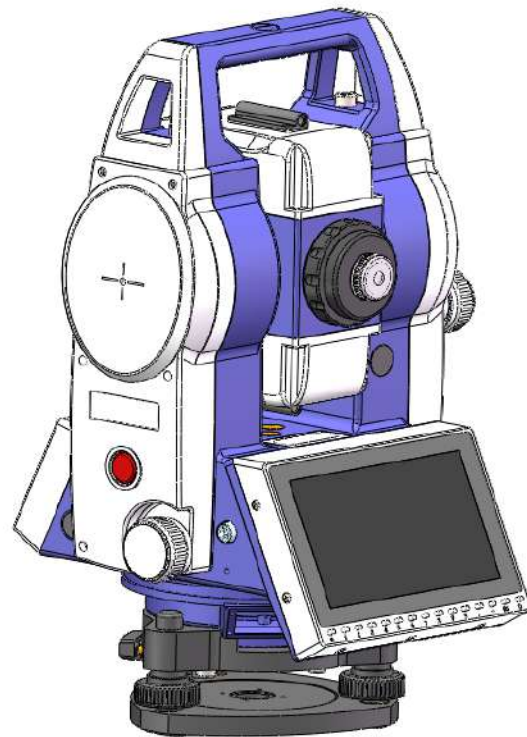


R60 Android Total Station

User Manual



V1.0

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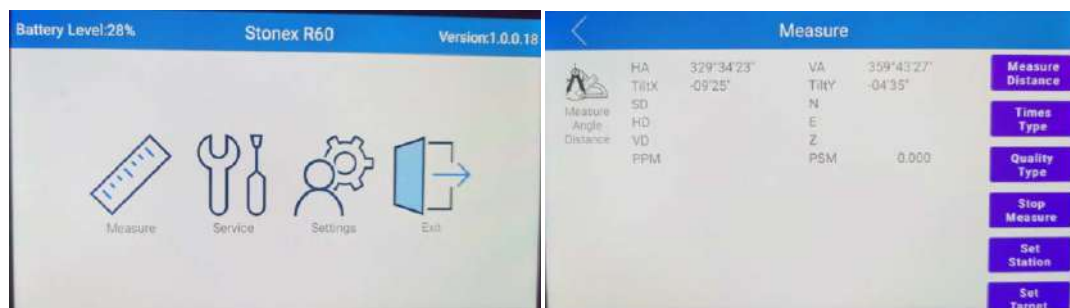
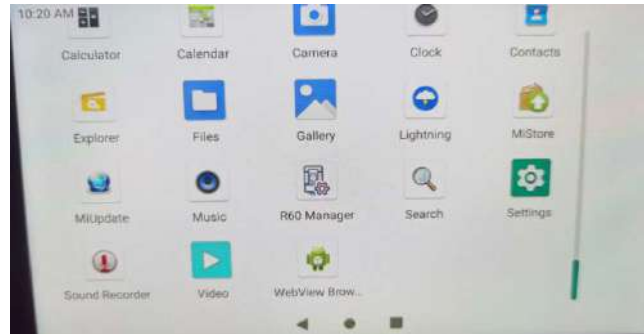
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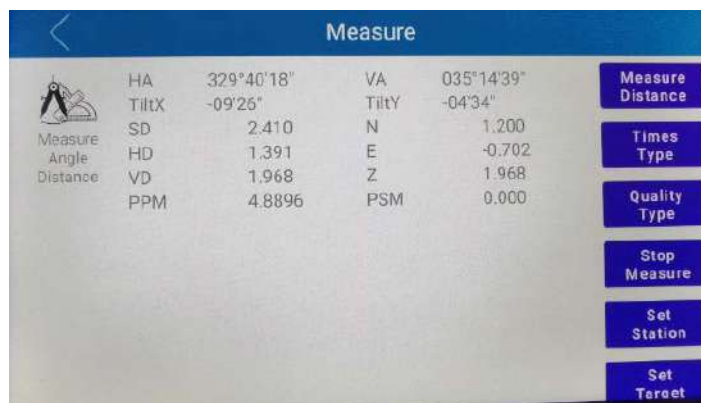
1 Measure

Select R60 Manager and click Measure to enter page of measure function.



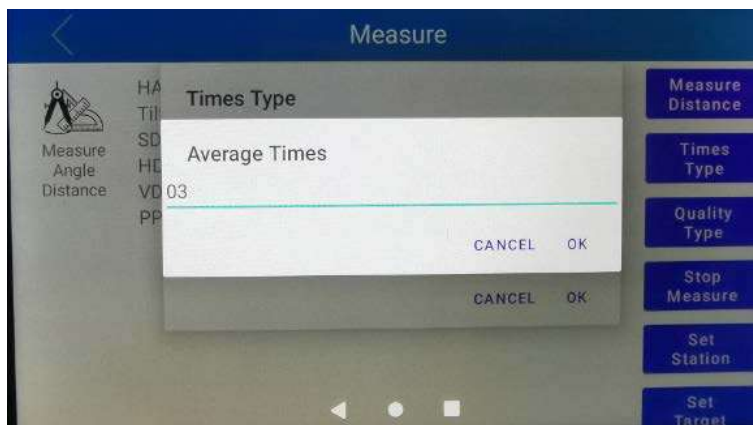
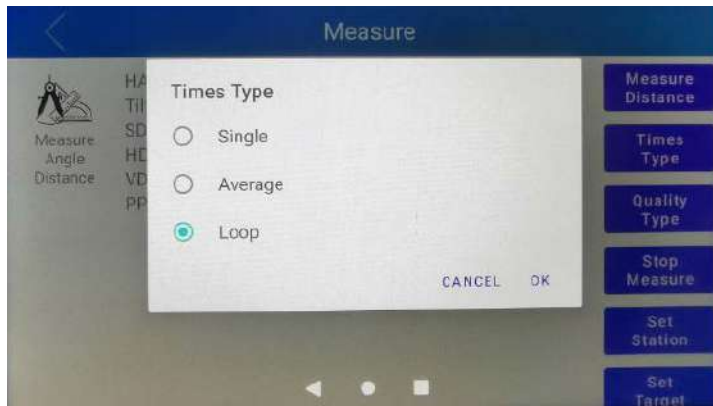
1.1 Measure Distance

Click Measure Distance to launch measure. You can also click Stop Measure to stop it.



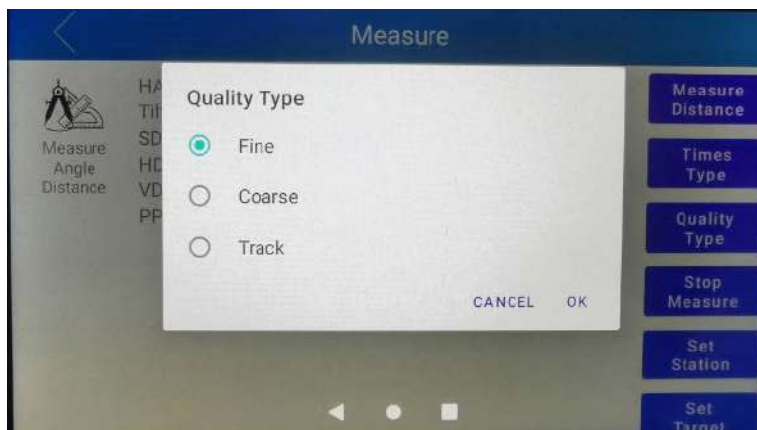
1.2 Times Type

Click Times Type to select EDM modes like Single, Average or Loop.



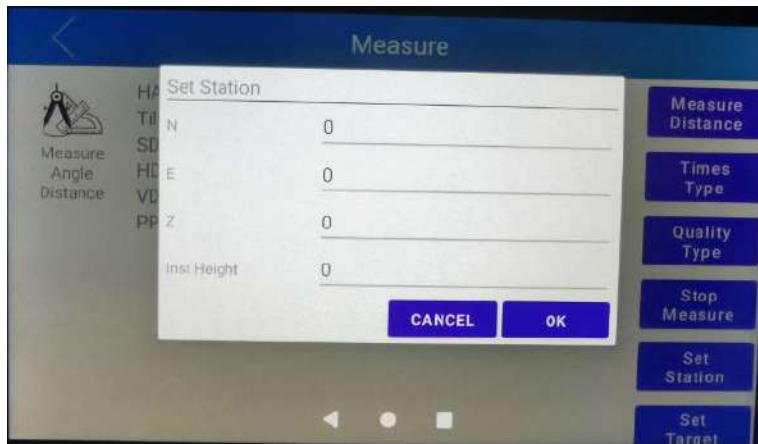
1.3 Quality Type

Click Quality Type to select EDM modes like Fine, Coarse or Track.



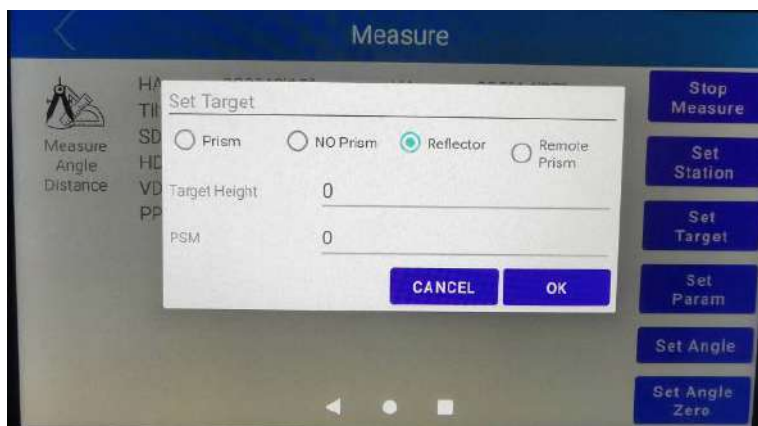
1.4 Set Station

Click Set Station to input the occupied point coordinate and instrument height to finish station setup.



1.5 Set Target

Click Set Target, you can select target type like Prism, No Prism, Reflector, or Remote Prism. You can input target height and PSM(prism constant).

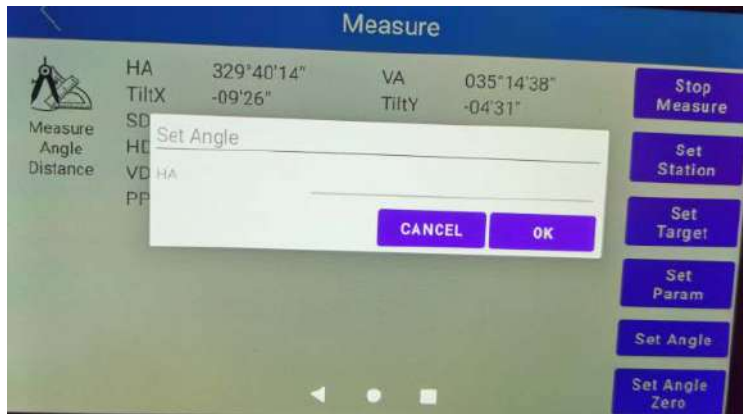


1.6 Set Parameter

Click Set Parameter to select correction methods like 0.14, 0.20 or no correction. You can also input scale factor.

1.7 Set Angle

Click Set Angle to set the horizontal angle(HA).

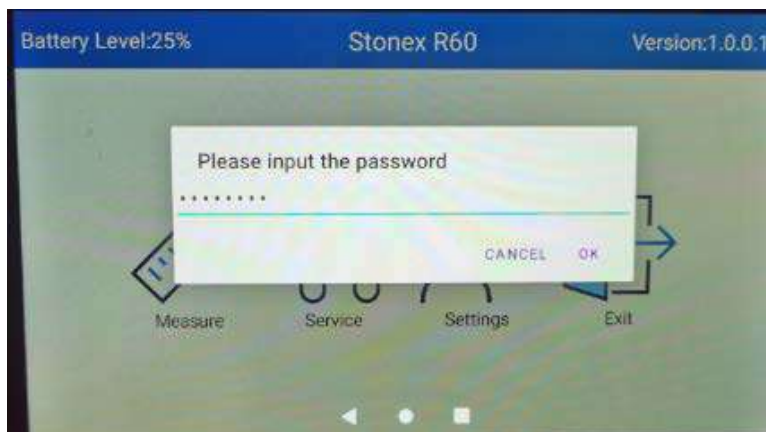


1.8 Set Angle Zero

Click Set Angle Zero to set the HA to 0.

2 Service

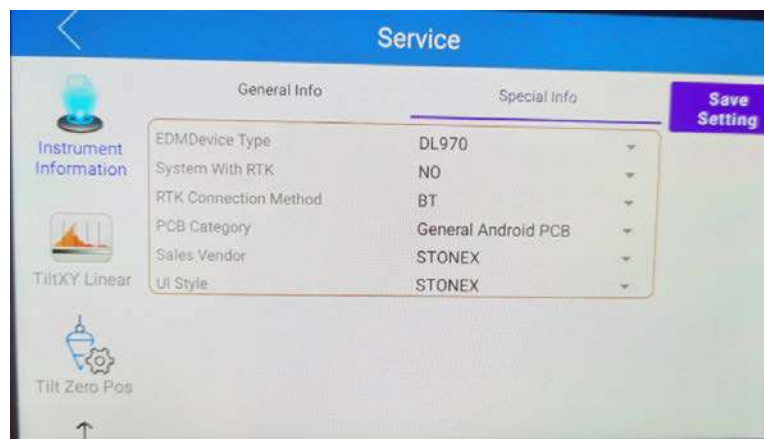
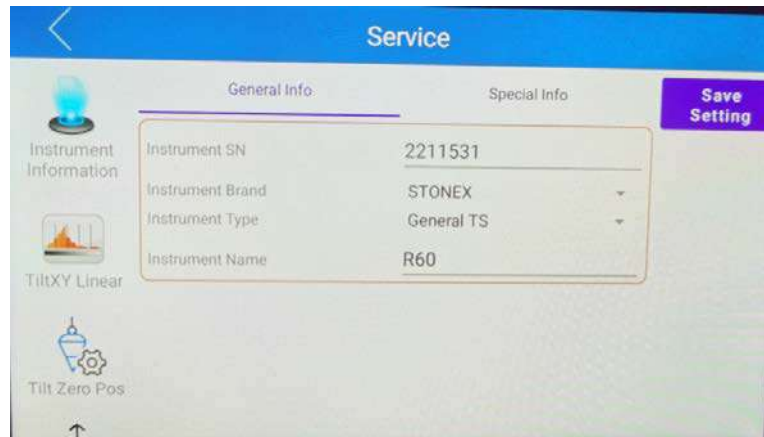
On R60 manager frontpage click Service and input password 20090116 to enter service mode.



2.1 Instrument Information

Choose Instrument Information, there are two tabs: General Info and Special Info.

General Info includes SN, Brand, Type and Name. Special Info includes EDM type, etc.



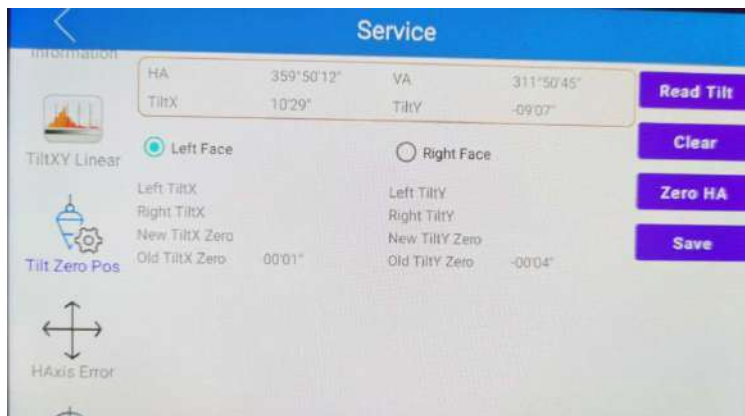
2.2 TiltXY Linear

Choose TiltXY Linear to enter the page of Tilt Linearity correction. Level up the instrument, make telescope sight at the central collimator and crosshairs coincide with each other, and then click Read Tilt to get current tilt values. Then select X Up3, turn the footscrew A(close to collimator) to make horizontal hair upward 3' and meantime click Read Tilt. Then turn the footscrew A to make the crosshairs back to the coincidence position. Then select X Down3, turn the footscrew A to make horizontal hair downward 3' and meantime click Read Tilt. Click Calculate to get the new tilt X coefficients and click Save to store them. Then turn the footscrew A to make the crosshairs back to the coincidence position. Select Y Up3, turn the footscrew A to make horizontal hair upward 3'. Click Zero HA to set HA to 0, clockwise rotate instrument 90degrees and meantime click Read Tilt. Anticlockwise rotate instrument 90degrees to return to original position, turn the footscrew A to make the crosshairs back to the coincidence position again, Select Y Down3, turn the footscrew A to make horizontal hair downward 3', clockwise rotate instrument 90degrees and meantime click Read Tilt. At last click calculate to get new tilt Y coefficients and don't forget to click save to save them.



2.3 Tilt Zero Pos

Choose Tilt Zero Pos to enter page of tilt offset(zero position) correction. At face left position make telescope sight at the collimator and crosshairs coincide with each other, then click Read Tilt; Then at face right position make telescope sight at the collimator and crosshairs coincide with each other, click Read Tilt. At last click calculate.



2.4 HAxis Error

Choose HAxis Error to enter page of horizontal-axis error correction. Also note making the instrument leveled up. Select Left High, at face left position make telescope sight at the high collimator and crosshairs coincide with each other, then click Read Angle. Then select Left Low, at face left position make telescope sight at the low collimator and crosshairs coincide with each other, then click Read Angle. Then rotate the instrument 180degrees, at face right position make telescope sight at the low collimator and crosshairs coincide with each other, then click Read Angle. Then at face right position make telescope sight at the high collimator and crosshairs coincide with each other, then click Read Angle. At last click calculate.

Service

TiltXY Linear

HA: 359°50'12" VA: 311°50'45"

TiltX: 10'28" TiltY: -09'07"

Read Angle

Clear

Zero HA

Save

Dis Switch

Tilt Zero Pos

☒ Left High ☐ Left Low ☐ Right Low ☐ Right High

Left High HA Left High VA

Left Low HA Left Low VA

Right High HA Right High VA

Right Low HA Right Low VA

New HAxis Error Old HAxis Error 000°00'00"

HAxis Error

Instrument

2.5 Instrument 2C

Choose Instrument 2C to enter page of horizontal collimation error(Instrument HC) and vertical index error(Instrument VC) corrections.

At face left position make telescope sight at the central collimator and crosshairs coincide with each other, then click Read Angle. At face right position make telescope sight at the central collimator and crosshairs coincide with each other, then click Read Angle.

At last click calculate. The procedure is fit for both Instrument HC and Instrument VC corrections.

Service

Tilt Zero Pos

Instrument HC Instrument VC

HA: 359°50'12" VA: 311°50'44"

TiltX: 10'28" TiltY: -09'07"

Read Angle

Calculate

Clear

Zero HA

Save

☒ Left Face ☐ Right Face

Left HA Left VA

Right HA Right VA

New HC Old HC 000°00'00"

HAxis Error

Instrument 2C

Measure

Service

Tilt Zero Pos

Instrument HC Instrument VC

HA: 359°50'12" VA: 311°50'44"

TiltX: 10'29" TiltY: -09'06"

Read Angle

Calculate

Clear

Zero HA

Save

☒ Left Face ☐ Right Face

Left HA Left VA

Right HA Right VA

New VC Old VC 083°14'24"

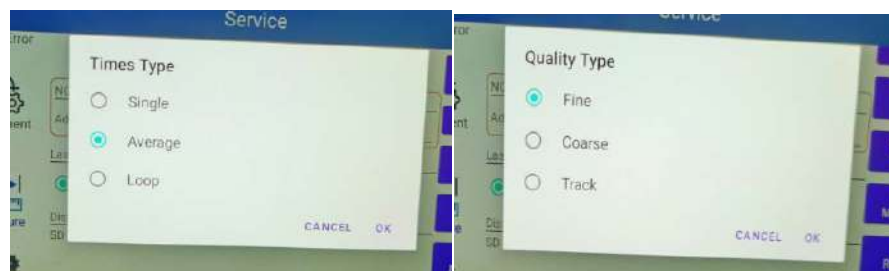
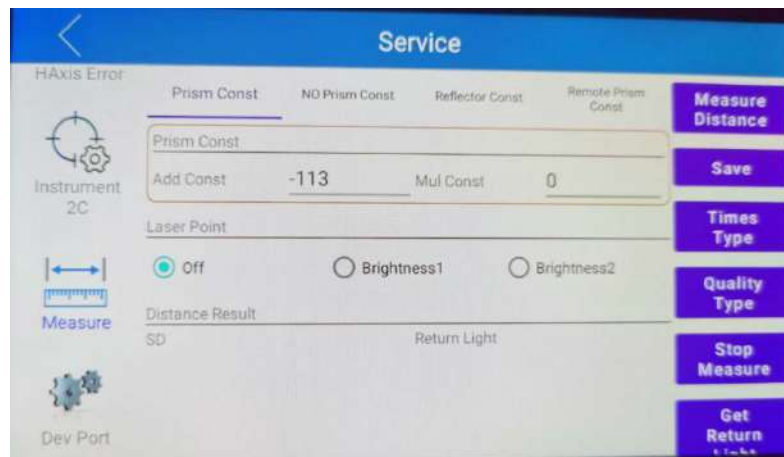
HAxis Error

Instrument 2C

Measure

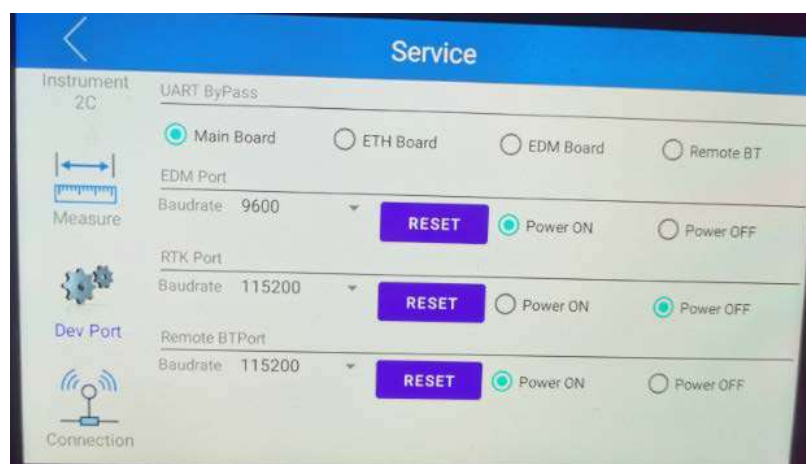
2.6 Measure

Choose Measure enter page of EDM settings. You can input constants for each target mode. Turn on or off the laser point. Click Measure Distance to get the distance result. Click Save to save settings. Click Times Type to select Single, Average or Loop. Click Quality Type to select Fine, Coarse or Track. Click Stop Measure to stop survey. Click Get Return Light to read return light signal. Click Backup FactoryP to back up the factory parameters. Click Restore FactoryP to restore previously-stored factory parameters.



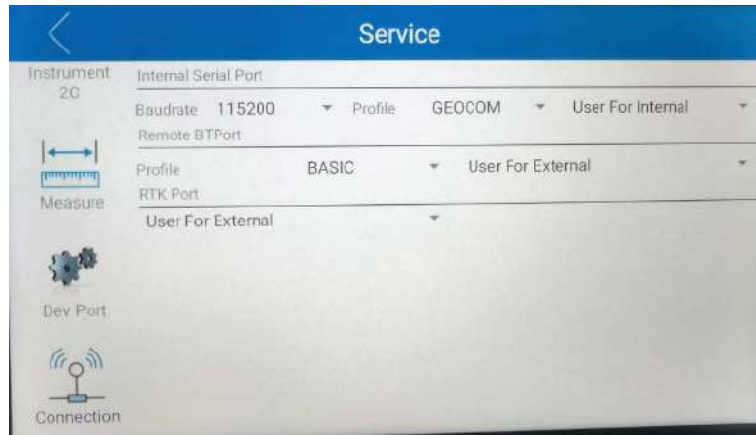
2.7 Dev Port

Click Dev Port to enter page of device port settings. You can select UART ByPass mode, and do settings for EDM port, RTK port and Remote BTPort.



2.8 Connection

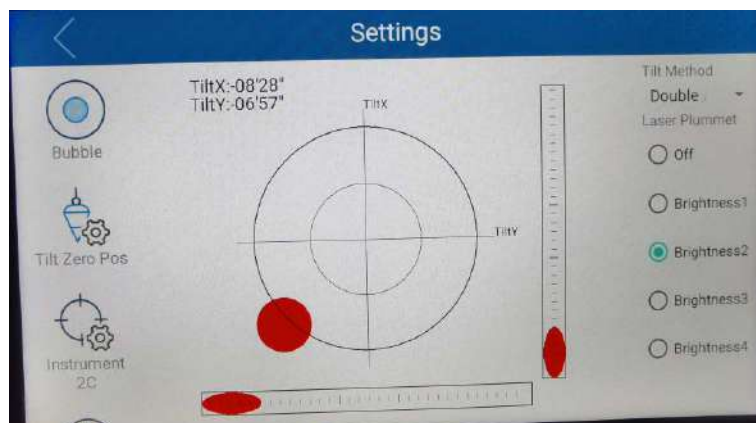
Click Connection to enter page of connection settings. Here you can set baudrate for internal serial port.



3 Settings

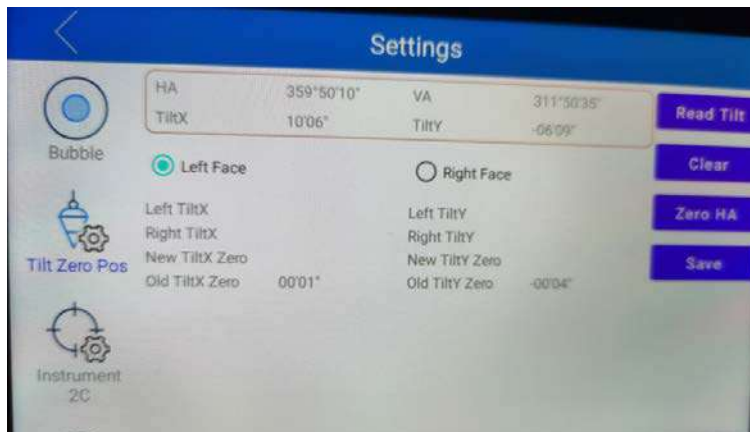
3.1 Bubble

Choose Bubble to enter page of electronic bubble. Here you can select the tilt method(Dont Fix, Single Axis, Double Axis) and level up instrument referring to the electronic bubble. You can also change the brightness of laser plummet.



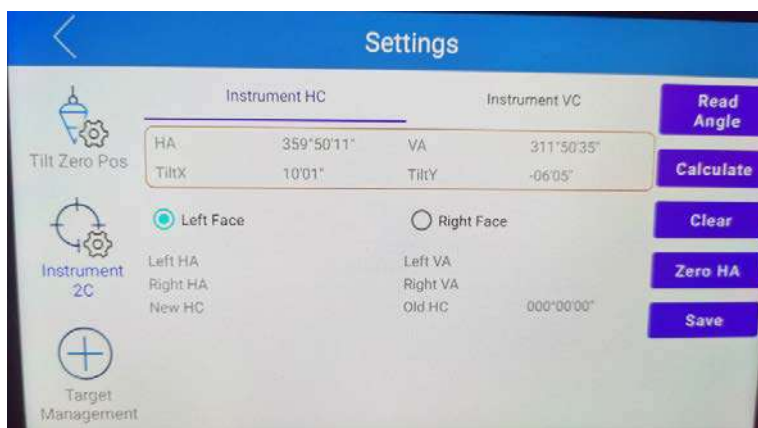
3.2 Tilt Zero Pos

Choose Tilt Zero Pos to enter page of tilt offset(zero position) correction. The method is the same as chapter 2.3.



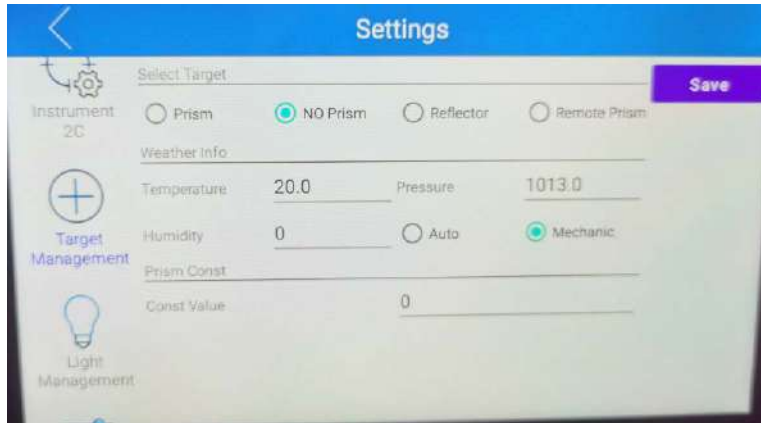
3.3 Instrument 2C

Choose Instrument 2C to enter page of horizontal collimation error(Instrument HC) and vertical index error(Instrument VC) corrections. The method is the same as chapter 2.5.



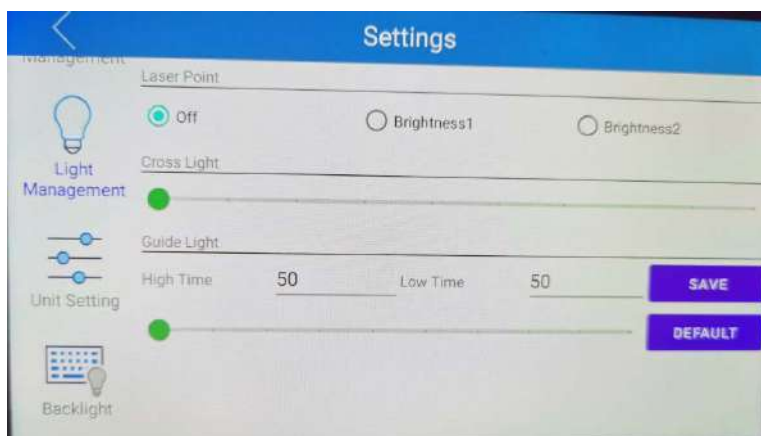
3.4 Target Management

Choose Target Management to enter page of target settings. Here you can shift the target mode, select Auto to automatically obtain weather info like temperature and pressure. You can select Mechanic to manually input these data too. You can also input corresponding prism constant value.



3.5 Light Management

Choose Light Management to enter page of light settings. Here you can shift the laser point brightness, cross light brightness of reticle, and guide light brightness.



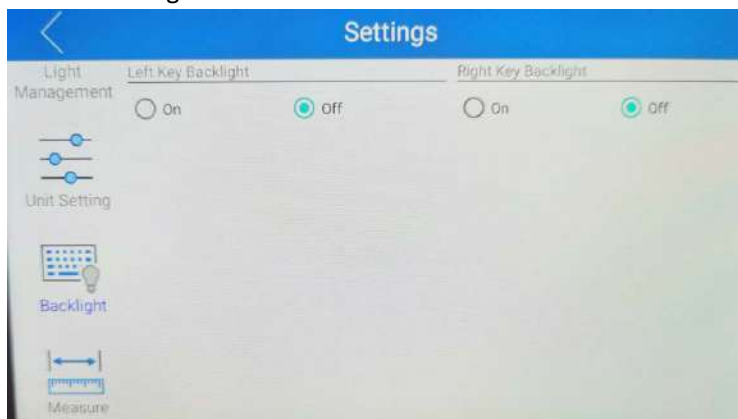
3.6 Unit Setting

Choose Unit Setting to enter page of unit settings. You can select Angle Unit, Angle Resolution, Distance Unit, Distance Resolution, HAngle Tye and VAngle Type.



3.7 Backlight

Choose Backlight to enter page of backlight setting. You can turn on or off the key backlight at face left and right.



3.8 Measure

Choose Measure to enter page of EDM settings. You can select target mode, laser point brightness, etc. This part can also refer to chapter 2.6.

4 Exit

Choose Exit to exit R60 Manager.



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device has been evaluated to meet general RF exposure requirement.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.