

# SPECIFICATIONS

## ► Angular measurement

|                    |                   |
|--------------------|-------------------|
| Angular accuracy   | 2"                |
| Measurement method | Absolute encoding |
| Display resolution | 1"                |

## ► Distance measurement

|                          |                                                                                                                                    |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Range <sup>(1)</sup>     | Prism group:5000 m<br>Reflective sheet: 1000 m<br>Reflectorless: 1500 m                                                            |
| Accuracy (Reflector)     | ±(2 + 2 x 10 <sup>-6</sup> D) mm                                                                                                   |
| Accuracy (Reflectorless) | 0~300m: ±(3 + 2 x 10 <sup>-6</sup> D) mm<br>300~600m: ±(5 + 2 x 10 <sup>-6</sup> D) mm<br>>600m: ±(10 + 2 x 10 <sup>-6</sup> D) mm |
| Typical measurement time | Continuous measurement: < 0.7 s<br>Tracking measurement: < 0.3 s<br>Initial fine measurement: < 2 s                                |

## ► Telescope

|                                      |                              |
|--------------------------------------|------------------------------|
| Imaging method                       | Erect                        |
| Magnification                        | 27 x                         |
| Resolving power                      | 3"                           |
| Field of view                        | 1°30′                        |
| Focusing range                       | 1.5 m/ 4.92 ft to infinity   |
| Tube length                          | 152 mm                       |
| Effective aperture of objective lens | Effective: 40mm<br>DTM: 45mm |

## ► Vial

|               |               |
|---------------|---------------|
| Plate Vial    | 30 "/2mm      |
| Circular Vial | 8 '/2mm       |
| Plummet       | Laser plummet |

## ► Correction

|                              |                                             |
|------------------------------|---------------------------------------------|
| Compensation sensor          | Dual-axis liquid-electric sensor            |
| Compensator setting accuracy | ±6 "                                        |
| Compensator range            | ±3 ´                                        |
| Atmospheric correction       | Temperature-pressure sensor auto correction |
| Temperature input range      | -20° C to +40° C (-4° F to +104° F)         |
| Air pressure input range     | 560 to 1066 hPa                             |
| Prsim constant               | Auto correction                             |
| Trigger                      | Under battery house                         |

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## ► Display

|                 |                                       |
|-----------------|---------------------------------------|
| Type            | LCD digital screen                    |
| Size            | 3.1 inch                              |
| Resolution      | 240*160                               |
| Keyboard        | Alphanumeric, 28 keys with backlight  |
| Graphic Display | Max.: 99999999.9999 m<br>Min.: 0.1 mm |

## ► Communication

|                  |                                              |
|------------------|----------------------------------------------|
| Ports            | 1 x Type-A USB2.0 (USB host)                 |
| Bluetooth ®      | v3.0                                         |
| Internal storage | 16 MB(ready for 140,000 points)              |
| External storage | Up to 128 GB(ready for 1,142,850,000 points) |

## ► Battery

|                                                   |                                                    |
|---------------------------------------------------|----------------------------------------------------|
| Li-ion battery capacity                           | Rechargeable lithium battery<br>3000 mAh, DC 7.4 V |
| Operating time on internal battery <sup>(2)</sup> | 8 hours                                            |

## ► Environment

|                       |                                              |
|-----------------------|----------------------------------------------|
| Operating temperature | -20° C to +50° C<br>(-4° F to122° F)         |
| Storage temperature   | -40° C to +50° C<br>(-40° F to122° F)        |
| Ingress protection    | IP54 <sup>(3)</sup> (according to IEC 60529) |

## ► Size and weight

|        |                                                |
|--------|------------------------------------------------|
| Size   | 200 x 200 x 355 mm<br>(7.68 x 7.28 x 14.37 in) |
| Weight | 5.6 kg                                         |

## ► Compliance with Laws and Regulations

|                         |                        |
|-------------------------|------------------------|
| International standards | UN Manual Section 38.3 |
|-------------------------|------------------------|

**\*All specifications are subject to change without notice.**  
(1) All measurement ranges are based on the following environmental conditions: overcast skies, no fog, visibility of approximately 40 km, and no heat shimmer. Reflectorless range conditions are based on Kodak standard gray with 90% diffuse reflectance.  
(2) Battery life is optimized at 25°C and may vary depending on operating temperature and battery cycle life.  
(3) Splash, water, and dust resistance were tested under controlled laboratory conditions with an IP54 rating according to IEC standard 60529.



# CTS-M100

## Total Station





► Cost-effective And Easy-to-use Survey Solution

The CHCNAV CTS-M100 total station is built on proven CHCNAV technology, offering a reliable and affordable solution for everyday surveying tasks. With 2" angle accuracy and a high-efficiency EDM, it delivers reflectorless measurements up to 1,500 m and up to 5,000 m using a single prism, with millimeter-level precision. A replaceable battery provides up to 8 hours of continuous operation, ensuring uninterrupted productivity in the field.



► Key feature



**Efficient EDM**

Reflectorless measurement up to 1,500 m.



**Long Battery Life**

Up to 8 hours of continuous field operation.



**Dual-Face Keyboards**

Convenient and efficient operation



**Data Storage**

External USB storage up to 128 GB

► Total Station Use Made Easy



**Best-in-class industrial design with dual-face keyboards and a built-in laser plummet.**

The CTS-M100 dual-face keyboards with illuminated keys minimize errors and ensure optimal visibility under all environmental conditions. Its integrated laser plummet enables fast and accurate instrument setup in any lighting.

► High EDM Performance



**Up to 1,500 m reflectorless measurement range.**

With a measurement speed of just 0.3 seconds, the CTS-M100 is one of the fastest total stations in its class. It delivers accurate reflectorless measurements up to 1,500 m and prism measurements up to 5,000 m, providing reliable accuracy.

► Intuitive Onboard Software



**Higher productivity for all surveying and construction projects.**

Designed for versatility and ease of use, the CTS-M100 features advanced onboard field software that streamlines daily surveying workflows and increases productivity.

► Extended Memory Capacity



**Store up to 140,000 points in internal memory.**

The CTS-M100 stores up to 140,000 points in internal memory and supports external USB storage up to 128 GB, expanding total capacity to over one billion points.

► Application Scenario



Topographic Surveying



Land Subdivision



Solar Farm Layout