

# New Offset Surveys Baum Station

makes it possible to perform measurements on structures which cannot be measured with conventional cross-hair reticle

## Baum Station provides the new solution of offset surveys



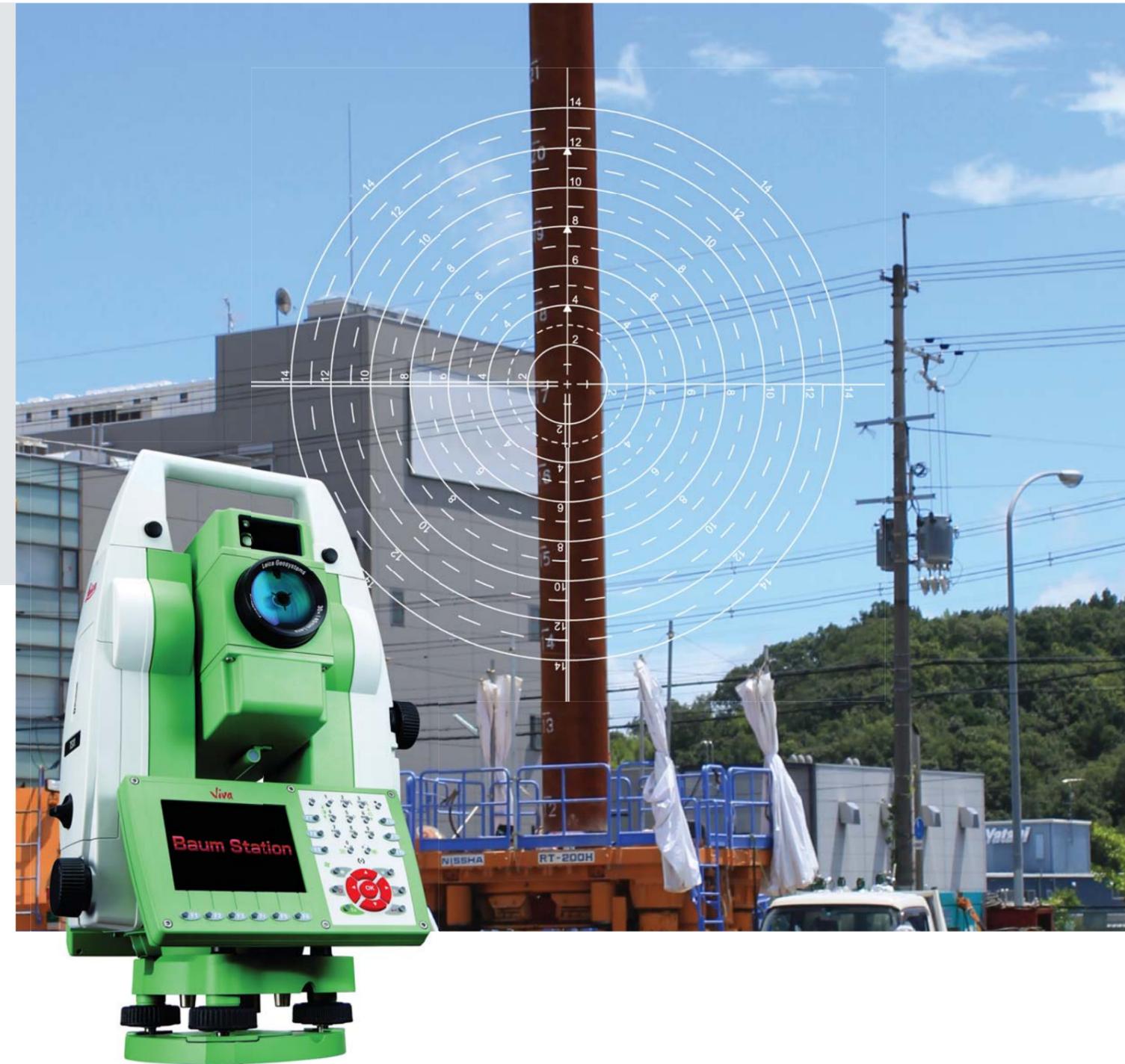
### The Innovative Reticle "Baum"

The Baum Station captures objects with the circles of the Baum. It enables accurate measurement of objects which had not been previously measurable (such as cylindrical structures), which usually don't have a mark on which to aim cross-hairs, and the corners and pointed parts of structures, which the laser beam would pass through.

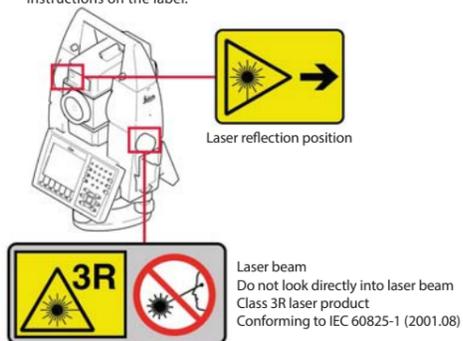
#### Product Specification

Telescope	Magnification: $\times 30$ Field of view: $1^{\circ} 30'$ (2.7m at 100 meters away)
Angle measurement accuracy	5" (0.1" indication)
Distance measurement accuracy (Non-prism)	2mm + 2ppm
Laser output	Class 3R
Internal memory/Memory devices	1GB / SD card, USB stick
Size	203 (W) $\times$ 226 (D) $\times$ 345 (H)mm
Weight	4.8kg
Geospatial Information Authority of Japan (GSI) certified	Class 2A

※ Other specifications conform to the specifications of Leica TS-11 Total Station.  
The specifications and external appearance are subject to change for improvement without prior notice.



The following label is attached to the TS-11. For safe use, operate the product properly in accordance with the instructions on the label.



### Precautions for using laser product safely

The TS-11 is a Class 3R laser product defined by IEC60825-1 - Safety of Laser Products. Please observe the following warning for safe use of the product.

#### WARNING

- For safety reasons, Class 3R laser products must be handled as a potentially dangerous product. Do not look directly into the laser beam or aim the laser beam at anyone.
- Not only direct laser beams but also reflections from prisms, windowpanes, mirrors, metal surfaces, or other reflective surfaces may be hazardous in some cases. Do not aim the laser beam at places with high reflectivity (such as a mirror) or places where an adverse reflection may be caused. Do not look at the prism or reflective objects through the bead or from beside the bead while the laser beam switch (in the laser pointer mode or ranging mode) is turned on. The prism should only be aligned through the telescope.

[Developer]

 **Kansai Construction Survey Co., Ltd.**

[Head Office] 2-1-15 Sembahigashi Minoh-shi Osaka 5620035 JAPAN

PHONE: +81 72-730-0009 FAX: +81 72-749-1818

[Tokyo Office] 1-2-26 Omorinaka Ota-ku Tokyo 1430014 JAPAN

PHONE: +81 03-5856-1219 FAX: +81 3-3764-1372

URL: <http://kumonos.info> MAIL: [kumonos@kankou.co.jp](mailto:kumonos@kankou.co.jp)

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# Baum Station

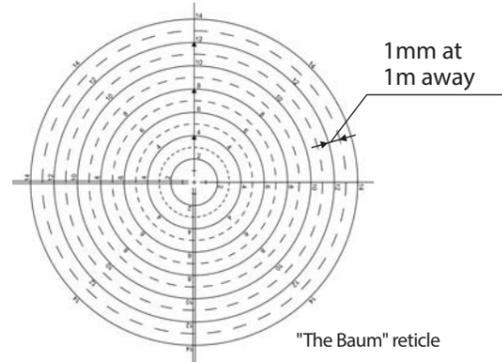
makes it possible to perform measurements on structures which cannot be measured with conventional cross-hair reticles

## New Offset Surveys

Baum Station is an innovative new surveying instrument. The one of a kind reticle of Baum Station, "Baum" captures objects with its concentric scale marks. Using Baum Station enables you to measure objects which had not been previously measurable. Baum Station provides significant help with maintenance and management.

### The Innovative Reticle "Baum"

The efficiency of total stations is raised to their fullest with "Baum".



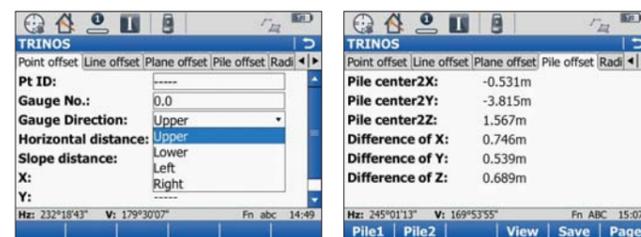
The one-of-a-kind reticle of the Baum Station, the Baum has concentric circles in addition to conventional cross-hairs. The ratio of the width of each circle to the distance between the instrument and the target is 1:1000.

The Baum Station captures objects with the circles of the Baum. It enables accurate measurement of objects which had not been previously measurable (such as cylindrical structures), which usually don't have a mark on which to aim cross-hairs, and the corners and pointed parts of structures, which the laser beam would pass through.

### Measure, Offset, and Check on Site

Calculated offset coordinates are shown on the onboard screen after measuring.

Coordinates data can be stored and exported as SIMA or TEXT format.



Select offset direction

Calculated coordinates



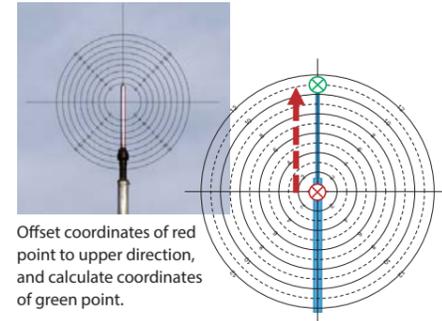
The Baum Station

Lens scale is a composite image in this photo.

### Point Offset

Point offset is used for obtaining coordinates on tips of sharp objects such as lightning conductors or antennas.

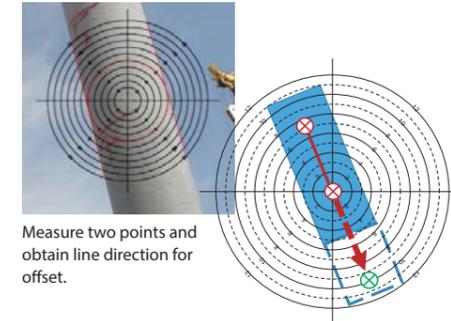
With conventional method, laser doesn't reflect from tips and it is impossible to perform measurement of such structures.



### Line Offset

Line offset is used for obtaining unknown coordinates on pile.

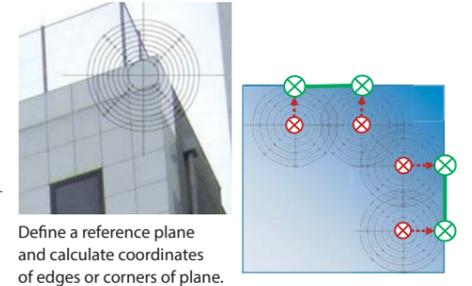
If one measures line direction and extends it, one can get the coordinates of a point which needed to be known.



### Plane Offset

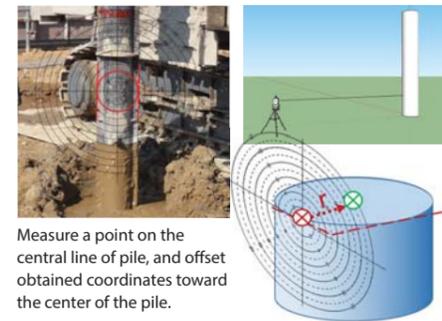
Plane offset is used for obtaining coordinates of edges and corners of the walls.

With conventional method, laser may slip off and do not reflect from the very edge of the tip and it is impossible to measure.



### Radius Offset

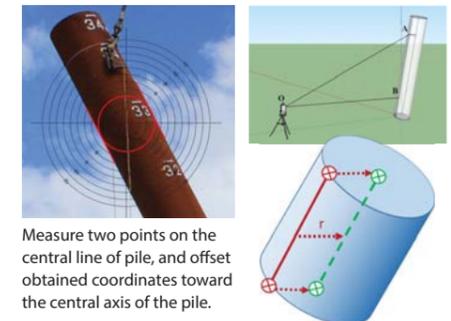
Radius offset is used for obtaining coordinates of pile's central point. With Baum Station, it becomes possible, just by measuring one point on the central line on the pile's surface, and by offsetting coordinates of the point to the center point of pile for radius. Additionally, if one does not know the radius of pile and if radius of the pile is required, Baum Station can calculate the radius.



### Pile Offset

Pile offset is used for obtaining coordinates of pile's central axis. With Baum Station, it becomes possible, just by measuring two points on the central line on the pile's surface.

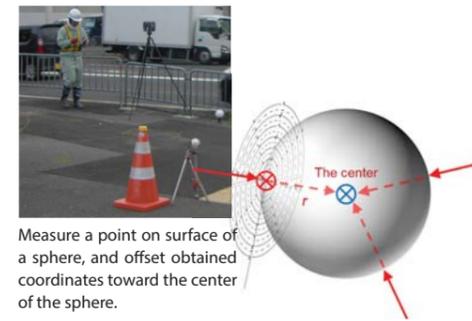
Additionally, if one does not know the radius of pile and if radius of the pile is required, Baum Station can calculate the radius.



### Sphere Offset

Sphere offset is used for obtaining coordinates of sphere's center.

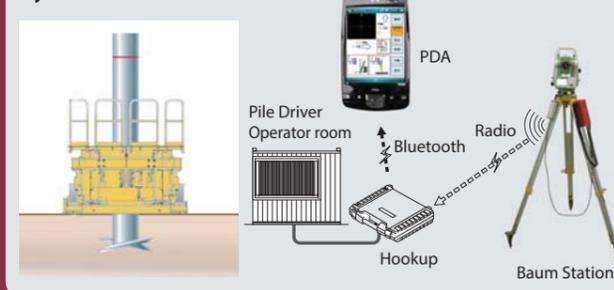
Sphere offset also requires the radius of sphere. Using this function of Baum Station, 3D measurements with spheres get more accurate and more efficient than with conventional method.



## Navigation System for Pile Driving

The pile driving navigation system enables easily understandable and highly precise pile driving, all navigation is performed from the operator's point of view. Measurement data can be stored digitally, which is useful for keeping construction records. The application system quantifies the tilt and depth of the pile and the correction amount for the driving position, and then shows the operator the correct position by displaying it from their viewpoint.

### System Mechanism



### Screen Enlarged View



- Positional Guidance
- Driving Navigation
- Inclination Guidance
- Pile's Depth
- "Measure" button
- "Measure pile head" mode
- Settings
- Details
- Pause
- Store

