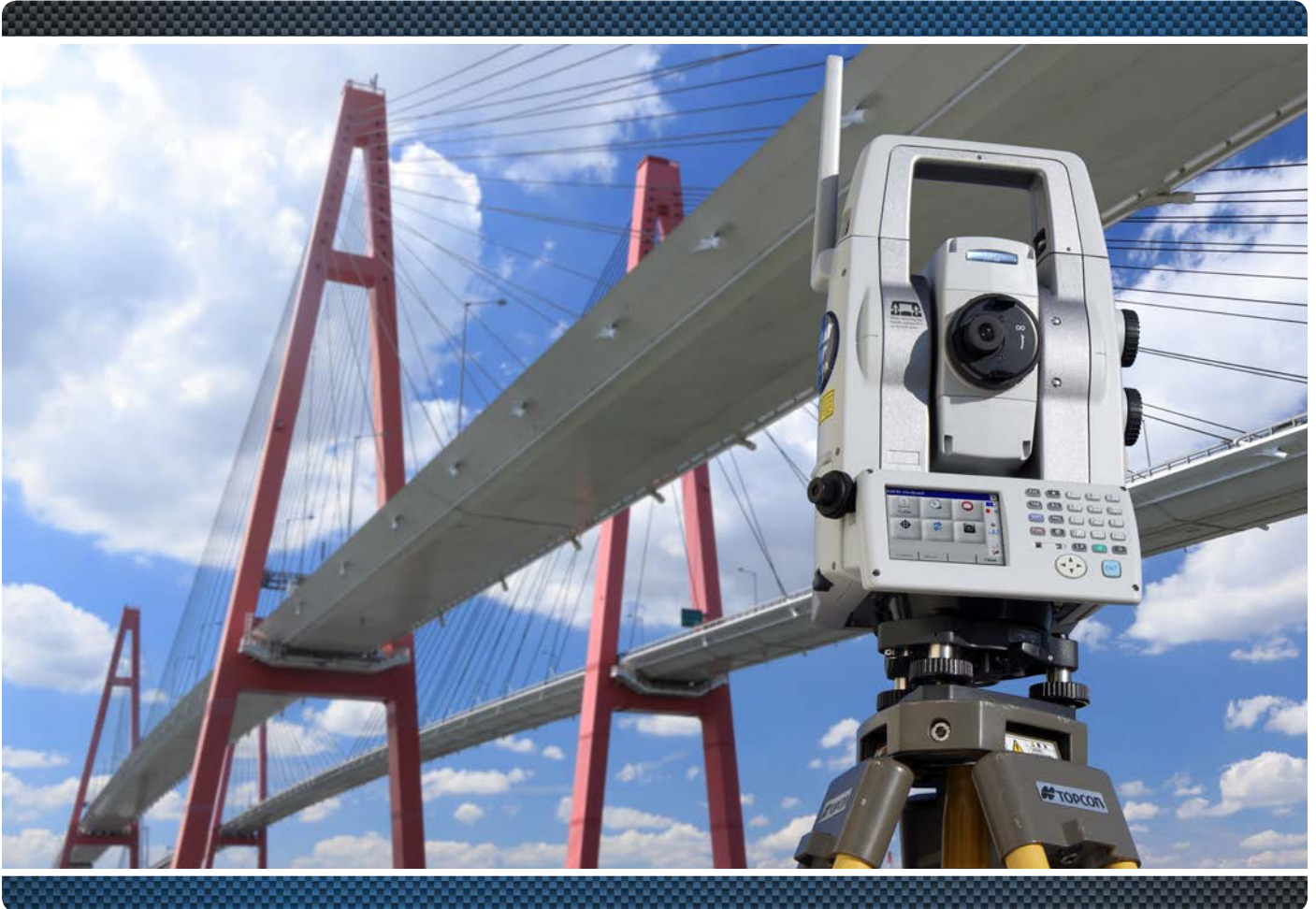


## High Accuracy Measuring Station



- Ultra High-Precision Distance Measurement
- Precise Angle Accuracies 0.5" (MS05AXII) and 1" (MS1AXII)
- Auto-aiming Accuracy of 1"
- Remote Control through On-line PC
- Exclusive Reflector Prescan technology
- Enforced Durability for Long Term Deformation and Monitoring Applications

# MS05AXII / MS1AXII Series High Accuracy Measuring Station

## Accuracy and durability are further refined to provide highly accurate measurement

### Rapid 2D Monitoring®

Engineering structures, such as buildings, dams, tunnels and bridges, can always be affected by movement caused by excavation, heavy construction and piling placement, in addition to natural hazards, such as harsh weather, soil movement, change of ground water level or any number of other factors. The ultimate goal in any project, at any job site, is to secure the safety of people and equipment, and therefore the saving of maintenance cost.

The MS Series provides superior measuring precision and is equipped with environmental protection and various functions necessary in monitoring applications and therefore, can be utilize to configure a high-precision monitoring system.

### Industrial Measurement

MS05AXII, used with reflective sheet targets, can achieve sub-millimeter accuracy. It is suitable, therefore, for measuring the shape and alignment of large scale structures such as various plants and bridges, as well as for precise measurements of ships, railroad cars, and airplanes.

### First-order Survey

The MS Series offers high-precision angle accuracy (MS05AXII: 0.5", MS1AXII: 1") which can be applied for a wide range of precise measurements. Since it is equipped with an automatic tracking system, the high-precision robotic measuring station can be configured with a remote control system.

### Reflector Prescan Function\* for Monitoring Setup

The MS Series automatically searches within the predetermined area to quickly measure the reflectors as initial positions for subsequent routine measurements. This function works even in low light or dark conditions where the reflectors cannot be clearly seen by the human eye.

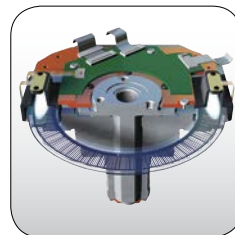
### Remote Operation by Online System

A library of special control commands can be provided in order to establish remote operation functionality in your own monitoring system.



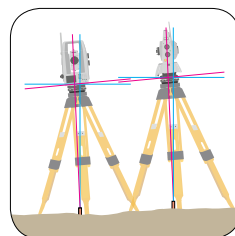
### Ultra High-precision Distance Measurement MS05AXII

Using reflective sheet targets, the MS05AXII provides sub-millimeter accuracy (0.5 mm + 1 ppm) in a range of up to 200 m. The MS1AXII is doubled to 400 m (1,310 ft.) with Kodak white side (90% reflective).



### Advanced Angle calibration

Topcon advanced angle encoder technology with exclusive calibration system provides "best in class" angle accuracy, 0.5" (MS05AXII) and 1" (MS1AXII).



### Adjusting mechanism for angle measuring

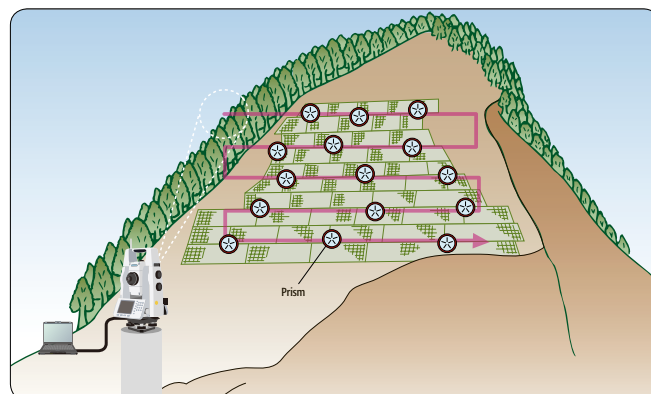
The biaxial level compensation mechanism has a wider adjusting range of  $\pm 6'$  which is twice as wide, compared with previous models. This enables highly accurate measuring performance.



### Superior Auto-Pointing Accuracy

The auto-pointing accuracy\* with the standard prism is 1" (1 mm at 200 m), and 4" (1 mm at 50 m) with a reflective sheet.

*\* Auto-pointing accuracy is verified using the methods specified by ISO 17123-3.*



## PRIMARY FEATURES



### Advanced Auto-Pointing Algorithm for Multiple Prisms

The MS Series incorporates an advanced auto-pointing algorithm\* optimized for monitoring applications. It automatically sights the prism closest to the telescope center regardless of the distance from the instrument. This works even if multiple prisms or other reflective objects are in the field of view. This feature dramatically enhances the reliability in periodic monitoring of predetermined prism locations.

### Dust and Water Protection

The IP65 rating ensures protection from dust and driving rain as well as other inclement weather conditions, and it operates in temperatures ranging from -20°C to 50°C.

## KIT COMPONENTS

### System Components

- MS Measuring Station
- Batteries (2) and Charger
- Lens Cap and Hood
- Tool Kit
- Plumb Bob
- Digital Manual
- Vinyl Cover
- Carry Case and Straps



## SPECIFICATIONS

	MS05AXII	MS1AXII
<b>Angle Measurement</b>		
Accuracy	0.5"	1"
(ISO 17123-3)	(0.15mgon)	(0.3mgon)
Minimum reading	0.1" / 0.5" (0.02 / 0.1mgon)	
<b>Distance Measurement</b>		
Maximum range		
Non-prism	100 m	400 m
Reflective sheet	200 m	200 m
1 prism	3,500 m	3,500 m
Accuracy (ISO 17123-4)		
Non-prism	1 mm + 1 ppm	2 mm + 1 ppm*
Reflective sheet	0.5 mm + 1 ppm	1 mm + 1 ppm
Prism	0.8 mm + 1 ppm	1 mm + 1 ppm
Motors	DC motordrive	
Rotation Speed	85° / second	
<b>Auto-Collimation</b>		
Range		
AP Prism	1.3 m to 1,000 m	
Reflective Sheet	5 m to 50 m	
Accuracy**		
AP Prism	1" (0.3 m gon) (1 mm at 200 m)	
Reflective Sheet	1 mm at 50 m	

\* Up to 200m range.

\*\* Auto-collimation accuracy is verified using the methods specified by ISO 17123-3.

For more specification information:  
[topconpositioning.com/ms-series](http://topconpositioning.com/ms-series)

## Topcon TotalCare

This online resource comes with real live people ready to help. Get expert training from Topcon University's large collection of online materials, and expert help directly from Topcon Technical Support.

Access software and firmware updates, current publications, and guidance from the experts at Topcon all right from your computer or mobile device.

Please visit the TotalCare website to learn more.  
[topcontotalcare.com](http://topcontotalcare.com)



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## OPTIONAL SOFTWARE

### MSP Automated Deformation Monitoring

Software solutions for monitoring and deformation measurements

#### RAPID PC

Installs on the local job site PC, RAPID PC offers full on-site control of the MS AXII total stations, scheduling monitoring epochs, collecting, and archiving measurement data.



#### RAPID WM

Designed for use on rugged Windows Mobile devices such as our FC-336 or Topcon Tesla, RAPID WM takes control of all on-site instrument control and site measurements. Upon completion of each monitoring cycle, RAPID Mobile automatically activates its GPRS modem to transmit the data to the office server for processing.



#### RAPID SiteComs and OffComs

Installs on a job site PC or server and support multiple communication methods, such as UHF Radio, GSM, and GPRS modems. The AutoScan will pick up any cycle data and send raw data to the office. OffComs is the companion software to SiteComs, which receives and organizes the incoming data.



#### RAPID On-board

MSP, our solution partner, has designed their software to operate onboard the Topcon MS05AXII for smaller localized projects where remote control of the measuring station is not required. Running onboard the MSAXII total station, RAPID software allows the user to set up autonomous monitoring solutions for all types of applications.

Your local Authorized Topcon dealer is: