



Brochure(E) 09.10

# 2010 Product Brochure



It's professional

# Suzhou FOIF Co., Ltd.

Tel: +86-512-65224904 Fax:+86-512-65230619 +86-512-65234905 E-mail: internationalsales@foif.com.cn Web: http://www.foif.com.cn Headquarters: Lat N31°18'12.8", Long E120°37'53.8"





# A Brief Instruction to the Company

Suzhou FOIF Co., Ltd. was set up on the basis of legal reform from Suzhou First Optical Instrument Factory in August 1999. Suzhou First Optical Instrument Factory was founded in 1958, it produced the first 1" grade optical theodolite, the J2 optical theodolite in 1968 and the DS3 in 1968, the first automatic level in China. The first DCH1 EDM was developed in 1987 and the first total station DQZ2 in 1996. From 1986 to 1996 the company worked successively on the manufacturing and assembly technology of Wild T2 and Leica DI1600. Suzhou FOIF also assembled the Sokkia DT2 EDM in 1992. FOIF is a professional enterprise of designing, manufacturing and sale for surveying products, it is high-tech enterprise and was awarded a certificate from Chinese government as an "Honouring Contracts and Keeping Promise Enterprise" for Grade AAA in Jiangsu province. FOIF is the first enterprise in China which produces a total station used reflectorless technology.



1968 Theodolite J2



1966 EDM 5B

1968 Level DS3 1975 Laser Theodolite 1986 Rotating laser JP1 1987 EDM DCH1 1986/1996 T2+DI1600

FOIF equipped with an advanced CNC (Computerised Numerical Control) machining centre, turning machine centre, three coordinate measuring machines and testing equipments, and use NX3 CAD/CAM computer assistant system for designing and manufacturing. "FOIF" is the renowned brand in the survey & industry in the world. And the high quality was accepted in most of customers. In 1996 FOIF's quality management system had attained ISO9001: 1994 Certification of DNV (Det Norske Veritas) and review the Certification of ISO9001: 2000 in 2002.

The quality of products keeps on high level and won several titles of honour by the National Quality Supervise Department, China Machinery Industry Fine Products, etc. FOIF has set up a sales net cover the whole China and the market share is always in the leading position. The exports are more than 40%, the products export to Europe, America, Australia, Africa and Asia, it also has a sales net cover the world.

In recently years, FOIF has expanded through joint venture and now includes a professional factory manufacturing precision parts, a professional factory producing automatic levels and a professional factory for accessories.

FOIF established an R & D Center for the research into advanced technology and creation of new products. There are currently forty professional engineers, fifteen senior engineers and thirteen technicians working on products development and annual research expenditure is more than 5 per cent of sales.

FOIF's main products are surveying instruments, construction instruments, laser instruments and tools in recent years FOIF have been establishing 8 series and approximately 100 models products, including GNSS products, total station, electronic theodolite, optical theodolite, automatic level, laser plummet, laser level and architecture installing instruments, etc.



# **2010 Product Brochure**

Content

Note:

Illustrations, descriptions and technical specifications are not binding and may change





Certificate for Manufactory Wild T2

GNSS Product	1
Total Station	4
Data Collector	7
Software	8
Theodolite	9
Laser Plummet	12
Rotating Laser	13
Line Laser	14
Laser Meter	15
Automatic Level	16
Accessories	18



CE Certificate



Brand Name Products



China Product TOP500

# **GNSS** Product

**A20 GNSS Receiver** 

#### **Features**

**3**G satellites tracking (GPS, Glonass, Galileo)

8

\* CAF

- Advanced GNSS tracking performance
- Advanced multipath mitigation
- Advanced rugged design
- The base/rover station could be used as a rover/base by change the setting

000

- Base and rover communications options to suit any application
- Fully integrated, flexibility
- Voice messages
- OLED display with super brightness & weatherability
- Up to 76 universal tracking channels options

#### **Specifications**

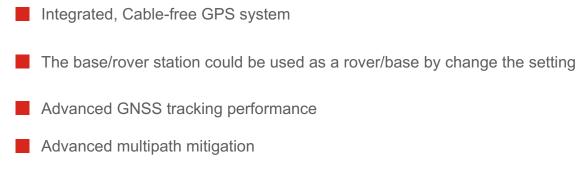
	A20
Position Accuracy	
Static	3mm+1ppm(Horizontal); 5mm+1ppm(Vertical)
RTK	10mm+1ppm(Horizontal); 15mm+1ppm(Vertical)
Channels	
	Up to 76 universal channels options
Time to first fix (C/W/R)	
	60s/35s/1s
Dimensions (h*d*w*)	
	22.7cm×20.3cm×9.5cm
Water and dust protection	
	IP67 (IEC60529)
Shock	
	2.0m(6.6 ft) poledrop



# SGS828 Integrated RTK **GPS** Receiver



#### **Features**



- Advanced rugged design
- Fully imtegrated, flexibility

#### **Specifications**

Position Accuracy	
Static	5mr
RTK	10mr
Channels	
Time to first fix (C/W/R)	
Dimensions (h*d*w*)	
Water and dust protection	
Shock	

# **GNSS Product**

#### SGS828

m+1ppm(Horizontal); 10mm+1ppm(Vertical) m+1ppm(Horizontal); 20mm+1ppm(Vertical)

Parallel 28 channels

60s/35s/1s

 $16.9 \text{cm} \times 15.2 \text{cm} \times 10.6 \text{cm}$ 

IP67 (IEC60529)

2.0m(6.6 ft) poledrop

# **GNSS Product**

# SGS818 Integrated Static **GPS** Receiver



#### **Features**

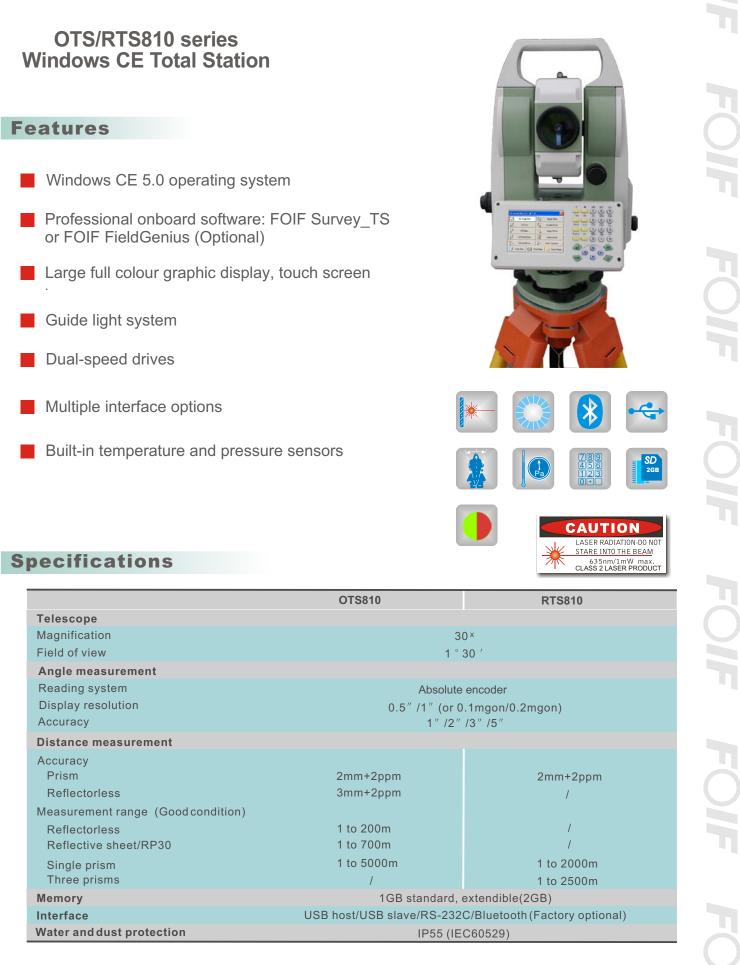
- Highly-integrated GPS antenna, data memory and batteries
- 128M large-capacity memory
- Long life Li-ion battery

#### **Specifications**

	SGS818
Position Accuracy	
	5mm+1ppm(Horizontal); 10mm+1ppm(Vertical)
Channels	
	Parallel 12 channels
Dimensions (h*d*w*)	
	16.1cm×15.2cm×10.6cm
Water and dust protection	
	IP67 (IEC60529)
Shock	
	1.2m(4 ft) drop
Data processing software	
	FOIF Geomatics Office 2008



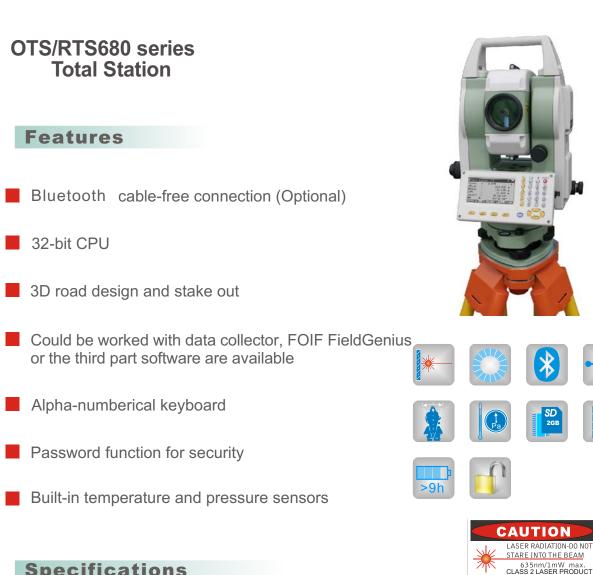
# **OTS/RTS810 series**



	OTS
Telescope	
Magnification	
Field of view	
Angle measurement	
Reading system	
Display resolution	
Accuracy	
Distance measurement	
Accuracy	
Prism	2mn
Reflectorless	3mn
Measurement range (Good condition)	
Reflectorless	1 to
Reflective sheet/RP30	1 to
Single prism	1 to
Three prisms	
Memory	
Interface	USB host/
Water and dust protection	

# **Total Station**

# **Total Station**



# **Specifications**

	OTS680	RTS680
Telescope		
Magnification	3	0 ×
Field of view	1° 30′	
Angle measurement		
Reading system	Absolute encoder	
Display resolution Accuracy	1" /5" /10" (or 0.2mgon/1mgon/2mgon) 2" /5"	
Distance measurement		
Accuracy		
Prism	2mm+2ppm	2mm+2ppm
Reflectorless	3mm+2ppm	/
Measurement range (Good condition)		
Reflectorless	1 to 200m	1
Reflective sheet/RP30	1 to 700m	1
Single prism	1 to 5000m	1 to 2000m
Three prisms	/	1 to 2500m
Memory	128M, 120,000 points, support SD card (Optional)	
Interface	USB/RS-232C/Bluetooth (Factory optional)	
Water and dust protection	IP55 (IEC60529)	

#### **OTS/RTS650** series **Total Station**



- Bluetooth cable-free connection (Optional)
- Arctic option for a wide range of applications
- OLED display with super brightness & weather
- 128M internal memory, 120,000 points and 40 be saved
- Could be worked with data collector, FOIF Fiel or the third part software are available
- Alphanumerical keyboard or standard keyboard
- Password function for security

#### **Specifications**

	ОТ
Telescope	
Magnification	
Field of view	
Angle measurement	
Reading system	
Display resolution	1 ′
Accuracy	
Distance measurement	
Accuracy	
Prism	2mm
Reflectorless	3mm
Measurement range (Good condition)	
Reflectorless	1 to 3
Reflective sheet/RP30	1 to 7
Single prism	1 to 5
Three prisms	
Memory	128M,
Interface	
Water and dust protection	

# **Total Station**

erability ) jobs can	<image/> <image/>	
rd (Optional)	>12h	
	CAUTION LASER RADIATION-DO NOT STARE INTO THE BEAM 635nm/1mW max. CLASS 2 LASER PRODUCT	
DTS650	RTS650	
	0× 30 ′	
1″ /5″ /10″ (or 0.2n	encoder ngon/1mgon/2mgon) /5″	

2″/5

IP66 (IEC60529)



# **Data Collector**

# Data collectors and software

# **WORKABOUT PRO 7527S**

Based on industry standard WORKABOUT PRO is a flexible, programmable and expandable rugged hand-held design for GPS data collection.

- 400MHz Intel XScale PXA255 processor
- Microsoft Windows Mobile 5.0 OS
- 3.5inch transflective sunlight readable LCD
- IP54 compliance
- Can withstand 1.1M multiple drops
- Full alphanumeric (7527C optional)

#### **GETAC PS535E & PS535F**

PS535 series includes PS535E and PS535F, PS535F is a handheld GPS receiver, it could be use for additional work such as pre-survey and GIS data collection, it with following advanced features:

#### **PS535E features**

- Microsoft Windows Mobile 5.0 OS
- 3.5inch transflective sunlight readable LCD
- MIL-STD-810F and IP54 compliance
- Long battery life provides all-day power

#### **PS535F** features

- MIL-STD-810F and IP54 compliance
- Microsoft Windows Mobile 6.1 OS
- E-Compass and Altimeter
- 3M Pixels Auto-focus Camera
- VGA Display
- Embedded high sensitivity GPS receiver
- Long battery life provides all-day power



# 🚯 Bluetooth

Bluetooth<sup>®</sup>

# Software

#### **Field Software**

In addition, the controller with FOIF Survey for GPS or FOIF FieldGenius field software provides a rich feature set for high-end field operations. FOIF FieldGenius also supports FOIF Windows CE Total Station TS810 and other TS&GNSS receivers, allowing you to use one controller for both types of instrument

FOIF Survey or FOIF FieldGenius is graphical field software for topography and construction, fully re-designed to optimize the functionality and performance of GNSS system. The ability to collect single coordinate shots, full RTK vectors, raw GNSS data and all data types concurrently, provides a flexible solution for your changing needs. FOIF Survey or FOIF FieldGenius is both powerful and easy to use. The scalable map-view screen displays points and lines as they are surveyed, offering large-print controls for rapid, reliable data collection. Rich attributing, full editing in the field and saving time and effort.

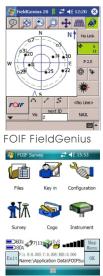
- Standard Windows pull down menus for ease of use with minimal training required
- Fully live editable database
- Swap between coordinate systems with the push of a button Perform surveys in one coordinate system and download in any other system as required, including local systems
- Edit errors in the field, such as Target or Antenna height errors, "on the go" and get immediate recalculation of coordinates no need to edit after the survey
- Use control points from any coordinate system transformation into your current coordinate system is instantaneous
- When working on the edge of a zone, download data in both zones as required
- Perform TS surveys and assign/change backsights at your convenience/ Import and stake directly from a DXF File/ Following data format are support: DXF, SHP, RW5, LandXML (FOIF FieldGenius support).

#### **Office Software**

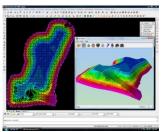
FOIF Geomatics Office(FGO) is a comprehensive software package with all of the tools required to successfully process GPS survey data. Focusing on simplicity, the software guides you through mission preparation planning, processing, quality control, reporting and data exporting. FOIF Geomatics Office can handle post-processing data. The software includes advanced blunder detection and quality analysis tools to ensure extremely accurate and reliable results. New in FGO is the ability to download data from multiple reference stations to provide a post processed network solution for measurements quality control. The innovative approach to presenting survey data in graphical and tabular form makes post processing with FGO a simple and enjoyable experience.

FOIF Geomatics CAD is a complete Desktop Survey and Design program created for Surveyors, Contractors, and Engineers. No plug-ins or modules are necessary. Complete Survey Drafting, COGO, DTM, Traversing, Volumes, Contouring and Data Collection interfacing are included. With FOIF Geomatics CAD you get unbeatable functionality at a lower price.

# **Software**



FOIF Survey for GPS



FOIF Geomatics CAD

# Theodolite

# LP200 series Laser Theodolite

#### Features

- Laser spot visible from eyepiece
- Laser brightness and focus adjustable
- Integrated design, the laser device is integrated with telescope
- Laser plummet is available
- Wide range of application

# **Specifications**

	LP212(L)	LP215(L)
Telescope		
Magnification	30	)×
Minimum focus	2m, 1m (Fact	oryoptional)
Angle measurement		
Reading system	Photoelectric incremental encoder	
Display resolution	1″ /5″ /10″ /20″ or 0.2mgon/1mgon/2mgon	
Accuracy	2″	5″
Compensator	Yes	
Compensating range	±3'	
Laser		
Wave length	635	nm
Laser Range	200m(Day, cloudy)	
Laser spot size	2.5mm/50m	
Power		
	4.8V Ni-MH rechargeable	ebattery/4 AAAIkaline battery
	24 hours(rechargeable bat	tery)/45hours(Alkaline battery)
Dimension	150(L)x175	(W)x328(H)mm
Interface	RS-232C	
Water and dust protection	IP54 (I	EC60529)

# VOISN2SS WOISN2SS



CAUTION

LASER RADIATION-DO NO STARE INTO THE BEAM

635nm/1mW max. CLASS 2 LASER PRODUCT

Large LCD display

is about 80 hours

Absolute horizontal angle measurement

**Features** 

Easy to connect with PC

# **Specifications**

		DT202C(L)
Teles	cope	
Magn	ification	
Minim	num focus	
Angl	e measurement	
Read	ling system	
Displ	ay resolution	1
Accu	racy	2″
Com	pensator	
Comp	pensating range	
Powe	r	
		4.8V N
		45 hou
Dime	nsion	
Inter	face	
Wate	r and dust protection	

# **Theodolite**



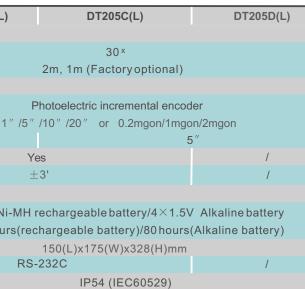
Continuous operating time of 4 AA Alkaline batteries

Optical plummet and laser plummet (Factory optional)





	CAUTION
SHE	LASER RADIATION-DO NOT STARE INTO THE BEAM
<b>AUX</b>	635nm/1mW max. CLASS 2 LASER PRODUCT
_	





# Theodolite

#### **Features**

- High angle measurement accuracy: 2"
- Safe for mining survey
- Telescope gives a bright, high-contrast erect image
- Reading microscope easily
- Automatic index improves accuracy and simplifies vertical angle measurement
- A wide range of accessories fits theodolite to many tasks, such as diagonal eyepiece

#### **Specifications**

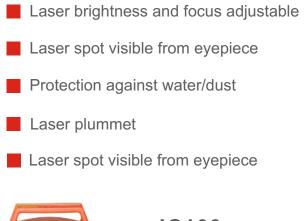
	J2-2
Telescope	Erect image
Magnification	30×
Objective aperture	40mm
Shortest focussing distance	1.6m
Accuracy	
Horizontal angle measurement	±2″
Vertical angle measurement	±6″
Automatic vertical index	Magnetic damping
Compensating range	±3'
Smallest interval of optical micrometer	1 ″
Operating temperature	<b>-30</b> ℃ ~ <b>+50</b> ℃
Net weight	6kg





#### **Features**







#### **Specifications**

	DZJ200	JC100
Telescope	Erect image	
Magnification	25×	/
Minimum focus distance	0.8m	/
Measurement accuracy		
Upward	$\pm$ 2.5mm/100m	$\pm$ 1mm/100m
Downward	$\pm$ 0.8mm/1.5m	±1mm/100m
Upward laser		
Wave length	635nm	635nm
Laser Range	150m(Day, cloudy), 250m(Night), 100m(Visible from eyepiece)	150m(Upward), 150m(Downwar
Laser spot size	3mm/50m	≪20mm/100m
Power		
Battery	2×1.5V Alkaline battery	DC 4.8V~6V
Working time	>10 hours	>10 hours
Dimension	130x130x260mm	∲160×h230 mm
Operating temperature	<b>-20</b> ℃ ~ +50℃	<b>-10°</b> ℃ <b>~ +50°</b> ℃
Water and dust protection	IP54 (IEC60529)	IP54 (IEC60529)

# Laser Plummet



CAUTION				
SHE	LASER RADIATION-DO NOT STARE INTO THE BEAM			
ALC: N	635nm/1mW max. CLASS 2 LASER PRODUCT			

# **Rotating Laser**

# **JP200 Series Rotating Laser**

#### **Features**

- Stable electronic self-levelling
- Able to offer rotating laser horizontal & vertical plane and laser plumb beam
- Scanning function and adjustable scanning angle
- Slope function
- Safety laser class, red laser and green laser selectable
- Remote control
- Green laser optional

# **Specifications**

	JP210	JP220	
Accuracy			
Horizontal	±20″	±20″	
Vertical	1	±30″	
Laser			
Wave length Working Range Beam rotating speed	Radius	5nm s 150m 00 rpm	
Power supply	DC 4.8V~6V		
Operating time	Approx. 20 hours		
Dimension	135(L)×135(V	V)×155(H) mm	
Weight	1.8kg	1.9kg	
	FJF	P10	
Beam detection range	50mm	(2.0 in)	
Detecting accuracy Display and indication	Precision: ±1mm (±0.04 in) Normal: ±2mm (±0.08 in)		
Power supply Auto-off time	LCD both sides, buzzer DC9V alkaline battery		
Dimension Weight	10min 150(L) ×79(W) ×24(H)mm 0.2Kg		





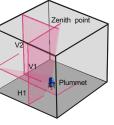
#### CAUTION LASER RADIATION-DO NO STARE INTO THE BEAM 635nm/1mW max. CLASS 2 LASER PRODUCT

# LX Series Line Laser

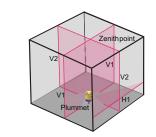
#### **Features**

- Electronic self-levelling(for D series) and mechanical self-levelling
- Auto warning when out of levelling range
- With indoor and outdoor function
- Easy operating with fine-adjustment function





**LX412DT** 



# **Specifications**

		LX212T	LX410T
	H-accuracy		
	V-accuracy		
	Zenith accuracy		
	Plummet accuracy	$\pm$ 1mm/1m	±1mm/1
	Laser line width		
	Working angle		
	Working range		
	Leveling range	±2	2.5°
	Laser(class 2)	3×635nm,1×650nm	5
	Power	3pcs batteries/4.5V	
	Operating time		8 hours with all
	Dimension	$\Phi$ 142 $ imes$ h185mm	∲135×h20
	Weight	2.5kg	2.2kg
_			

\*\*T:modulation laser; D: electronic leveling

# Line Laser

laser on

5mm



6 hours with alllaser on

 $\phi$ 140 $\times$ h210mm

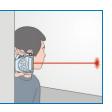
2.0kg

# **Laser Meter**

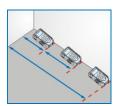
# **DL300** Laser Meter

#### **Features**

- Humanistic design
- Quick and easy to use

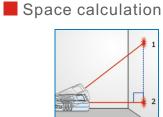


Pythagorean function



Tracking measurement





CAUTION

LASER RADIATION-DO NO STARE INTO THE BEAM

635nm/1mW max. CLASS 2 LASER PRODUC

# **Specifications**

	DL300
Measure range*	0.5m to 50m
Resolution	0.001m
Accuracy	±2mm
Measure speed	0.5 sec
Laser type	650nm, class2, <1mW
Battery	9V, alkaline battery
Battery working times	Up to 5000 measurement times
Dimension	104.7mm×61mm×32mm
Operation temperature	<b>0~40</b> °C
Storage temperature	<b>-20~60</b> ℃
Automatic power off	
-Laser	30 seconds
-DL300	180 seconds

\* The measuring range and accuracy is depending on how well the laser light is reflected from the surface of the target and with increased brightness of the laser point to the amblent light intensity.



**DS03** 

DSZ2

water-proof



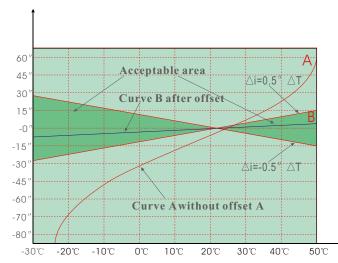


Each level pasts vibratory test and temperature test from -25°C to +50°C

#### DSZ3

- With metal and sealed body, it has high stability and good water-proof
- Equipped with a press button for compensator checking
- Each level pasts vibratory test and temperature test from -25°C to +50°C

# **Temperature compensation**



Theory diagram for temperature offset of compensator

# **Auomatic Level**

**DS03**: Level and parallel plate micrometer integration

Standard deviation of 1km double run:  $\pm 0.3$ mm

Standard deviation of 1km double run: ±1.0mm DSZ2 with Parallel plate micrometer FS1:  $\pm 0.5$ mm

Wide compensating range:  $\pm 14'$ 

Equipped with a press button for compensator checking

With metal and sealed body, it has high stability and good

Dismountable eyepiece, assorted accessories, such as: diagonal eyepiece



We know that compensator is made up of metal material, the temperature can affect these material, and result in slight changes of compensator, then causes change of I angle. The instrument without temperature offset is always not to reach the standard of nation (GB/T 10156-1997). In the diagram, the green area where between the red lines is acceptable area when the compensator is changed along with the temperature 's change (Company standard:  $\pm 0.5^{"}$  /°C). The red thick line A is a change curve for angle I of level without temperature offset. Our DSZ2/DSZ3 levels add a device of temperature offset, it can correct the change value of angle I when changing the temperature. The green thick line B is a change curve for angle I after offset, the instrument can be good work in the malconditions of larger temperature change, especially apply to transformation observation at a long time.

# Automatic Level

# **Automatic Level**

# AL100

- Automatic levelling
- Air damping for compensator
- Each level pasts vibratory testand temperature test from -25°C to +50°C



# AL200

- With metal and sealed body, it has high stability and good water-proof
- Equipped with a press button for compensator checking
- Each level pasts vibratory test and temperature test from -25°C to +50°C

# **NAL300**

- Automatic levelling
- With metal and sealedbody, it has high stability and good water-proof
- Proof water and dustIP55
- Each level pasts vibratory testand temperature test from -25℃ to +50℃

# **Specifications**



**AL200** 

**NAL300** 

#### AL100/AL200 series **DS03** DSZ2 DSZ3 NAL324 **NAL320** AL120/220 AL124/224 AL128/228 AL132/232 Standard deviation $\pm 0.3$ mm\* $\pm 1.0 mm^*$ $\pm 2.0 \text{mm}$ ±2.5mm $\pm$ 2.0mm ±1.0mm ±2.0mm $\pm$ 2.5mm $\pm$ 1.5mm of 1km double run DSZ2+FS1 ±0.5mm\* Telescope Erect 38<sup>×</sup> Magnification 32<sup>×</sup> 20<sup>×</sup> 24<sup>×</sup> 28<sup>×</sup> 24<sup>×</sup> 20<sup>×</sup> 24<sup>×</sup> 32<sup>×</sup> Shortest focussing distance 1.6m 1.6m 0.7m 0.8m 1m 0.8m Compensator $\pm 15'$ $\pm 14$ Working range $\pm 15'$ Setting Accuracy ±0.5" $\pm 0.3''$ ±0.4′ $\pm 0.5''$ Setting time ≤2S 8′ /2mm Circular level sensitivity Operating temperature -20°~+50° -20°~+50° 2.0kg 1.5kg Net weight 3.5kg 2.5kg 2.0kg Parallel Plate Micrometer Fs1 Range Net weight Interval Estimation (Optional accessory) 10mm 0.01mm 1.25kg 0.1mm

#### \*Depending on staff and levelling technique.

#### Charger



FDJ 10



FDJ 6

DC5.6 - 8.4 V

Used for 650/680 series total station. Output voltage is DC7.4V

#### **Battery**







**BT91** Used for A20 GNSS receiver and 810 series

Used for 650 series

total station

BT82A Used for 680 series total station

**BT82** Used for 680 series total station



**BT42** D7-500 Used for 630 series Used for 630 series total station total station

**Carrying** case



SX7



For RTS/OTS630 total station and DT elecronic theodolite



SX1 For J2-2 optical theodolite and DZJ200 laser plummet

SX6 For DSZ3, NAL300, AL20 automatic level

SX10 For RTS/OTS 680/810 total station





# **Accessories**



Used for 200/500/600 series total station and DT series electronic theodolite Output voltage is



FDQ7 (Adapter: FDQ7-01, Charger: FDQ7-02, Carcharger cable: FDQ7-03) Used for A20 GNSS and 810 series total station Output voltage is DC 10~15V



**BT81** Used for 680 series total station Li-ion rechargeable battery Li-ion rechargeable battery Ni-MH rechargeable battery





A18a-400/A18a-500 Used for DT 200 series theodolite and LP200 series laser theodolite Li-ion rechargeable battery Li-ion rechargeable battery Ni-MH rechargeable battery AA alkaline battery (A18a-500) rechargeable battery(A18a-400)



Cable

D23-1600 USB cable



D3-1000 RS-232 cable





SX5 For DSZ2 and AL100 series level



SX12 For A20GNSS receiver

# Accessories

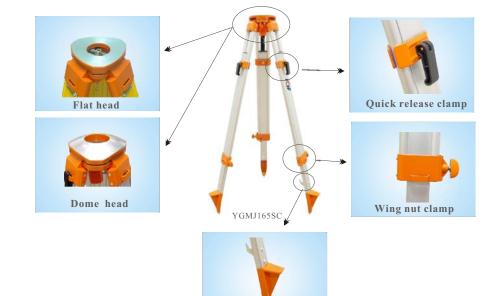
Tripod

# H









**Closed parts** 

# **Specifications**

N	Iodel No.	Description	Opened length	Closed length	Head	Clamp mode	Outer diameter Of head	Inner diameter Of head	Weight	Central Column
Y	GM180H	Wooden Tripod For Theodolite	181.5cm	115.5cm	Flat	Wing nut	156mm	60mm	6.3kg	5/8″,M16
Y	GM170H	Wooden Tripod For Theodolite	1 <b>66.</b> 5cm	102.0cm	Flat	Wing nut	156mm	60mm	5.8kg	5/8″,M16
Y	GM160HC	Wooden Tripod For Theodolite	160.0cm	102.0cm	Flat	Quick release	156mm	60mm	6. 5kg	$5/8^{\prime\prime}$ ,M16
Y	GL165	Wooden Tripod For Level	166.5cm	101.0cm	Flat	Wing nut	125mm	45mm	4.0kg	$5/8^{\prime\prime}$ ,M16
Y	GL160C	Wooden Tripod For Level	160.5cm	101.0cm	Flat	Quick release	125mm	45mm	4. 5kg	$5/8^{\prime\prime}$ ,M16
Y	GL155	Wooden Tripod For Level	154.0cm	95.5cm	Flat	Wing nut	125mm	45mm	3.5kg	$5/8^{\prime\prime}$ ,M16
Y	GMJ170	Aluminium Tripod For Theodolite	170.5cm	103.5cm	Flat	Wing nut	156mm	60mm	4.2kg	$5/8^{\prime\prime}$ ,M16
Y	GMJ170D	Aluminium Tripod For Theodolite	170.5cm	103.5cm	Dome	Wing nut	156mm	60mm	4.3kg	$5/8^{\prime\prime}$ , M16
Y	GMJ165C	Aluminium Tripod For Theodolite	163.5cm	103.5cm	Flat	Quick release	156mm	60mm	4.7kg	$5/8^{\prime\prime}$ , M16
Y	GMJ165SC	Aluminium Tripod For Theodolite	163.5cm	103.5cm	Flat	Two clamp mode	156mm	60mm	4. 9kg	$5/8^{\prime\prime}$ ,M16
Y	GLJ165C	Aluminium Tripod For Level	165.5cm	100.5cm	Flat	Quick release	125mm	40mm	3.7kg	5/8″,M16
Y	GLJ165	Aluminium Tripod For Level	165.5cm	100.5cm	Flat	Wing nut	125mm	40mm	3.7kg	$5/8^{\prime\prime}$ ,M16
Y	GRJ170	Aluminium Tripod For Rotating laser	170.5cm	10 3 5cm	Flat	Wing nut	156mm	60mm	4. 3kg	M35

# **Refelective prism accessories for total station**



YGFDQ2A Single prism system (0/-30 offset)

YGFDQ2B Single prism system (0 offset)





YGFDQ4A

YGFDQ4D





YGFDQ2A0 Single prism (0/-30 offset)

YGFDQ2B0 Single prism (0 offset)

#### **Diagonal Eyepiece**





FJ19 Can be equipped on DT, Level and Total Station

FJ13A Can be equipped on J2-2 theodolite







FJ16 /FJ16D FJ16 without optical plummet FJ16D with optical plummet



FDC9B Tribrach adapter with optical plummet

# Accessories



YGFDQ2L Single prism system (0 offset)



YGFDQ2AIV Single prism



YGFDQ2C0 Single prism (0 offset)



YGFDQ3 Triple prisms system (0 offset)



L Prism





RP60  $(60 \text{mm} \times 60 \text{mm})$ 



RP30  $(30 \text{mm} \times 30 \text{mm})$ 

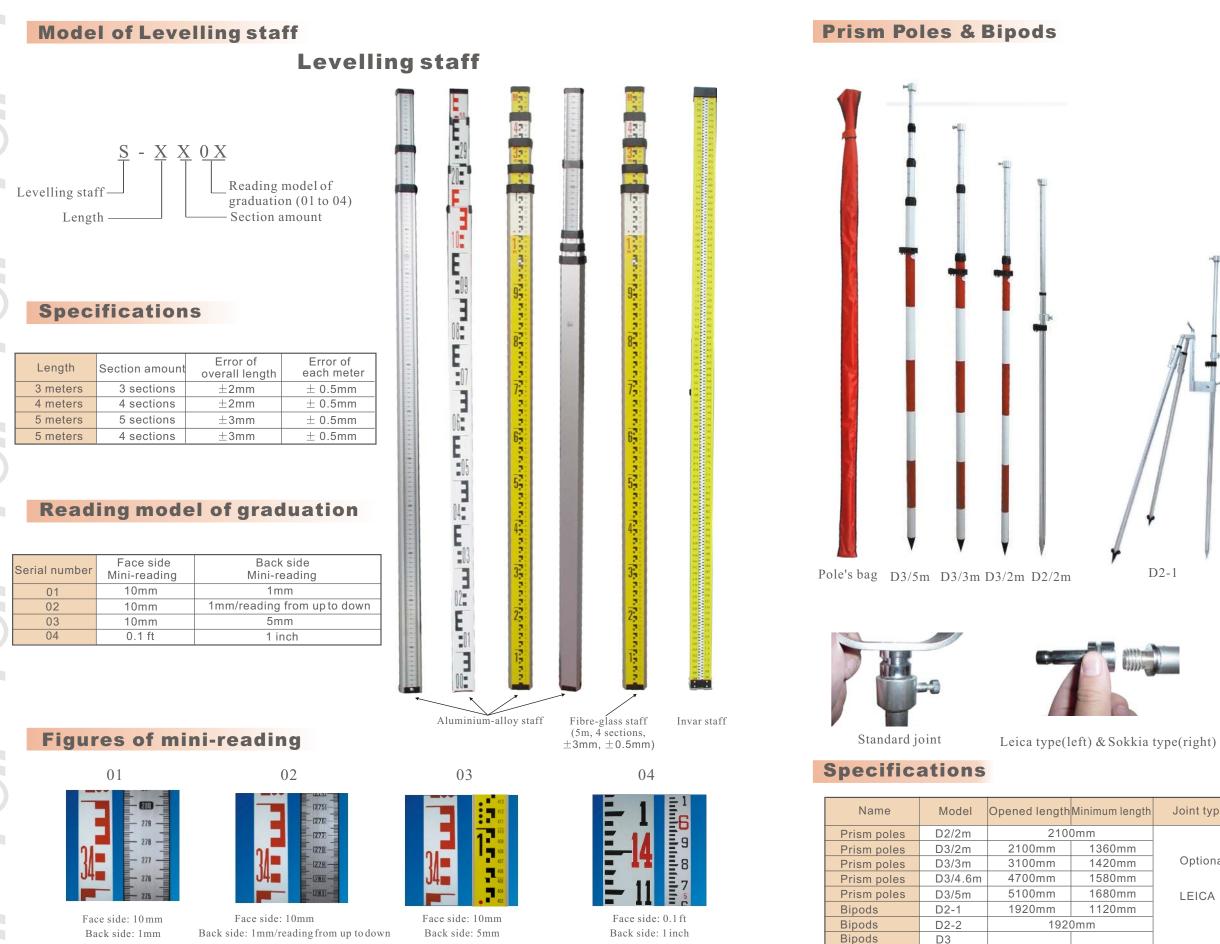


FJ21/FJ21D FJ21 without optical plummet FJ21D with optical plummet



FDC10 Tribrach adapter with optical plummet

# Accessories



# Accessories





Leica type(left) & Topcon type(right)

gth	Joint type	Minimum reading	Equipment of Poles & Bipods
		10mm	D2-1 D2-2
		10mm	D3
	Optional:	10mm	D3
		10mm	D3
	LEICA	10mm	D3
			D2
			D2
			D2 D3

# Accessories







D4-1





D4-2

# Surveyor's Poles





Connection of the pulling stake Connection of the loose joint stake

# **Reading mode of graduation**

Name	Specifications	Error of each meter	Error of overall length	At a distance
Loose joint stake	JHG 2m	$\pm 1$ mm	$\pm 2$ mm	$\pm 2$ mm
Loose joint stake	JHG 2.5m	±1mm	$\pm$ 2.5mm	$\pm$ 2.5mm
Loose joint stake	JHG 3m	$\pm 1$ mm	$\pm 3$ mm	$\pm$ 3mm
Loose joint stake	JHG 5m	±1mm	$\pm 3$ mm	$\pm$ 4mm
Pulling type stake I	CHHG 2m	±1mm	$\pm 2$ mm	$\pm$ 0.5mm
Pulling type stake I	CHHG 2.5m	±1mm	$\pm$ 2.5mm	$\pm$ 0.5mm
Pulling type stake I	CHHG 3m	±1mm	±3mm	$\pm$ 0.5mm
Pulling type stake I	CHHG 5m	±1mm	$\pm$ 4mm	$\pm$ 0.5mm
Pulling type stake II	CHHG 2m	±1mm	$\pm 2$ mm	±2mm
Pulling type stake II		±1mm	±3mm	$\pm 2$ mm
Pulling type stake II	CHHG 5m	$\pm 1$ mm	$\pm$ 4mm	$\pm 2$ mm





New Factory



