

RTS/OTS650 series Total Station



- Power long reflectorless measuring distance 300m(R300)/500m(R500)
- Bluetooth^ocable-free connection(Factory optional)
- 128M internal memory, 120000 points and 40 Jobs can be saved
- Can be operated with a data collector, FOIF FieldGenius, or other third party software is available
- IP66 environmental protection
- Alphanumeric keyboard



TS650 can connect to data collector through Bluetooth or RS-232C



















RTS/OTS650 Basic Total Station

Technical data

Length		OTS650	RTS650		OTS650	RTS650	
Image	Telescope		Compensator	Electror	Electronic single axis		
Objective aperture	Length	Length 156mm		Axis S	ingle(Standard)/Dua	gle(Standard)/Dual(Factory optional)	
Magnification/Field of view 30-/1° 30' Plate level vial 30" /2mm Shortest focus distance 1.0m Circular level vial 8' /2mm Angle measurement Reading system Absolute encoder Angle unit 360' /400gon/6400mil, selectable Display resolution 1" /5" /10" (or 0.2mgon/Imgon/2mgon) Display resolution 1" /5" /10" (or 0.2mgon/Imgon/2mgon) Distance measurement Laser class (Idss 2/IEC60825-1) Distance measurement Laser class(IEC60825-1) Accuracy ±0.8mm/1.5m Image Frect Reflectorless Class 3R / Image Frect Reflective sheet/RP60 Class 3R / Magnification/Field of view 3x/4' Prism Class 1 Class 1 Focus range 0.5m to ∞ Measurement range (Good condition) 1" Battery 3400mAh Li-ion Rechargeable 7.4V DC Reflective sheet/RP60 1 to 800m / Output voltage 7.4V DC Reflective sheet/RP60 1 to 800m / Single prism(Class 1) 1 to 3000m 1 to 3000m / Charger FDJ6-Li (110V /240V) Single prism(Class 3R) 1 to 5000m / Charger FDJ6-Li (110V /240V) Single prism(Class 3R) 1 to 5000m / Charger FDJ6-Li (110V /240V) Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset R800 1-150m:3mm+2ppm / Display LCD, 4lines X16characters (64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support 5D card(Optional) Measuring time Initial:2.5s Initial:2.5s Dimensions(WxDxH) 175x778x340mm Reflective sheet/RP60 typ.1.5s Jo-1.5s Dimensions(WxDxH) 175x778x340mm Reflective sheet/RP60 typ.1.5s Jo-1.5s Dimensions(WxDxH) 175x778x340mm Temperature input range -40° to +60°C(1° steps) Water and dust protection IP66(IEC60529)	Image Erect		Range/Setting accuracy	±3' /1"			
Shortest focus distance 1.0m Circular level vial 8 ° /2mm Angle measurement Laser plummet(Standard)"4 Reading system Absolute encoder Accuracy ±1mm/1.5m Angle unit 360° //400gon/6400mil, selectable Laser class Class 2/IEC60825-1 Display resolution 1" /5" /10" (or 0.2mgon/1mgon/2mgon) Brightness Adjustable Accuracy 1 2" /5" Laser wave length 635nm Distance measurement Optical plummet(Factory optional) Laser class (IEC60825-1) Accuracy ±0.8mm/1.5m Reflectorless Class 3R / Image Erect Reflective sheet/RP60 Class 3R / Magnification/Field of view 3x/4" Prism Class 1 Class 1 Focus range 0.5m to ∞ Measurement range (Good condition) 1° Power Reflectorless 3 Battery 3400mAh Li-ion Rechargeable 7.4v DC Reflective sheet/RP60 1 to 500m / Continuous operation time Approx. 26 hours(At+20°C) (single distance measurement every 30 seconds) Single prism(Classs 3R) 1 to 3000m Single prism(Classs 3R) 1 to 5000m / Charger FDJ6-Li (110V /240V) Accuracy Application programs Prism 2 Cam+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset R800 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) >>150:5mm+3ppm / CPU 328it R800 1-200m:3mm+2ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth/Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Objective aperture Φ 45mm			Level vial sensitivity			
Reading system Absolute encoder Accuracy ±1mm/1.5m Angle unit 360° /400gon/6400mil, selectable Laser class Class 2/EC60825-1 Display resolution 1° /5° /10° (or 0.2mgon//mgon/2mgon) Accuracy *1 2° /5° Laser wave length 635nm Distance measurement Optical plummet{Factory optional} Laser class(IEC60825-1) Reflectorless Class 3R / Image Erect Reflective sheet/RP60 Class 3R / Magnification/Field of view 3x/4° Prism Class 1 Class 1 Focus range 0.5m to ** Respect of the sheet of the sh	Magnification/Field of	view 3	0×/1° 30′	Plate level vial	30" /2	30" /2mm	
Reading system Absolute encoder Angle unit 360° /400gon/6400mil, selectable Laser class Class 2/IEC60825-1 Display resolution 1" /5" /10" (or 0.2mgon/Imgon/2mgon) Reflectorless Class 3R	Shortest focus distance 1.0m		Circular level vial				
Angle unit 360° /400gon/6400mil, selectable Laser class Class 2/IEC60825-1 Display resolution 1" /5" /10" (or 0.2mgon/1mgon/2mgon) Brightness Adjustable 635nm Distance measurement Optical plummet(Factory optional) Laser class(IEC60825-1) Accuracy ±0.8mm/1.5m Reflectorless Class 3R / Image Erect Reflective sheet/RP60 Class 3R / Magnification/Field of view 3x/4" Prism Class 1 Class 1 Focus range 0.5m to ∞ Measurement range (Good condition)*2 Reflectorless*3 Battery 3400mAh Li-ion Rechargeable 7.4V DC Reflective sheet/RP60 1 to 300m / Output voltage 7.4V DC Reflective sheet/RP60 1 to 500m / Continuous operation time Approx. 26 hours(At +20°C) Single prism(Class 3 R) 1 to 3000m / Charger FDJ6-Li (110V /240V) Single prism(Class 3 R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(Including batteries) 5.1kg Prism typ.1.0-1.5s / Operating temperature -20°C to+50°C Reflective sheet/RP60 typ.1.5s , max. 20s / Storage temperature -40°C to+70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Angle measurement						
Display resolution 1" /5" /10" (or 0.2mgon/1mgon/2mgon) Accuracy*1 2" /5" Laser wave length 635nm Distance measurement Laser class(IEC60825-1) Accuracy ±0.8mm/1.5m Reflectorless Class 3R / Image Erect Reflective sheet/RP60 Class 3R / Magnification/Field of view 3x/4" Prism Class 1 Class 1 Focus range 0.5m to ∞ Measurement range (Goo'd condition)*2 Reflectorless*3 Battery 3400mAh Li-ion Rechargeable R300 1 to 300m / Output voltage 7.4V DC R8500 1 to 500m / Continuous operation time Approx. 26 hours(At +20°C) Reflective sheet/RP60 1 to 800m / (single distance measurement every 30 seconds) Single prism(Class 3R) 1 to 5000m / Charger FDJ6-Li (110V /240V) Single prism(Class 3R) 1 to 5000m / Charger FDJ6-Li (110V /240V) Single prism(Classs 3R) 1 to 5000m / Charger FDJ6-Li (110V /240V) Reflective sheet/RP60 3mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflective sheet/RP60 3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥200:5mm+3ppm / Memory 128M, 120000 points, support 5D card(Optional) Resulting time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s / Operating temperature -20°C to+50°C Reflective sheet/RP60 typ.1.5-5s, max. 20s / Storage temperature -40°C to +70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°c steps) Water and dust protection IP66(IEC60529)	Reading system Absolute encoder			Accuracy	±1mm/1.5m		
Distance measurement Laser class [IEC60825-1] Reflectorless Class 3R Reflective sheet/RP60 Class 3R Prism Class 1 Reflectorless* Reflectorless* Reflectorless Reflectorl	Angle unit	Angle unit 360° /400gon/6400mil, selectable		Laser class	Class 2/IEC60	Class 2/IEC60825-1	
Distance measurement Laser class (IEC60825-1) Reflectorless Class 3R / Image Erect Reflective sheet/RP60 Class 3R / Magnification/Field of view 3x/4" Prism Class 1 Class 1 Focus range 0.5m to ∞ Measurement range (Good condition)*2 Reflectorless*3 Battery 3400mAh Li-ion Rechargeable R300 1 to 300m / Output voltage 7.4V DC R500 1 to 500m / Continuous operation time Approx. 26 hours (At +20°C) (single distance measurement every 30 seconds) Single prism(Class 1) 1 to 3000m / Charger FDJ6-Li (110V /240V) Single prism(Class 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters (64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial: 2.5s Initial: 2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions (WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to+70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/R5-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C (1°C steps) Water and dust protection IP66(IEC60529)	Display resolution 1" /5" /10" (or 0.2mgon/1mgon/2mgon)			Brightness	Adjustable		
Laser class(IEC60825-1) Reflectorless Class 3R / Image Erect Reflective sheet/RP60 Class 3R / Magnification/Field of view 3x/4* Prism Class 1 Resurement range (Good condition)*2 Reflectorless* Reflectorless* Rattery Reflective sheet/RP60 1 to 800m / Continuous operation time Approx. 26 hours(At +20°C) (single distance measurement every 30 seconds) Single prism(Class 1) 1 to 3000m / Charger FDJ6-Li (110V/240V) Single prism(Class 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Rattery Rattery Reflectorless / Others Rattery Rattery Application programs Prism Loberty Prism 2mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others Rattery Reflectorless / Others Rattery Reflectorless / Others Reflectorless / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Dimensions(WxDxH) Reflectorless typ.1.5-1.5s John-1.5s John	Accuracy *1 2" / 5"			Laser wave length	e length 635nm		
Reflectorless Class 3R / Image Erect Reflective sheet/RP60 Class 3R / Magnification/Field of view 3x/4° Prism Class 1 Class 1 Focus range 0.5m to ∞ Measurement range (Good condition)*2 Power Reflectorless*3 Battery 3400mAh Li-ion Rechargeable 7.4V DC R500 1 to 500m / Output voltage 7.4V DC R500 1 to 500m / Continuous operation time Approx. 26 hours(At +20°C) (single distance measurement every 30 seconds) Single prism(Class 1) 1 to 3000m 1 to 3000m Charger FDJ6-Li (110V /240V) Single prism(Class 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/5take out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support 5D card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5, max. 20s / Storage temperature -40°C to+70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Distance measurement			Optical plummet(Factory optional)			
Reflective sheet/RP60 Class 3R / Magnification/Field of view 3x/4° Prism Class 1 Class 1 Focus range 0.5m to ∞ Measurement range (Good condition)*2 Power Reflectorless*3 Battery 3400mAh Li-ion Rechargeable 7.4V DC RS00 1 to 300m / Output voltage 7.4V DC RS00 1 to 500m / Continuous operation time Approx. 26 hours(At +20°C) Reflective sheet/RP60 1 to 800m / (single distance measurement every 30 seconds) Single prism(Class 1) 1 to 3000m 1 to 3000m Charger FDJ6-Li (110V /240V) Single prism(Class 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support 5D card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(Including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to+70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Laser class(IEC60825-1	.)		Accuracy	\pm 0.8mm/1	5m	
Prism Class 1 Class 1 Focus range 0.5m to ∞ Measurement range (Good condition)*2 Reflectorless*3 Rand 1 to 300m / Output voltage 7.4V DC R500 1 to 500m / Continuous operation time Approx. 26 hours(At +20°C) Reflective sheet/RP60 1 to 800m / (single distance measurement every 30 seconds) Single prism(Class 1) 1 to 3000m 1 to 3000m Charger FDJ6-Li (110V /240V) Single prism(Class 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to+70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Reflectorless	Class 3R	/	Image	Erect		
Measurement range (Good condition)*2 Power Reflectorless*3 Battery 3400mAh Li-ion Rechargeable R300 1 to 300m / Output voltage 7.4V DC R500 1 to 500m / Continuous operation time Approx. 26 hours(At +20°C) Reflective sheet/RP60 1 to 3000m / (single distance measurement every 30 seconds) Single prism(Class 1) 1 to 3000m Charger FDJ6-Li (110V /240V) Single prism(Classs 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s	Reflective sheet/RP60	O Class 3R	/	Magnification/Field of	view 3x/4	0	
Reflectorless*3 R300 1 to 300m / Output voltage 7.4V DC R500 1 to 500m / Continuous operation time Approx. 26 hours(At +20°C) Reflective sheet/RP60 1 to 800m / (single distance measurement every 30 seconds) Single prism(Class 1) 1 to 3000m 1 to 3000m Charger FDJ6-Li (110V /240V) Single prism(Classs 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflectorless typ.1.5-5s, max. 20s / Storage temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to+70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Prism	Class 1	Class 1	Focus range	0.5m to) ∞	
R300 1 to 300m / Output voltage 7.4V DC R500 1 to 500m / Continuous operation time Approx. 26 hours(At +20°C) Reflective sheet/RP60 1 to 800m / (single distance measurement every 30 seconds) Single prism(Class 1) 1 to 3000m 1 to 3000m Charger FDJ6-Li (110V /240V) Single prism(Classs 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to+70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Measurement range (Good condition)*2			Power			
R500 1 to 500m / Continuous operation time Approx. 26 hours(At +20°C) Reflective sheet/RP60 1 to 800m / (single distance measurement every 30 seconds) Single prism(Class 1) 1 to 3000m 1 to 3000m / Charger FDJ6-Li (110V /240V) Single prism(Classs 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support 5D card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to +70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Reflectorless*3			Battery	3400mAh Li-ion R	echargeable	
Reflective sheet/RP60 1 to 800m / (single distance measurement every 30 seconds) Single prism(Class 1) 1 to 3000m 1 to 3000m / Charger FDJ6-Li (110V /240V) Single prism(Classs 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to+70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	R300	1 to 300m	/	Output voltage			
Single prism(Class 1) 1 to 3000m 1 to 3000m Charger FDJ6-Li (110V /240V) Single prism(Classs 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support 5D card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to +70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	R500	1 to 500m	/				
Single prism(Classs 3R) 1 to 5000m / Charging time(at +20°C) Approx. 4 hours Accuracy Application programs Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to +70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Reflective sheet/RP60	0 1 to 800m	/	(single distance measurement every 30 seconds)			
Accuracy Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) S.1kg Prism typ.1.0-1.5s J.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to+70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Single prism(Class 1)	1 to 3000m	1 to 3000m	3 -7 (,			
Prism 2mm+2ppm 2mm+2ppm Data collection/Stake out/Resection/REM/MLM Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to +70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Single prism(Classs 3	R) 1 to 5000m	/	Charging time(at +20°C) Approx. 4 hours			
Reflective sheet/RP60 3mm+2ppm / AREA/Point to line/Z coordinate/OFFset Reflectorless / Others R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to+70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Accuracy						
Reflectorless/OthersR3001-150m:3mm+2ppm/DisplayLCD, 4lines X16characters(64 X128 dots)≥150:5mm+3ppm/CPU32BitR5001-200m:3mm+2ppm/Memory128M, 120000 points, support SD card(Optional)≥200:5mm+3ppm/KeyboardAlphanumerical key board, both sidesMeasuring timeInitial:2.5sInitial:2.5sWeight(including batteries)5.1kgPrismtyp.1.0-1.5s1.0-1.5sDimensions(WxDxH)175x178x340mmReflective sheet/RP60typ.1.5s/Operating temperature-20°C to+50°CReflectorlesstyp.1.5-5s, max. 20s/Storage temperature-40°C to+70°CDisplay resolution(m/inch selectable)0.2mm/1mmInterfaceUSB/RS-232C/Bluetooth(Factory Optional)Temperature input range-40°C to+60°C(1°C steps)Water and dust protectionIP66(IEC60529)	Prism	2mm+2ppm	2mm+2ppm	Data collection/Stake out/Resection/REM/MLM			
R300 1-150m:3mm+2ppm / Display LCD, 4lines X16characters(64 X128 dots) ≥150:5mm+3ppm / CPU 32Bit R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to +70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Reflective sheet/RP60	3mm+2ppm	/	AREA/Point to line/Z coordinate/OFFset			
S150:5mm+3ppm	Reflectorless		/	Others			
R500 1-200m:3mm+2ppm / Memory 128M, 120000 points, support SD card(Optional) ≥200:5mm+3ppm / Keyboard Alphanumerical key board, both sides Measuring time Initial:2.5s Initial:2.5s Weight(including batteries) 5.1kg Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20℃ to+50℃ Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40℃ to +70℃ Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40℃ to+60℃(1℃ steps) Water and dust protection IP66(IEC60529)	R300 1-150	m:3mm+2ppm	/	Display LCD	, 4lines X16characte	ers(64 X128 dots)	
Section Sec	≥1	50:5mm+3ppm	/	CPU	32B	it	
Measuring timeInitial:2.5sInitial:2.5sWeight(including batteries)5.1kgPrismtyp.1.0-1.5s1.0-1.5sDimensions(WxDxH)175x178x340mmReflective sheet/RP60typ.1.5s/Operating temperature-20°C to+50°CReflectorlesstyp.1.5-5s, max. 20s/Storage temperature-40°C to+70°CDisplay resolution(m/inch selectable)0.2mm/1mmInterfaceUSB/RS-232C/Bluetooth(Factory Optional)Temperature input range-40°C to+60°C(1°C steps)Water and dust protectionIP66(IEC60529)	R500 1-200	m:3mm+2ppm	/	Memory 128M, 12	0000 points, suppor	t SD card(Optional)	
Prism typ.1.0-1.5s 1.0-1.5s Dimensions(WxDxH) 175x178x340mm Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to $+50^{\circ}\text{C}$ Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to $+70^{\circ}\text{C}$ Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to $+60^{\circ}\text{C}(1^{\circ}\text{C}$ steps) Water and dust protection IP66(IEC60529)	≥200:5mm+3ppm /		Keyboard	Alphanumerical k	ey board, both sides		
Reflective sheet/RP60 typ.1.5s / Operating temperature -20°C to+50°C Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to +70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Measuring time	Initial:2.5s	Initial:2.5s	Weight(including batter	ries) 5	.1kg	
Reflectorless typ.1.5-5s, max. 20s / Storage temperature -40°C to +70°C Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Prism	typ.1.0-1.5s	1.0-1.5s	Dimensions(WxDxH)	175x1	78x340mm	
Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Reflective sheet/RP6	0 typ.1.5s	/	Operating temperature	-20 ℃	to+50℃	
Display resolution(m/inch selectable) 0.2mm/1mm Interface USB/RS-232C/Bluetooth(Factory Optional) Temperature input range -40° to+60°C(1° steps) Water and dust protection IP66(IEC60529)	Reflectorless typ	.1.5-5s, max. 20s	1	Storage temperature	-40℃	to +70℃	
Temperature input range -40°C to+60°C(1°C steps) Water and dust protection IP66(IEC60529)	Display resolution(m/inch selectable) 0.2mm/1mm				RS-232C/Bluetooth()	Factory Optional)	
		Temperature input range -40℃ to+60℃(1℃ steps)			·	, , , , , , , , , , , , , , , , , , ,	
Pressure input range 500hPa to 1500hPa(1hPa steps) Data transfer&processing software FOIF Geomatics Office	Pressure input range 500hPa to 1500hPa(1hPa steps)			· · · · · · · · · · · · · · · · · · ·		F Geomatics Office	
Prism constant correction -99.9mm to +99.9mm Data collector PS236, fully rugged PDA(Optional)				Data collector	PS236, fully rug	ged PDA(Optional)	

^{*1} Standard deviation based on ISO17123-3

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



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Local Dealer:

^{*2} Good conditions: no haze, visibility about 40km, no heat shimmer, breeze

^{*3} Reflector: White side of Kodak Gray Card with 90% reflective

^{*4} Laser plummet mounted on the bottom of the vertical axis