



TheoDist FTD 05

REFLECTORLESS

CONSTRUCTION TACHYMETER



geo-FENNEL TheoDist®

The geo-FENNEL TheoDist ® is a new simple and easy to use device. The TheoDist® is a combination of an Electronic Theodolite and a Laser Distance Meter. This combination affords simple operation for many type of trades.

The geo-FENNEL TheoDist ® allows three-dimensional measurement with accuracy of 3 mm up to a maximum range of 600 meters. This instrument is suitable for wide range or applications and customers irrespective for beginners, experienced or professional surveyors.

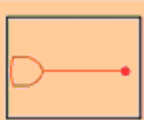
This simple device interface includes the ability to work a variety of situations:

- The Theodolite Mode enables measurements and recordings of directions including spatial laser pointing to the measured objects
- The Distance Mode allows additionally the measurement of horizontal distances or slope (direct) distances or differences in the height to the measured objects.
- The Three-Dimensional Mode enables measurements of co-ordinates accurate spatial locations of natural objects to a range of 200 meters without reflector and up to 600 m with reflector.
- The Set-Out Mode allows marking locations which are planned for implementation in practice.

The TheoDist® has a variety of working programs for Data collection from an “as build” situation to a precise three-dimensional documentation, including:

- Station and reference program for determining orientation by an known angle or the position of a reference point.
- “Resection” program to determine the “Instrument” (device location) by measuring other known points that are close to the device location.
- “Offset” shifts by measuring the angle or distance.
- “Missing line measurement” is a program which allows to measure distances between points located in the field.
- The “Area” program calculates areas surrounding by measured points

The communications software provided with the geo-FENNEL TheoDist ® allows the user to save the data in a variety of formats. The saved files can be converted to DXF files to upload them to CAD-Softwares like AutoCAD.



Laser Pointer

The integrated laser pointer emits a very narrow beam and enables a minimal divergence. Hence it is fast in measuring time (less than 1,3 s) and preserves good accuracy along its range.



Reflectorless

The EDM enables to measure to variety of targets including reflectorless measurement with actual measuring range of 200 meters depending on the target quality and position in relation to the instrument.



Prism

You can use any geodetic glass prism and CCRs of all sizes and types.



RS

For fixed positions, monitoring and reference points you can use reflective measuring tape targets. An outstanding range is achieved using RS targets; its accuracy is better than 3 mm + 2 ppm.



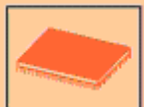
Compensator

The electronic compensation system is accurately monitoring the system levelling condition and compensates the levelling error to ensure that the vertical measured values will retain accurate.



Ni-Mh

The instrument is provided with 2 NiMH batterie switch cover more than a full long working day.



Memory

The instrument is supplied with a large on board memory which enables storing more than 50.000 points, separated into different data files.



Keyboard

Keyboard with 26 keys, enabling easy alphanumeric data input and manipulation. The display is large and easy to read.



Laser Plummet

The instrument is provided with a laser plummet which enables fast and accurate set-up.



Heavy Duty

The instrument has a heavy duty design. The estimated weight is stability to the operator.

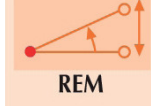


Instrument Integrated Application



Coordinate

The 3D coordinate feature is actually enabling the user to work and measure in the desired three dimensional measuring system (the instrument can show polar and orthogonal 3C values).



REM

The remote elevation function allows the user to determine the vertical distance of an object by indirect measurement. The calculated height is measured by the vertical angle value based on a basis slope distance measured at the bottom of the desired object.



Missing Line

The missing line measurement enables to measure slope distance, horizontal distance and vertical height difference between two measured points.



Resection

The resection function helps to determine the station and position heights as well as the orientation in relation to the reference point. The instrument can calculate its position from minimum two known reference points to a maximum of 10 reference points.



Offset

The offset by distance allows the user to capture a point by positioning the prism in front, behind or perpendicular to the line of sight left or right. By entering the offset value the new position is calculated and captured.



Set Out

The set-out function allows the user to mark known positions in the work site by calculating the polar and orthogonal directions between the current position to a designed position. The instrument can calculate cut files and fill values.



Area

The area calculation function allows the user to calculate the area by measuring its perimeter and defining it.



TECHNICAL DATA	
Telescope	
Image	Erect
Objective aperture (EDM)	45 mm
Magnification	30x
Field of view	1° 30'
Resolving Power	4"
Shortest focus distance	1,5 m
Distance measurement	
Laser classification	3A
Measuring range	
Reflectorless	1 to 200 m
Reflective tape target RS	1 to 600 m
Single Standard Prism 62 mm	1 to 600 m (prism constant must be 0)
Accuracy	3 mm + 2 ppm
Measuring time (fine / rapid / tracking)	1,5 s / 0,9 s / 0,3 s
Measuring count	1 mm
Distance units	ft / m
Angle measurement	
Minimum reading resolution steps	1" / 5" / 10"
Angle accuracy	5"
Angle units	100% / 360° / 400gon
Compensator	
Type	Liquid
Range	± 3°
Laser plummet	
Accuracy	± 1 mm / 1,5 m
Laser classification	Class 2
Display	
Dual LCD	4 lines, 24 characters mounted on both faces
Power	
Battery type	7,2 V DC
Output Voltage	Working duration 5 h
Charger	100 V to 240 V
Vial sensitivity	
Plate level vial	30" / 2 mm
Circular vial	8' / 2 mm
Programms	
	Co-ordinate / Missing Line / REM / Resection / Offset / Set out Measurement / Area
General specs	
Internal memory capacity	50.000 points
Weight:	6,0 kg
Operating temperature	-20°C to +50°C
IP-Class	IPX4
I/O-Port	RS-232
Supplied with	
Charger, 2 rechargeable batteries, USB-Cable, Software, Hdmini Prism Set, Case	

