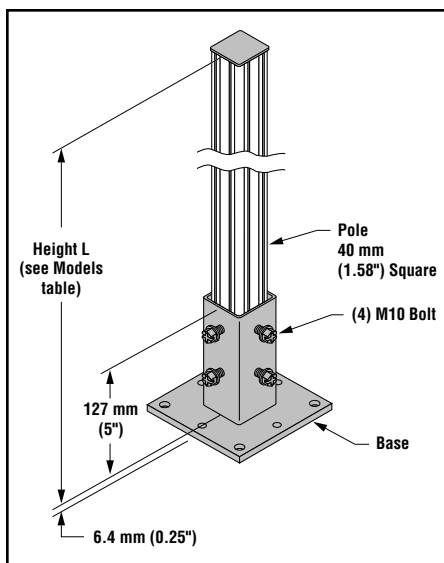


Figure 1. Assembled stand

### Features

- Easy to assemble
- Available in four pole heights
- Solidly supports emitter, receiver or corner mirror
- Strong extruded and anodized aluminum poles
- Dual-channel design for accurate sensor/mirror adjustment

### Models

Model	Part Number	For Use With	Height "L" (Figure 1)	Useable Stand Height
MSA-S24-1	43174	Light Screens and Mirrors as Noted Below	24"	19"
MSA-S42-1	43175		42"	37"
MSA-S66-1	43176		66"	61"
MSA-S84-1	52397		84"	79"
SPKA-AG12-1	73229	SFP12 Safety Point	42"	37"
SPKA-AG30-1	73230	SFP30 Safety Point	42"	37"

### Overview

Banner MSA Series stands are designed specifically for use with Banner optical safety system emitters and receivers, and corner mirrors. The poles are constructed of strong, lightweight extruded aluminum, and have a dual-channel design that allows easy and accurate height adjustment using the supplied "T" nuts.

Each stand includes two major parts:

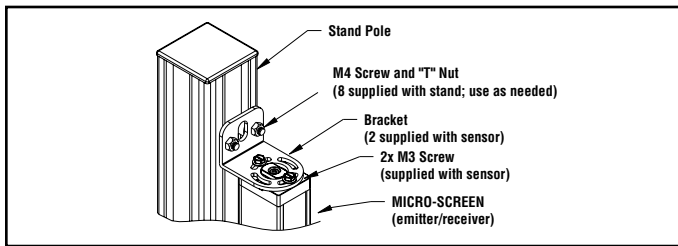
1. A welded steel base, and
2. An aluminum pole; 24", 42", 66", or 84" in length.

Hardware is included for attaching either a MICRO-SCREEN<sup>®</sup> or MINI-SCREEN<sup>®</sup> sensor, an SFP. Safety Point, or a corner mirror to the pole. (EZ-SCREEN<sup>™</sup> or MACHINE-GUARD<sup>™</sup> sensors, and SSM-Series mirrors require an adapter bracket; refer to the appropriate data sheet.) A post level also is included with each stand for accurate installation.

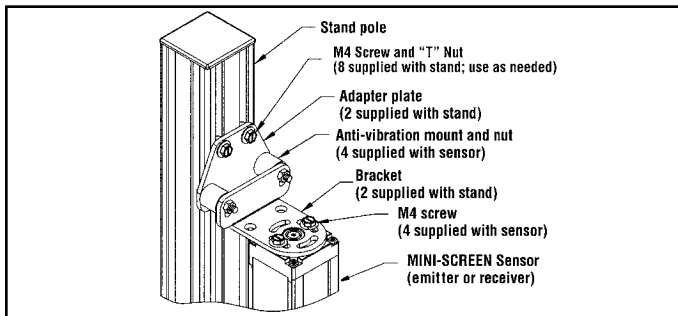
The pole is held securely in its base by four bolts (included). The base bolts to a flat surface with user-supplied 5/16" or M8 hardware. The base plate has four threaded holes for leveling bolts (also included, see Figure 2).

Figures 3, 4 and 5 detail how a sensor or mirror attaches to the post using the supplied hardware. This mounting design allows the sensor or mirror to easily slide up or down the pole and then lock into position by tightening four screws.

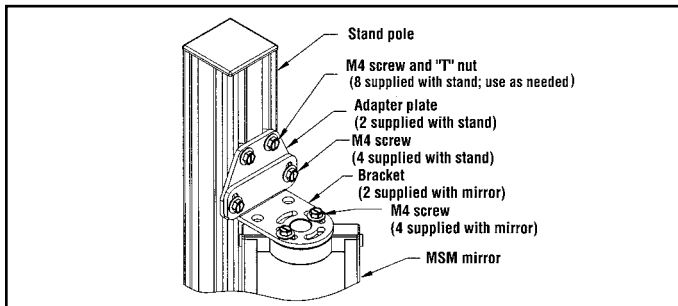




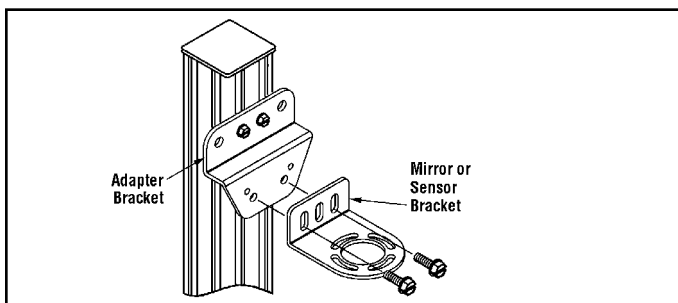
**Figure 3. Sensor-to-stand mounting for MICRO-SCREEN sensor**



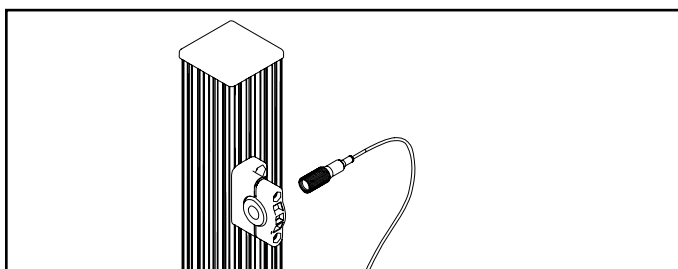
**Figure 4. Sensor-to-stand mounting for MINI-SCREEN sensor**



**Figure 5. Mirror-to-stand mounting for MSM Series mirror**



**Figure 6. Adapter bracket-to-stand mounting, shown ready for mounting of EZ-SCREEN or MACHINE-GUARD sensor or SSM-Series mirror**



**Figure 7. Swivel bracket-to-stand mounting for SFP12 or SFP30 Point**

## Mounting Sensor or Mirror to Pole

- 1) Verify that all poles used for the light screen installation are exactly parallel to each other before mounting sensors and/or mirrors.
- 2) Refer to Figures 3, 4, 5, 6, and 7. Assemble the brackets and hardware as shown in the appropriate figure.
- 3) Loosely mount the bracket assemblies (see step 2, above) to the pole using the M4 screws and "T" nuts supplied with the stand.

Note that Figures 3, 4 and 5 show the bracket assembly pointed "outward" (away from the sensor or mirror). One or both of the bracket assemblies may be reversed to point "inward," if necessary. However, access to the mounting screws becomes less convenient and mirror rotation is limited when a bracket assembly is pointed inward.

- 4) Mount the sensor or mirror to its brackets using the screws supplied with the sensor or mirror. Temporarily tighten those screws. (NOTE: MICRO-SCREEN sensors from 40" to 48" long also include one center bracket, and MICRO-SCREEN sensors from 52" to 72" long include two center brackets. M4 and "T" nuts are provided with the stands for these situations. See the MICRO-SCREEN installation manual for further details.)
- 5) Slide the sensor or mirror into position along the length of the pole and tighten the M4 screws into their "T" nuts to lock the sensor or mirror into position.

**IMPORTANT:** Step 5 requires accuracy. If no mirrors are involved in the sensing path, then any feature of the emitter can be matched in vertical position with the same feature on the receiver. However, if one or more mirrors is used, the center of each mirror must match the vertical position of the center of the defined area of the sensors. The upper and lower limits of the defined area are dimensioned in the light screen instruction manual.

- 6) Loosen the bracket screws (tightened in Step 4) to allow the sensor or mirror to rotate for alignment. See the light screen instruction manual for alignment information.

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