

# TECHNICAL SPECIFICATIONS

## Angular measurement

Angular accuracy	2"
Measurement method	Absolute, continuous, diametrical (horizontal and vertical)
Display resolution	0.1"/ 1"/ 5"/ 10" optional
Compensation method	Double photoelectric electronic compensation
Compensator setting accuracy	1"
Compensator range	±3'
Coding dial diameter	79 mm

## Distance measurement

Range	Single Prism: 5000 m Reflective sheet: 1000 m Non-Prism: 1000 m <sup>(1)</sup>
Accuracy	Single Prism: 2 mm + 2 ppm Reflective sheet: 3 mm + 2 ppm Non-Prism: 3 mm + 2 ppm <sup>(2)</sup>
Measurement time	Prism fine: typical 0.3 s Prism tracking: typical 0.1 s Non-Prism: typical 0.3~3 s
Resolution	0.1 mm
Laser type	Red visible laser
Laser output	Single Prism: Class 2 Reflective sheet: Class 2 Non-Prism: Class 3R
Carrier	0.650~0.690 μm
EDM type	Coaxial

## Telescope

Imaging method	Ortho-imaging
Magnification	30 x
Resolving power	3"
Field of view	1°30'
Focusing range	1.4 m/ 4.59 ft to infinity
Tube length	154 mm
Effective aperture of objective lens	45 mm
Reticle illumination	4 brightness levels

## Laser plummet

Accuracy	±1.5 mm at 1.5 m instrument height
Laser dot size	2.5 mm

## Display and keyboard

Display	2.6-inch 6-line HD digital LCD screen
Keyboard	Alphanumeric with backlight 28-key double-sided keyboard

## Communication

Ports	1 x USB flash drive
Bluetooth®	V 2.0
Internal storage	4 MB ( ready for 30,000 points )
External storage	Up to 32 GB ( ready for 245,760,000 points )

## Battery

Li-ion battery capacity	Rechargeable lithium battery 3100 mAh, DC 7.4 V
Operating time on internal battery <sup>(3)</sup>	Continuous distance/angle: 8 hours Continuous angle-only: 16 hours
Charging time	About 3 hours

## Environment

Working temperature range	-20°C to +50°C (-4°F to +122°F)
Ingress protection	IP55

## Size and weight

Size	160 mm x 150 mm x 330 mm (6.3 in x 5.9 in x 13.0 in)
Weight	5.2 kg

\*All specifications are subject to change without notice.

(1) Kodak gray 90% reflective (0.9 m to >1000 m).

(2) Object in shade, sky overcast, Kodak Gray Card (90% reflective).

(3) Battery life is subject to operating temperature.



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## EASY-TO-USE REFLECTORLESS TOTAL STATION

**1000m** Reflectorless    **2"** Angular accuracy    **HD LCD** Screen  
**USB Interface & Bluetooth** Data communication

The ETSR4 is a universal, easy-to-use, reflectorless total station that offers longer range, higher accuracy and faster measurement speeds. With a reflectorless measurement range of up to 1000 metres and angular accuracy of up to 2", the ETSR4 is designed to handle even the most complex surveying tasks with ease.

EFIX total station features built-in Bluetooth technology for real-time communication and control with field survey software. Its USB flash drive interface for easy data transfer eliminates the difficulties of cumbersome data management. The high-resolution LCD screen and 28-key alphanumeric keypad, together with a variety of built-in measurement programs, provide a clear and intuitive user interface that is easy to understand and operate.

The replaceable battery is designed for up to 8 hours continuous use, so operators can work all day without worrying about losing power in the field. From land surveying, cadastral and property mapping to road and utility surveying, the ETSR4 is the perfect solution for surveying and construction professionals.

### HIGH EDM PERFORMANCE

- Ultra-fast measurement in just 0.3 seconds
- Reflectorless measurement range of up to 1000 m for greater flexibility and convenience in the field
- Distance measurement up to 5000 m with a prism, enabling accurate long-distance measurements

### CONVENIENT DATA COMMUNICATION

- Store up to 30,000 points in the internal memory allowing for ample data storage capacity
- Recording capacity up to 245,760,000 points with external 32 GB USB flash drive expansion storage. This enables efficient data management and easy transfer of road data for stakeout in .csv, .dat, .txt formats with just one step
- Integrated Bluetooth® connectivity supports real-time communication and control with mobile devices via field survey software

### RICH AND INTUITIVE ONBOARD SOFTWARE

- Integrated HD LCD screen and 28-key double-sided backlit alphanumeric keyboard provide a clear and user-friendly interface for easy operation and quick access to measurement data
- Increase productivity and efficiency for cost-effective staking, layout, site, and field survey projects with a range of built-in measurement programs, including REM, MLM, Z coordinate, area, point-to-line, and road measurements

### RUGGED DESIGN FOR UNINTERRUPTED WORK

- Built to withstand harsh jobsite environments with a rugged industrial design that delivers reliable measurements
- Built-in laser makes total station setup quick and easy, even in difficult lighting conditions
- Integrated one-piece CCD with horizontal and vertical axes, equipped with a dual dense ball bearing axis system that ensures smooth operation
- Extremely low power and Class 2 laser for optimum operational safety