

# ETH 2

## Electronic Precision Theodolite



- Versatile in use
- Precise in measurement
- Flexible in operation



# ETH 2 - Superb Accuracy and Ease of Operation

The dual-axis compensator and diametral circle scanning of the ETH 2 precision theodolite are the guarantee of the instrument's high angle measuring accuracy. As a result, the ETH 2 meets even the most critical accuracy requirements.

## Versatility

- Classical triangulation
- Deformation measurement
- Monitoring surveys
- Engineering surveys
- Industrial surveys

## Operating Convenience

- Three large keys for the control of all measuring and computation functions.
- Clearly arranged four-line LC displays for simultaneous display of the measuring results and the current program.
- User guidance through the measuring and computing processes in logical steps. The unique user guidance ensures easy and trouble-free operation.

## Accuracy and Reliability

- Diametral circle scanning for the automatic elimination of the circle eccentricities.
- Dual-axis compensator for the automatic correction of the vertical axis error.
- Automatic compensation of trunnion axis, sighting axis and vertical index errors.

## Flexibility of Use

- Switch-on illumination for displays and reticle to facilitate measurement in unfavourable light conditions.
- Practice-oriented programs

## Integrated Interface

• RS 232 C (V24) interface for the connection of a field computer (Rec 500) or industrial measurement system, and for the use of user-specific recording and evaluation programs.

## From the Precision Theodolite to the High-performance Total Station

An ETH 2 electronic precision theodolite combined with an Eldi® 10 pulsed distance meter offers all the advantages of a total station: a large measuring range, high measuring accuracy and extremely short measuring times. The integrated programs which are activated in the combination with Eldi® 10 make this configuration suitable for all-round use in surveying and setting out, e.g. for stationing, for the determination of coordinates, the determination of connecting distances and object heights and the determination of orthogonal point distances from a given reference line.

## Technical Data

### Accuracy (DIN 18723)

Horizontal angle Hz:	0.5"/0.2 mgrad
Vertical angle V:	0.5"/0.2 mgrad

### Telescope

Magnification	30x
Aperture	45 mm
Length	170 mm
Field of view at 100 m	2.4 m
Shortest focussing distance	1.0 m

### Angle measurement

Hz and V circles	electronic, incremental, diametral in Hz and V zero point encoder for Hz and V circles
Measuring units	360° (DMS) 360° (DEG) 400 grads 6400 mils
Vertical reference system	zenith angle height angle vertical angle slope in percent
Least display unit	1", 0.1 mgrad, 0.01 mil

### Compensator

Type	dual-axis liquid compensator
Range	±2'40" or 48.0 mgrads
Setting accuracy	0.5" or 0.2 mgrad

### Display

quadruple LCD in both telescope positions  
LED illumination, software-controlled

### Data recording

on-line via RS 232 C / V 24 interface

### Power supply

NiCd battery pack, 4.8 V, 2.4 Ah,  
approx. 8 to 10 hours  
external via slip ring (optional)

### Levelling

Circular level	10'/2 mm on tribrach
Tubular level with compensator	30"/2 mm in sighting and trunnion axis directions

### Clamps and tangent screws

coaxial, parallel axes

### Centering

Zeiss centering system  
Wild centering system  
optical plummet in vertical axis  
2x magnification,  
shortest sighting distance 0.5 m

### Temperature range

-20 °C to +50 °C

### Dimensions

W x H x D (in mm)	232 x 270 x 127
Trunnion axis height	158 mm (DIN centering spigot) 196 mm (WILD centering system)

### Weights

Instrument incl. battery	4.7 kg
Case	2.5 kg

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DIN ISO 9001/EN 29001

**We measure up precisely to your requirements.**



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