

## SPECIFICATIONS

### Angle Measurement

Measurement Method.....Absolute Encoding  
 Minimum Readout.....1"/5"/10"  
 (0.3mgon/1.5mgon/3mgon) adjustable  
 Accuracy<sup>1</sup>.....2"

### Distance Measurement (HTS-220 with Reflector)

Single Prism.....3000m (9,842ft.) under good condition<sup>3</sup>  
 Three Prisms.....6000m (19,685ft.) under good condition<sup>3</sup>  
 Reflective Sheet.....800m (2,624 ft.)  
 Accuracy.....2 mm +2ppm  
 Measuring Time (Fine/Quick/Tracking).....1.5s/1s/ 0.5s

### Distance Measurement (HTS-220R Reflectorless)

Reflectorless<sup>2</sup> Range.....350m (1,148 ft.)  
 Single Prism.....>7500m (24,606ft.)  
 Accuracy.....3mm+2ppm  
 Measuring Time.....1.5s

### Telescope

Magnification.....30X  
 Field of View.....1°30' (2.7m at 100m)  
 Minimum Focusing Distance.....1.5m  
 Reticle.....Illuminated

### Compensator

System.....Single-axis liquid tilt sensor/Dual-axis (optional)  
 Working Range.....±3'  
 Setting Accuracy.....1"

### Communication

Bluetooth  
 Interface.....Standard RS232, SD card<sup>4</sup>,  
 USB pen drive, mini-B  
 Internal Data Memory.....Approx. 20,000 Points  
 Data Format.....ASCII

### Operation

Operation system.....Real-time Operating System  
 Display.....High resolution backlight black and white display with

contrast adjustment/ Graphics.....280 x 160 pixels  
 Character: 6 lines x 25 characters  
 Keyboard.....2 sides Alphanumeric backlit crystal keyboard

### Laser Plummet

Type.....Laser point, 4 brightness levels  
 adjustment / Optical plummet (optional)  
 Centering Accuracy.....1 mm at 1.5m instrument height

### Power Supply

Battery Type.....Rechargeable Li-ion battery  
 Voltage/Capacity.....ZBA-400: 7.4V (DC) / 3000mAh  
 Operating Time With ZBA-400.....Optimal 16 hours<sup>5</sup>  
 (Continuous angle measurement every 30 seconds) /10 hours  
 (typical)  
 Measuring Times.....Approx. 12000 times

### Weight

Weight (Incl. Battery&Tribrach).....Approx. 5.5kg (12.1lb.)

### Environmental

Operating Temperature.....-20°C ~ + 50°C ( -4°F to + 122°F)  
 Storage Temperature.....-40°C ~ + 70°C (-40°F to + 158°F)  
 Dust&Water Proof (IEC60529 Standard)/Humidity.....IP65,  
 95%, non-condensing

<sup>1</sup> Standard deviation based on ISO 17123-3.

<sup>2</sup> Calculated by Kodak Gray Card white side (90% reflective), exact distance depends on measuring object, observation and environment conditions.

<sup>3</sup> Good condition: no haze, visibility about 40km, moderate sunlight,

<sup>4</sup> Maximum extension up to 32GB.

<sup>5</sup> New battery at 25°C, 24 hours continuously angel measurement mode.

Descriptions and specifications are subject to change without notice

# HI-TARGET

# HTS-220/R

## Total Station



# HI-TARGET

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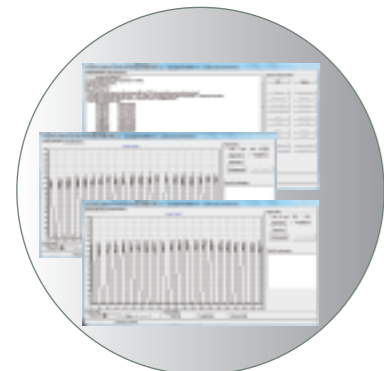




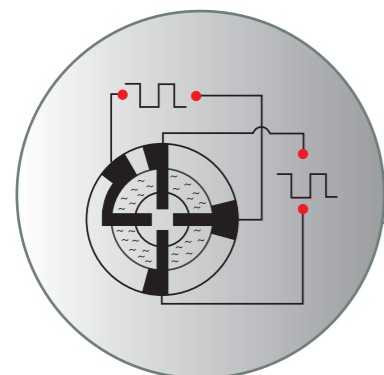
High-performance MCU



Absolute Encoding



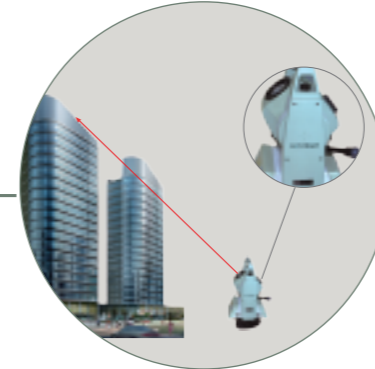
Calibration Software



Dual-axis Compensation



Bluetooth



Diagonal Eyepiece



Data Transfer Software



Backlight

### Dual-axis Compensation

The HTS-220/R is configured with advanced dual-axis compensator for auto error elimination and auto accuracy compensation.

### Absolute Encoding

The absolute encoding disk ensures high accuracy, efficiency and stable performance. Initialization is needless but to measure the angle immediately as the HTS-220/R is turned on. The azimuth information won't be missed even the HTS-220/R is power-off unexpectedly.

### High-performance MCU

The STM32 MCU based on ARM Cortex™-M processor enables the HTS-220/R has extra high processing speed and low-power consumption.

### Bluetooth

The Bluetooth wireless technology makes HTS-220/R accessible to any data collector for real-time communication. The third party field software such as Carlson SurvCE is fully compatible with the HTS-220/R.

### Data Storage

Diversified data transfer options such as SD card, USB pen drive, mini-B interface.

### Backlight

The display and keyboard with backlight for working in the dark.

### Diagonal Eyepiece

Support diagonal eyepiece for observations at steep line of sight.

### Calibration Software

The proprietary HI-TARGET Calibration software is accessible for real-time diagnosis to ensure trouble-free operation.

### Data Transfer Software

The proprietary HI-TARGET data transfer software supports different type of output data format, which can be used in AutoCAD or other brands' post processing software.