FOIF RTS102 Quick Start Guide

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1. Shortcut Keys

★ - Quick settings.

ESC – Back to previous menu or mode

SFT – Shift target mode (prism, reflectless and reflectsheet) when measuring

SFT – Shift between number and alphabetics when inputting

BS - Entre electronic level mode

BS –Backspace key for value inputting

Func – switch to next screen page

2. Acronyms

SD – slope distance

HD – Horizontal distance

VD – Vertical distance

HA – Horizontal angle

VA – Vertical angle

3. Configurations

Aims	Menu	Menu Path	Option	Note
Instrument Config.	Inst. Config.	CFG/2		
Auto power off	Power off	CFG/2/1	No/5/10/15/30 min	
LCD contrast level	LCD cont.	CFG/2/2 or {★}/3	0-13 (9*)	* = default
Reticle brightness level	Ret level	CFG/2/3 or {★}/4	0-9 (7*)	
Backlight on/off	Backlight	{★}/1	YES/NO	
Laser guide on/off	Laser	{★}/2	YES/NO	
Beep on/off	Key Beep	{★}/1(P2)	0-13 (9*)	
Signal return	Signal	{★}/2(P2)		Return signal strength
Connect to PC – USB drive	Area	MEM/USB/U Function	Cable reconnection required	
Electronic bubble	{BS} key			
Observation settings	**Meas condition**	**CFG/1**		**{CFG} from main menu.**
Distance mode	Dist mode	CFG/1/1 (P1)	SD*/HD/VD	P1 = Page 1
Dual axis level compensator	Tilt Mode	CFG/1/2 (P1)	XonYon*/XonYoff/XoffYoff	X = v. angle Y = h. angle

refraction coefficient **k**	C&R crn	CFG/1/3 (P1)	.14*/.20/No	For calc. of combined correction for curvature & refraction
Vertical angle type	V. Obs	CFG/1/4 (P1)	Zenith*/VA/V90	
H angle type	H. Obs	CFG/1/5 (P1)	HAR*/HAL	{Func} switch to P2
Danger circle warning?	HA Buzzer	CFG/1/1 (P2)	NO*/Yes	Resection buzz when danger circle?
Coord. format	Coord. format	CFG/1/2 (P2)	N-E-Z*/E-N-Z	
Angle resolution	Ang. Reso.	CFG/1/3 (P2)	1"*/5"/10"	
Code reuse	Code eff	CFG/1/4 (P2)	Once / always	
height difference mode	VD mode	CFG/1/5 (P2)	To instrument centre / to station survey mark	
Distance decimal number	Mini Unit	CFG/1/1 (P3)	1 mm /0.1 mm	
Instrument adjustment	**Inst. Adjust**	**CFG/3**		
Tilt correction	Tilt Correct	CFG/2/1		Use with caution
Collimation correction	Collimation corre	CFG/2/2		Use with caution
Serial port settings	**Comms setup**	**CFG/3**	**6 parameters**	
	1.Baud rate 1200*/2400/4800/9600/19200/38400 2.Data bits 8bit*/ 7 bit 3.Parity No*/ Even/ Odd 4.Stop bit 1bit*/ 2bit 5.Check sum No*/ Yes 1.Xon/Xoff No*/ Yes			
Unit settings	**Unit**	**CFG/4**		
	1.Temp. ℃*/ ℉ 2.Pressure hPa*/ mmHg / inchHg/mbar/psi 3.Angle degree*/ gon / mil 4.Dist meter*/ Us-feet/Int-ft			
Date and time		**CFG/1 (P2)**		**US format only**
Custom Key function settings		**CFG/2 (P2)**		**Keep default for consistency**
EDM Settings		**{★} /F1 or MEAS/P3/F1**		
	1.Mode Fine "r" */ Fine AVG 3 / Fine "s" / Rapid "s" / Tracking 2.Ref lector Prism*/ Sheet / No prism 3.Pri. const -99~99 4.Temp. -30 ~ 60℃(20℃*)			* = default

	5.Pressure 500 ~ 1400hPa(1013hPa*) 6.ppm -499 ~ 499(0*)			

4. **Menu paths**

To Do	Menu	Path	Option	Note
Set H angle to 0	0SET	MEAS/0SET(P1)	Press 0SET twice	(in P1) use Func key
Set H angle to 0-360	HSET	MEAS/HSET(P2)/1	Target H, Point #	(in P2) use Func key
Set H angle to 0-360	HOLD	MEAS/HOLD(P2)	Rotate RTS to desired value and HOLD, Point a target, HOLD	(in P2) use Func key
Switch distance display	SHV1	MEAS/SHV1(P1)	SD VA HA HD VA HA VD VA HA	
Switch between distance and angle displays	SHV2	MEAS/SHV2(P1)	SD HD VD (SD/HD/VD) VA HA	(SD/HD/VD) is selected using SHV1 key
Measure a distance	DIST	MEAS/DIST(P1)	EDM setup in P3	Func key to P3
Measure point coord.	CORD	MEAS/CORD(P2)	Requires station & backsight setup	
Station setup	Occ. Orient.	MEAS/CORD(P2)/1/1	Pt#,Inst H, E0,N0,Z0, user,wind,temp,…	Manual entry or READ from Mem
Azimuth setup	Azimuth	MEAS/CORD(P2/1/2/1	Angle DDD.MMSS	Manual entry
Backsight	Backsight	MEAS/CORD(P2)/1/2/2	Pt#,Inst H, EBS, NBS, ZBS.	Manual entry or READ from Mem
Scale Factor		MEAS/CORD(P2)/4/F4 MEM/1/1/F4	For selected job only	
Stake Out	Stake Out	MEAS/MENU(P2)/1(P1)	Height; Angle & Distance; Coord	Requires Station orientation
Area	Area	MEAS/MENU(P2)/3(P1)		
Offset	Offset	MEAS/MENU(P2)/4(P1)		
MLM	MLM	MEAS/MENU(P2)/5(P1)		
Resection	Resection	MEAS/MENU(P2)/2(P2)		
REM	REM	MEAS/MENU(P2)/1(P2)		
Point Projection	Point Projection	MEAS/MENU(P2)/3(P2)		

Line Stakeout	Line Stakeout	MEAS/MENU(P2)/4(P2)		
Traverse	Traverse	MEAS/MENU(P2)/5(P2)		
Inverse	Inverse	MEAS/MENU(P2)/1(P3)		
Road Calc.	Road Calc	MEAS/MENU(P3)/5(P3)	Road calc / setout / road file managmt	After road alignment
Choose Internal mem or SD card	Storage media	MEM/4	Internal or SD card	
Job management	JOB	MEM/1(P1)	JOB Selection JOB Rename JOB Delete Download COM Settings File Copy (P2)	Caution to delete a job. No recovery.
Data download / upload	U Function	MEM/5	Using FOIF Exchange or MO to read data files	Separate instructions
	File Copy	MEM/1/1(P2) – to SD		
Known data manual input	Key Input	MEM/2/JOB#/1(P1)	P# E N H only	
Code Management	Code Edit	MEM/3/1	Store max 50 codes incl. string numbers. No limit in data file	No options to save codes during meas.

5. Measure distances only
- Setup instrument
- Sight to a target
- SFT to change to prism, reflective sheet or reflectless mode
- MEAS / DIST (P1) /use SHV2 to switch SD HD VD display.

6. Measure distances and angles
- Setup instrument
- MEAS / CORD (P2)
- 1. Occ. Orientation
- 2. Set H Angle
- 1. Azimuth, entre azimuth (e.g. 0)
- Sight to target 1, OK.
- 2. Measure, REC, OK
- Sight to target 2, select MEAS, REC, OK
- Repeat

7. View recorded data
- MEAS / REC (P3) / 5.View (P1) / display list of recorded points

8. Instrument Quick Configuration

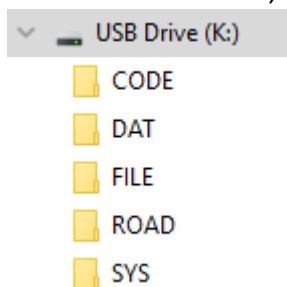Press key {★}. Use ◀ or ▶ to change values

Note:

- Ret. Lev = Reticle illumination level
- Laser = constant laser beam
- Signal = laser reflection level

Press key {EDM}. Use ◀ or ▶ to change values

9. Data files in internal memory

U FUNCTION. Once connected, you'll see a USB drive with 5 folders in it.

10. Electronic level-up (sec 2.4)

Press BS key.

11. Laser plummet activation

Press BS / F4

By default, the brightness is 0. It means no laser beam visible.

Use ◀ or ▶ to adjust laser beam brightness level.

Press F3 to go back to laser plummet mode or Electronic level-up mode.