

# TOTAL STATION TTS105



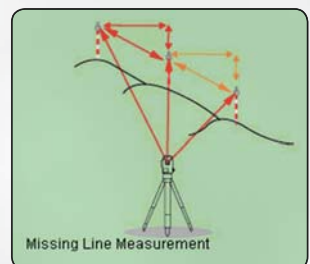
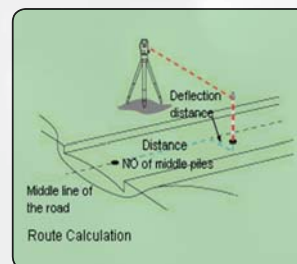
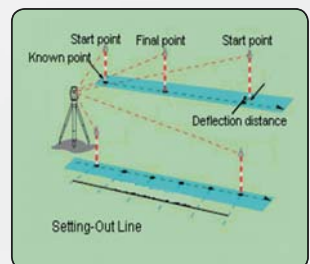
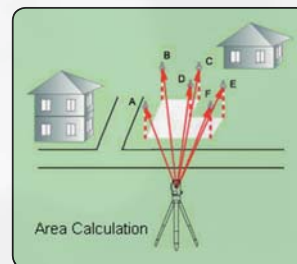
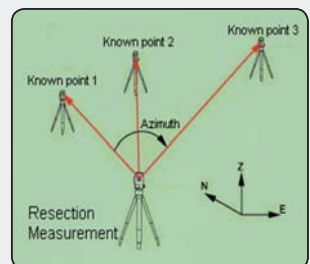
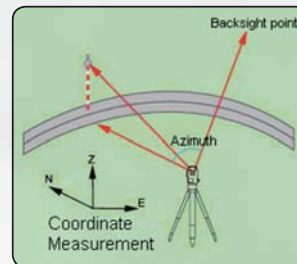
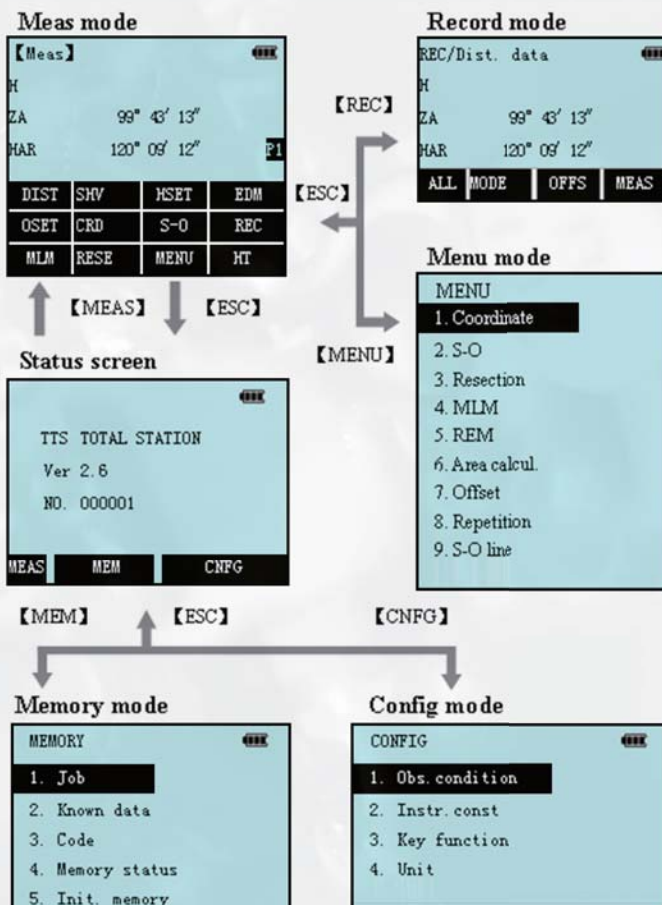
## Brief Introduction

TTS105 is an electronic/optical instrument mainly applied in construction and civil engineering field. Angles, distances, coordinates and many advanced measurements are accomplished by using trigonometry and triangulation. Downloading and uploading data are available.

## Features

- Large and high resolution screen guarantees a clear display
- Measure up to 100m in the reflectorless mode
- Extended internal memory accepts up to 50000 points
- Handy EDM head
- Electronic auto compensator
- Equipped with advanced measurement programs and practical software
- Possibility of red laser centering
- Red laser directing ensures pinpoint accuracy in reflectorless distance measurement
- Easy and direct operation with the alphanumeric keyboard and the function keys
- Long battery life up to 30 hours for angle measurement only
- Rugged, durable, water and dust resistant design

## Application



## Technical Specification

ANGLE MEASUREMENT(Hz, V)		
Accuracy	5"	
Method	Grating disk	
Min. reading	1"	
Standard deviation	2"	
Compensation	Vertical axis	
Compensating range	3な	
Level parameter:		
Circular level	8/2mm	
Plate level	30に/2mm	
TELESCOPE		
Magnification	30	
Image	Erect	
Field of view	1 30な(2.6%)	
Min. focus	1.5m	
Optical aperture	45mm	
Length of sleeve	150mm	
Resolution	3"	
Distance of circles	71mm	
DISTANCE MEASUREMENT		
Min. reading	1mm	
Reflector:		
Measurement range (Good condition):		
Single prism	4000m	
Triple prism	7000m	
Measurement accuracy	(3+2ppm·D)mm	
Measurement time:		
Fine measurement mode (Repeat)	About 1.8sec. (first time 2.5sec)	
Tracking measurement mode	About 0.4sec. (first time 1.5sec)	
Atmospheric correction:		
ppm input range	-499ppm~+499ppm ( step 1ppm )	
Prism constant correction	-99mm~+99mm (step 1ppm)	
Reflectorless:		
Measurement range (Kodak white)	100m	
Measurement accuracy	5mm	
Measurement time:		
Fine measurement mode (Repeat)	About 1.8sec. (first time 3sec)	
Tracking measurement mode	About 0.5sec. (first time 2sec)	
DISPLAY		
Screen type	4-line dot matrix LCD with backlight	
Display unit	Double sides	
PHYSICAL SPECIFICATIONS		
Battery power:		
Voltage	DC7.2V	
Capacity:	Distance and angle measurement	Angle measurement
Lithium battery BDC40L 4.0AH	4.5h	30h
Temperature range:		
Storage temperature	-40 ~ +60	
Operating temperature	-20 ~ +55	
Dimension	190mm 210mm 350mm	
Net weight	6.0kg	
OTHERS		
Interface	RS232C	
Waterproof /Dustproof protection	IP54	



## Standard Delivery

Main unit	1
Software	1
RS232 data cable	1
Rechargeable battery	2
Battery charger	1
Car charger	1
Tool kit	1
Dryer	1
Lint-free cloth	1
Brush	1
Screwdriver	1
Rain protector	1
Shoulder strap	1
Instruction manual	1
TIME certificate	1
Warranty card	1



# ELECTRONIC LASER THEODOLITE TEL100



## Brief Introduction

TEL100 is an electronic instrument designed for measuring both horizontal and vertical angles in the construction and civil engineering field. The laser spot diameter is 5mm at 100m that ensures pointing accuracy. saving data into internal registering units, or into external data storage devices through software.

## Features

- ば Two sides of large and high resolution screens guarantee the clear displays
- ば Communication with PC and PDA
- ば Possibility of red laser centering
- ば More suitable for positioning work of long-distance and bridge projects with the red laser directing
- ば Memory extending available
- ば Easy and direct operation with simple function keys
- ば Display of data and time on screen
- ば Powered by the rechargeable battery
- ば Rugged, durable, water and dust resistant design

## Technical Specification

ANGLE MEASUREMENT(Hz, V)		
Method		Incremental grating disk
Accuracy		5"
Min. reading		1"/5"/10"
Tilt sensor		Provided
Compensating range		3な
Level parameter	Circular level	8/2mm
	Plate level	30 こ/2mm
TELESCOPE		
Magnification		30
Image		Erect
Field of view		1 30な(2.6%)
Min. focus		1.3m
Optical aperture		45mm
Length of sleeve		155mm
Resolving power		2.5"
Stadia ratio		100
Stadia constant		0
DISPLAY		
Screen type		7-segment LCD display with backlight

Display unit	Double sides
LASER	
Laser source	Laser diode
Laser wavelength	635nm
Laser power	10mW
Laser class	Class II
Effective range	200m
Light spot size	5mm/100m
Laser power	DC3.3V
PHYSICAL SPECIFICATIONS	
Operating time	10 hours with rechargeable battery
Storage temperature	-40 ~ +60
Operating temperature	-20 ~ +50
Dimension	144mm 175mm 324mm
Net weight	5.0kg
OTHERS	
Interface	RS232C
Waterproof /Dustproof protection	IP54

## Standard Delivery

ば Main unit	1	ば Tool kit	1
ば Software	1	ば Shoulder strap	1
ば RS232 data cable	1	ば Instruction manual	1
ば Rechargeable battery	2	ば TIME certificate	1
ば Battery charger	1	ば Warranty card	1



# ELECTRONIC THEODOLITE TET100



## Brief Introduction

ば TET100 is an electronic instrument mainly used for measuring both horizontal and vertical angles to high accuracy in the construction and civil engineering field. It performs the necessary operations, saving data into internal registering units, or into external data storage devices through software.

## Features

- ば Two sides of large and high resolution screens guarantee the clear displays
- ば Communication with PC and PDA
- ば Possibility of laser centering
- ば Memory extending available
- ば Easy and direct operation with simple function keys
- ば Display of data and time on screen
- ば Powered by the rechargeable battery
- ば Rugged, durable, water and dust resistant design

## Technical Specification

ANGLE MEASUREMENT(Hz, V)		
Method		Incremental grating disk
Accuracy		5"
Min. reading		1"/5"/10"
Tilt sensor		Provided
Compensating range		3な
Level parameter	Circular level	8/2mm
	Plate level	30じ/2mm
TELESCOPE		
Magnification		30
Image		Erect
Field of view		1 30な(2.6%)
Min. focus		1.3m
Optical aperture		45mm
Length of sleeve		155mm
Resolving power		2.5"
Stadia ratio		100
Stadia constant		0
DISPLAY		
Screen type		7-segment LCD display with backlight
Display unit		Double sides
PHYSICAL SPECIFICATIONS		
Operating time		10 hours with rechargeable battery
Operating temperature		-20 ~ +50
Dimension		144mm 175mm 324mm
Net weight		5.0kg
OTHERS		
Interface		RS232C
Waterproof /Dustproof protection		IP54

## Standard Delivery

- ば Main unit 1
- ば Software 1
- ば RS232 data cable 1
- ば Rechargeable battery 2
- ば Battery charger 1
- ば Tool kit 1
- ば Shoulder strap 1
- ば Instruction manual 1
- ば TIME certificate 1
- ば Warranty card 1



# AUTO LEVEL AL SERIES



## Brief Introduction

AL series are optical instruments mainly used in surveying and building to transfer, measure, or set horizontal levels. It is a high quality, accurate, water resistant and low cost unit ideal for site measurements.

## Features

- は 7-pieces built-up telescope system gets clearer images
- は Exclusive closed magnetic field
- は Magnetically-dampened compensator
- は Compensator lock
- は X-type thread air-damper applied to tilt sensor, high precision and reliable.
- は All metal housings for increased durability
- は Top-mounted optical peep-sight for quick reference
- は Superior shake-resist, waterproof and dustproof

## Technical Specification

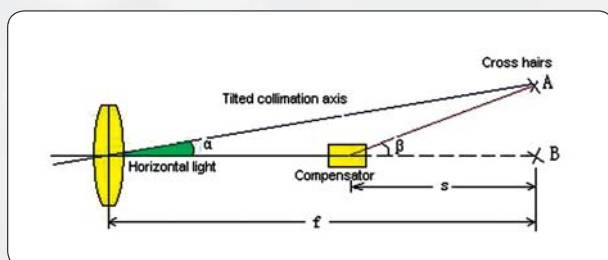
Magnification	24	28	32
Standard deviation for 1km double run leveling	2.0mm	1.5mm	
Image	Erect		
Objective aperture	36mm		
Field of view	1 20		
Shortest focusing distance	0.6m		
Stadia multiplying constant	100		
Stadia additive constant	0		
Reticle shape	Cross-shape		Wing-shape
Compensator range	15′		
Setting accuracy	0.5	0.4	0.3
Sensitivity of circular bubble	8′/2mm		
Graduation interval of circle	1 or 1 gon		
Water resistance	IPX4		
Connecting size	M16 or 5/8		
Net weight	1.5kg		

## Standard Delivery

- は Main unit 1
- は Adjusting pin 2
- は Plummets bob 1
- は Instruction manual 1
- は TIME certificate 1
- は Warranty card 1

## Optional Accessory

- は Tripod
- は Leveling staff



# LASER TUNNEL DETECTOR TTD100



## Brief Introduction

TTD100 is designed for detecting the tunnel cross-section fast and accurate, especially for data acquisition in the construction inspection, completion inspection and quality control.

## Features

- High-precision angle encoder and laser ranger
- At least 100 sets of cross-section data can be recorded on the scene
- Data processing, mapping and reporting can be available with the processing software
- Integrated design, small size, light weight and easy to use
- Manual and automatic adjustment are available for full angle location
- Special designed battery clip to facilitate the replacement of batteries

## Technical Specification

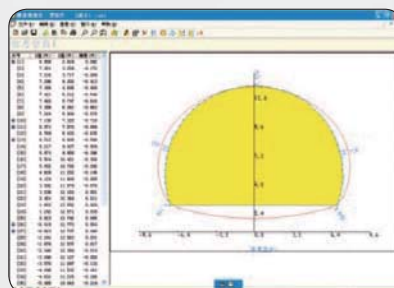
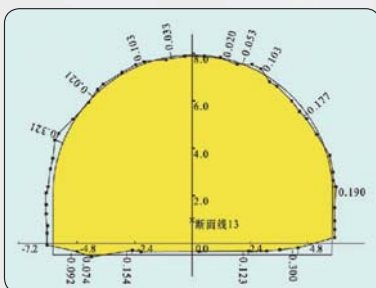
Method	Angle encoding
Measuring radius	0.3m-60m
Accuracy	1mm
Measuring time	<3mins
Measuring range of angle	30° ~ 330°
Memory for each measurement	More than 100 sets
Interface	RS232 and USB
Operating temperature	-20 ~ +60
Dimension	150mm 100mm 270 mm
Net weight	4.5 kg

## Standard Delivery

- Main unit 1
- Software 1
- RS232 connecting cable 1
- USB connecting cable 1
- Soft dog 1
- Power charger 1
- Rechargeable battery 2
- Instruction manual 1
- Warranty card 1
- TIME certificate 1

## Optional Accessory

- Tripod



# LASER TUNNEL DETECTOR TTD200



## Brief Introduction

TTD200 not only maintains the original features of TTD100, but also accomplishes the measurement of the front and the back section, set of the working face blast-hole and detection of surrounding rock deformation.

## Features

- ば High-precision angle encoder and laser ranger
- ば Easy and direct operation with PDA
- ば Possibility of data processing, mapping and reporting by the processing software
- ば Capable of optical point indication
- ば Detection of the current section, the front and the back section
- ば Function of setting out the profile of the tunnel
- ば Calculation and storage of the results in real time with PDA
- ば High accuracy and reliable detection, moisture-proof and dustproof design

## Technical Specification

Method	Angle encoding
Measuring radius	0.3m-60m
Accuracy	1mm
Measuring range of angle	30° ~ 330°
Resolution	0.01
Precision of angle	Better than 0.1
Controller	PDA
Memory	More than 5000 sets
Interface	RS232 and USB
Detecting interval between two sections	Twice of the tunnel radius
Operating temperature	-20 ~ +60
Dimension	140mm 100mm 300mm
Net weight	5.2kg

## Standard Delivery

- ば Main unit 1
- ば PDA 1
- ば Software 1
- ば USB connecting cable 1
- ば PDA-Main unit control cable 1
- ば Soft dog 1
- ば Power charger 1
- ば Instruction manual 1
- ば Warranty card 1
- ば TIME certificate 1

## Optional Accessory

- ば Tripod

# BRIDGE DEFLECTION DETECTOR TBD100



## Brief Introduction

ば TBD100 is mainly used for measuring bridge static and dynamic deflection and detecting large building deformation and the vibration displacement. The powerful software is available for analyzing data.

## Features

- ば Accomplishment of two-dimensional measurements by adopting high-speed area array CCD
- ば High-speed measurement for dynamic measurement
- ば Point mode for static measurements
- ば Auto-calibration
- ば Static deflection detection up to 20 points (two-dimension)
- ば Capable of real-time display and storage automatically
- ば Wireless remote control target
- ば High performance of vibration resistance
- ば Software: analysis of maximum and minimum deflection, impact factor, interval data frequency and power spectrum

## Technical Specification

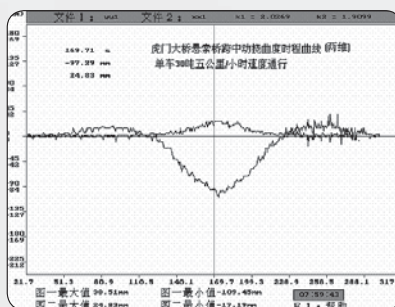
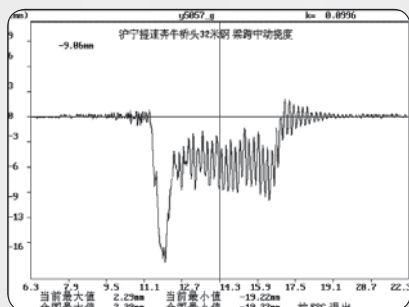
Method	Photoelectric imaging measurement
Detecting mode	Two-dimensional measurement
Detecting distance	10-300m (cell targets) 300-500m (AC targets)
Resolution	Within 1%
Accuracy	0.03mm (Dynamic measurement at 10m)
Sampling frequency	100Hz
Power	Rechargeable lithium battery
Operating temperature	-20 ~ +50
Dimension	355mm 315mm 345mm
Net weight	5.5kg

## Standard Delivery

ば Main unit	1
ば Photoelectric target	3
ば Software	1
ば USB connecting cable	1
ば Soft dog	1
ば Lens hood	1
ば Battery charger	1
ば Target charger	3
ば Magnetic base	3
ば Remote	1
ば Instruction manual	1
ば Warranty card	1
ば TIME certificate	1

## Optional Accessory

- ば Tripod



# LASER LEVEL SERIES



## Brief Introduction

Lasers Level is mainly applied in construction and indoor decoration as well as mapping, machine work, equipment installation, water conservancy installation. It is the best choice of replacement for original tools such as water tube, vertical line, ink line.

## Features

- ▮ Compensation automatically within 3 degree
- ▮ Alarm function available while out of compensation range
- ▮ Application of the Magnetic-damping compensation system
- ▮ Possibility of choosing vertical line (4 vertical lines can make a cross above), horizontal line or letting them work at the same time by pressing V/H button which located on control-pad
- ▮ Centering by red laser
- ▮ Rotation of 360° by hand or remote controller
- ▮ **3V1H specification:** DIY design, Small portable unit, Down point, Cross on roof and horizontal direction, Special locked function.

## Technical Specification

Function code	1V1H	2V1H	4V1H	4V4H
Laser class	Class II			
Laser wavelength	635nm			
Vertical accuracy	1mm at 5m			
Horizontal accuracy	1mm at 5m			
Down point	1mm at 1.4m			
Self-leveling range	3°			
Horizontal emissive angle	120°			
Vertical emissive angle	150°			
Width of line	2mm at 5m			
Vertical angle accuracy	90° 0.02°			
Power	AA batteries 3 (DC4.5V)			
Continuous working time	About 13 hours (All the lines working)			
Operating temperature	-10 ~ +40			
Storage temperature	-20 ~ +40			
Screw Length	5/8			
Net weight	1.5kg (Including batteries)			

## Standard Delivery

- ▮ Main unit 1
- ▮ Glasses 1
- ▮ AA batteries 3
- ▮ Instruction manual 1
- ▮ TIME certificate 1
- ▮ Warranty card 1

## Optional Accessory

- ▮ Remote

