## **SERIE GPT-8200**

**Electronic Total Station** 

Auto tracking pulse total station GPT-8200Aseries

The GPT-8200A series is auto tracking total stations of a dual mode type. One station is capable of non-prism range finding and auto tracking, accomplishing all positioning from surveying to instrumentation.

The non-prism mode can comfortably measure distances beyond 1km. Easy observation of off-limits areas such as hazardous areas stricken by disasters and airports.

High-speed auto tracking at 12°/s for instrumentation of moving objects. Powerful in instrumentation of various types in auto tracking and auto calibration.

## <Specification>

Telescope	Model		GPT-8201A	GPT-8202A	GPT-8203A	GPT-8205A	
Magnification         30 ×           Image         Erect           Field of View         1°30°           Minimum Focusing Distance         2 speeds         3"           Minimum Focusing Distance         2 speeds         <	Telescope						
Field of View   Field of Vi	Objective lens diameter		50mm				
Field of View   Power   Pow			30 ×				
Resolving Power   Similar	Image		Erect				
Minimum Focusing Distance	Field of View			1°30'			
Pricuring Speed   2 speeds   2 speeds   2 speeds   2 speeds   2 speeds   2 speeds   3	Resolving Power		3"				
Auto Tracking / Servo Mechanisms           Max. Rotating Speed         50° / s           Max. Automatic Tracking Speed         12° / s           Auto Tracking Range         Prism 2         8m to 800m           Drive Range         All range rotating           Search Range         User definable           Coarse movement         Shuttle control (in 7 steps)           Fine movement         Jog Control (Min. 1 sec)           Collimation Accuracy*1         3" (Standard deviation of repeatability)           Drive Measuring Range           Prism 2*2         2 to 7,000m           Measuring Accuracy           (Diffusing Surface)         3 to 25m         ±(2mm+2pmxD*) m.s.e.           ±(3mm+2ppmxD*) m.s.e.         ±(3mm+2ppmxD*) m.s.e.           ±(10mm) m.s.e.         ±(10mm) m.s.e.           ±(10mm) pmxD*) m.s.e.         ±(10mm) pmxD*) m.s.e. <t< td=""><td colspan="2">Minimum Focusing Distance</td><td colspan="4">1.3m</td></t<>	Minimum Focusing Distance		1.3m				
Max. Rotating Speed         50° / s           Max. Automatic Tracking Speed         12° / s           Auto Tracking Range         Prism 2         8m to 800m           Drive Range         All range rotating           Search Range         User definable           Coarse movement         Shuttle control (in 7 steps)           Fine movement         Jog Control (Min. 1 sec)           Collimation Accuracy*1         3" (Standard deviation of repeatability)           Distance Measurement           Prism mode           Measuring Range         Prism 2*2         2 to 7,000m           Measuring Accuracy         ±(2mm+2ppmxD*) m.s.e.           Non-prism           Measuring Accuracy         3 to 25m         ±(2mm+2ppmxD*) m.s.e.           **(Diffusing Surface)         3 to 25m         ±(10mm) m.s.e.           **(Diffusing Surface)         25m to Long mode*3         **(10mm) m.s.e.           **(Diffusing Surface)         **(2mm: 3 sec. (Initial 4 sec)         **(10mm) m.s.e.           **(10mm) m.s.e.         **(10mm) m.s.e.         **(10mm) m.s.e.           **(2mm: 12 sec. (Initial 3 sec.)         **(2mm: 12 sec. (Initial 3 sec.)         **(2mm: 12 sec.)           **(2mm: 12 sec.)	Focusing Speed		2 speeds	2 speeds	2 speeds	2 speeds	
Max. Automatic Tracking Range         Prism 2         8m to 800m           Auto Tracking Range         Prism 2         8m to 800m           Drive Range         All range rotating           Search Range         User definable           Coarse movement         Shuttle control (in 7 steps)           Fine movement         Jog Control (Min. 1 sec)           Collimation Accuracy*1         3" (Standard deviation of repeatability)           Distance Measurement           Prism Mode           Weasuring Range         Prism 2*2         2 to 7,000m         ***********************************	Auto Tracking/ Servo Mechanism						
Prism 2         8m to 800m           Auto Tracking Range         Prism A3/A3s         10m to 500m           Drive Range         All range rotating           Search Range         User definable           Shuttle control (in 7 steps)           Fine movement         Jog Control (Min. 1 sec)           Collimation Accuracy*1         3" (Standard deviation of repeatability)           Distance Measurement           Prism mode           Measuring Range         Prism 2*2         2 to 7,000m           Measurement Range (White surface)         3 to 120m (Long mode 30 to 1,200m)           Measurement Range (White surface)         3 to 25m ± (10mm) m.s.e. ± (10mm) m.s.e. ± (10mm+2ppmxD*) m.s.e.           Measuring Accuracy (Diffusing Surface)         3 to 25m ± (10mm+10ppmxD*) m.s.e.           Measuring time           O.2mm: 3 sec. (Initial 3 sec.) Long mode 1mm: 1.5 to 6 sec.           Angle Measurement           Method         Absolute reading           Horizontal/Vertical         Sec. (Initial 3 sec.) Long mode 1mm: 1.5 to 6 sec.         Long mode 1mm: 1.5 to 6 sec.<	Max. Rotating Speed		50° / s				
Prism A3/A3s   10m to 500m   10m to 500m   1	Max. Automatic Tracking Speed		12° / s				
Drive Range	Auto Tarabia d Danda	Prism 2	8m to 800m				
Search Range         User definable           Coarse movement         Shuttle control (in 7 steps)           Fine movement         Jog Control (Min. 1 sec)           Collimation Accuracy*1         3" (Standard deviation of repeatability)           Distance Measurement           Prism mode           Measuring Range         Prism 2*2         2 to 7,000m           Measuring Accuracy         (Pirm 2*2)         ± (2mm+2ppmxD) m.s.e.           Measuring Accuracy         (Diffusing Surface)         3 to 25m         ± (10mm) m.s.e.         ± (10mm	Auto Tracking Range	Prism A3/A3s	10m to 500m				
Shuttle control (in 7 steps)	Drive Range		All range rotating				
Fine movement   Fine moveme			User definable				
Collimation Accuracy*1       3" (Standard deviation of repeatability)         Distance Measurement         Prism mode         Measuring Range       Prism 2*2       2 to 7,000m         Measuring Accuracy       ± (2 mm+2ppmxD) m.s.e.         Measuring Accuracy (Diffusing Surface)       3 to 25m 25m to Long mode*3       ± (10mm) m.s.e.       ± (10mm+10ppmxD*) m.s.e.			Shuttle control (in 7 steps)				
Distance Measurement           Prism mode	Fine movement		Jog Control (Min. 1 sec)				
Prism mode         Measuring Range         Prism 2*2         2 to 7,000m           Measuring Accuracy         ± (2mm+2ppmxD) m.s.e.           Non-prism           Measurement Range (White surface)         3 to 20m (Long mode 30 to 1,20m)           Measuring Accuracy (Diffusing Surface)         3 to 25m (25m to Long mode*3)         ± (10mm) m.s.e. ± (3mm+2ppmxD*) m.s.e. ± (10mm+10ppmxD*) m.s.e. ± (10mm+10ppmxD*) m.s.e.           Measuring time           Measurement           Method         Absolute reading           Horizontal/Vertical         Absolute reading           Horizontal/Vertical         2 sides           Minimum reading         0.5" /1" (0.1 / 0.5mgon)         1" /5" (0.2 / 1mgon)           Accuracy**         1" 2" 3" 5" (1.5mgon)         (1.5mg	Collimation Accuracy*1		3" (Standard deviation of repeatability)				
Measuring Range         Prism 2*2         2 to 7,000m           Measuring Accuracy         ±(2mm+2pmxD) m.s.e.           Non-prism           Measurement Range (White surface)         3 to 120m (Long mode 30 to 1,200m)           Measuring Accuracy (Diffusing Surface)         3 to 25m (25m to Long mode*3)         ±(10mm) m.s.e. ±(10mm) m.s.e. ±(3mm+2ppmxD*) m.s.e.           Measuring time           D.2mm: 3 sec. (Initial 4 sec) Imm: 1.2 sec. (Initial 3 sec.) Long mode 1mm: 1.5 to 6 sec.           Angle Measurement           Method         Absolute reading           Horizontal/Vertical         2 sides           Minimum reading         0.5" /1" (0.1 / 0.5mgon)         1" /5" (0.2 / 1mgon)           Accuracy**         1" 2" 3" 5" (1.5mgon)           (1.5mgon)	Distance Measurement						
Measuring Accuracy	Prism mode						
Non-prism           Measurement Range (White surface)         3 to 120m (Long mode 30 to 1,200m)           Measuring Accuracy (Diffusing Surface)         3 to 25m 25m to Long mode*3         ±(10mm) m.s.e. ±(3mm+2ppmxD*) m.s.e. ±(10mm+10ppmxD*) m.s.e.           Measuring time           0.2mm: 3 sec. (Initial 4 sec) 1mm: 1.2 sec. (Initial 3 sec.) Long mode 1mm: 1.5 to 6 sec.           Angle Measurement           Method         Absolute reading           Horizontal/Vertical         2 sides           Minimum reading         0.5" /1" (0.1 / 0.5mgon)         1" /5" (0.2 / 1mgon)           Accuracy**         1" 2" 3" 3" (1.0mgon)         5" (1.5mgon)	Measuring Range	Prism 2*2		2 to 7	,000m		
Measurement Range (White surface)       3 to 120m (Long mode 30 to 1,20∪m)         Measuring Accuracy (Diffusing Surface)       3 to 25m 25m to Long mode*3       ±(10mm+10pmxD*) m.s.e.         Measuring time         0.2mm: 3 sec. (Initial 4 sec) 1mm: 1.2 sec. (Initial 3 sec.) Long mode 1mm: 1.5 to 6 sec.         Angle Measurement         Method       Absolute reading         Horizontal/Vertical       2 sides         Minimum reading       0.5" /1" (0.1 / 0.5mgon)       1" /5" (0.2 / 1mgon)         Accuracy**       1" 2" 3" 3" 5" (0.5mgon)       5" (0.6mgon)       (1.5mgon)	Measuring Accuracy		±(2mm+2ppmxD) m.s.e.				
Measuring Accuracy (Diffusing Surface)       3 to 25m 25m to Long mode*3       ±(10mm) m.s.e. ±(3mm+2ppmxD*) m.s.e.         Measuring time       0.2mm: 3 sec. (Initial 4 sec) 1mm: 1.2 sec. (Initial 3 sec.) Long mode 1mm: 1.5 to 6 sec.         Angle Measurement       Absolute reading         Horizontal/Vertical       2 sides         Minimum reading       0.5" /1" (0.1 / 0.5mgon)       1" /5" (0.2 / 1mgon)         Accuracy**       1" 2" 3" 5" (0.3mgon)       5" (0.3mgon)	Non-prism						
±(3mm+2ppmxD*) m.s.e. ±(10mm+10ppmxD*) m.s.e. ±(10m	Measurement Range (White surface)		3 to 120m (Long mode 30 to 1,200m)				
0.2mm: 3 sec. (Initial 4 sec)         1mm: 1.2 sec. (Initial 3 sec.)       Long mode 1mm: 1.5 to 6 sec.         Angle Measurement         Method       Absolute reading         Horizontal/Vertical       2 sides         Minimum reading       0.5" /1" (0.1 / 0.5mgon)       1" /5" (0.2 / 1mgon)         Accuracy**       1" 2" 3" 5" (0.6mgon)       (1.0mgon)       (1.5mgon)		±(3mm+2ppmxD*) m.s.e.					
1mm: 1.2 sec. (Initial 3 sec.)         Long mode 1mm: 1.5 to 6 sec.         Angle Measurement         Method         Absolute reading         Horizontal/Vertical         2 sides         Minimum reading         0.5" /1" (0.1 / 0.5mgon)       1" /5" (0.2 / 1mgon)         Accuracy**       1" 2" 3" 3" 5" (0.6mgon)       5" (1.0mgon)	Measuring time						
Method         Absolute reading           Horizontal/Vertical         2 sides           Minimum reading         0.5" /1" (0.1 / 0.5mgon)         1" /5" (0.2 / 1mgon)           Accuracy**         1" 2" 3" (0.6mgon)         3" 5" (1.0mgon)           (0.3mgon)         (0.6mgon)         (1.0mgon)         (1.5mgon)			1mm: 1.2 sec. (Initial 3 sec.)				
Horizontal/Vertical   2 sides	Angle Measurement						
Minimum reading         0.5" /1" (0.1 / 0.5mgon)         1" /5" (0.2 / 1mgon)           Accuracy**         1" 2" 3" (0.6mgon)         5" (1.0mgon)           (0.3mgon)         (0.6mgon)         (1.0mgon)	Method		Absolute reading				
Accuracy** 1" 2" 3" 5" (0.3mgon) (0.6mgon) (1.0mgon) (1.5mgon)	Horizontal/Vertical		2 sides				
Accuracy** (0.3mgon) (0.6mgon) (1.0mgon) (1.5mgon)	Minimum reading		0.5" /1" (0.1 / 0.5mgon) 1" /5" (0.2 / 1mgon)				
Diameter of circle 71mm	Accuracy**		1	_	1 -	_	
	Diameter of circle	71mm					

Tilt Correction			
Туре	Dual axis		
Method	Liquid type		
Compensating range	±4'		
Correction unit	1" (0.1mgon)		
Computer unit			
os	MS-DOS® VER.3.22		
Internal memory System memory Program memory Main memory Application program & data memory	FEEPROM 512KB FEEPROM 1MB SRAM 640KB FEEPROM 4MB		
Display	Graphics LCD 40 characters × 10lines (240 × 80 Dots) w/ backlight		
Calendar clock	Provided		
Card system (Type I/II)	PC Card Standard 95 Max./32MB		
Interface			
Serial I/F Parallel I/F	For computer:RS-232C(6 pin) For RC-2II:RS-232C(4 pin) For printer:Centronics Standard (12 pin)		
Other			
Instrument height	196mm		
Level sensitivity			
Circular level Plate level	10" / 2mm 30" / 2mm		
Optical plummet Magnification Focusing range Image	3 × 0.5m to infinity Erect		
Tracking indicator	Provided		
Dimension	211(L) × 229(W) × 325(H)mm		
Weight Instrument(with battery) Plastic Carrying Case	GPT-8000A series:7.6kg 5.4kg		
Durability Dust/Water protection Ambient Temperature Range	IP54 -20°C to + 50°C		
Laser class	Class 2 (Class II)		
Power Source			
On-board battery BT-56Q Output voltage Capacity Maximum operating time (at +20°C) Angle and distance measurement Auto tracking measurement Weight	7.2V 4.0Ah(Ni-MH) Approx. 4.0 hours Approx. 2.5 hours 0.4kg		
Battery Charger BC-27BR/27CR Input voltage Frequency Recharging time (at +20Åé) Ambient temperature range Weight Discharging function	AC 120V (BC-27BR), 230V (BC-27CR) 50/60Hz 2.5hours +10°C to 40°C 0.4kg Yes		

<sup>\*1 :</sup> The air condition is stable and prism is staying Automatic Collimation/racking accuracy is available only for prism use except for reflector.

<sup>\*2 :</sup> Sight haze with visibility about 20km moderate sunlight with light heat shimmer.

<sup>\*3 :</sup> Measurement distance: No more than 500m, When kodak gray card(white surface) is used.

<sup>\*</sup>D : measuring distance (mm)

<sup>\*\*:</sup> Standard deviation based on DIN18723