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EN



## Optical level

# N24x, N26x, N32x

*Thank you for purchasing a Nivel System Nx optical level.  
To best use the purchased instrument, please read the instructions carefully  
and put in a convenient spot so that in the future you will be able to use it.*

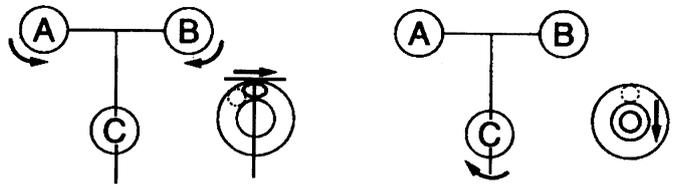
**NAMEING**

1. Base
2. Scale wheel
3. Scale wheel index
4. Eyepiece
5. Eyepiece cover
6. Collimator
7. Lens cover
8. Focusing knob
9. Tangent screw
10. Levelling screw
11. Bubble prism
12. Bubble



**PREPARING FOR WORKING**

1. Mount the level on a tripod.
2. By adjusting the tripod legs, coarsely level the level.
3. Accurately level the level using levelling screws, vial bubble should be in the centre of vial.



**AIMING**

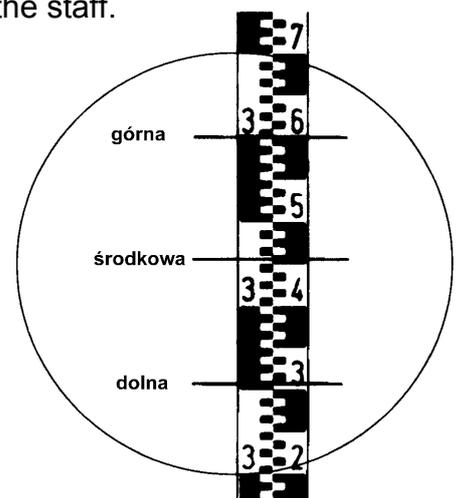
1. Turn the telescope onto bright background. Turning the eyepiece sharpen the crosshair vision.
2. Using the collimator turn the telescope onto the staff.
3. Looking trough the telescope, turn the focusing knob to sharpen the staff vision.
4. Using the tangent screw set the vertical crosshair line on the staff.

**MEASUREMENTS**

**1. Height measurement:**

- read the value on the staff using middle line

**Height reading on the picture is 3,456m**



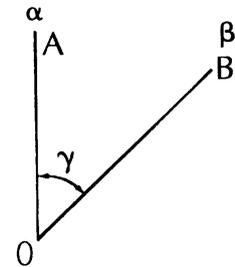
## 2. Distance measurement:

- read the value on the staff using upper and lower line. Difference between those lines multiplied by 100 is equal to distance between level and the staff. On the picture reading of upper line is 3,601m. Reading of lower line 3,309m.

Distance between level and staff is  $100 \cdot (3,601 - 3,309) = 29,2m$

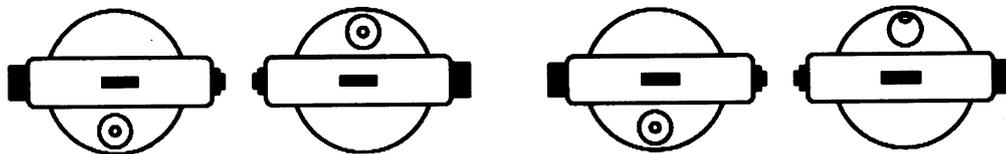
## 3. Angle measurement:

- aim at point A and write down the reading of horizontal wheel  $\alpha$   
 - aim at point B and write down the reading of horizontal wheel  $\beta$   
 - calculate the angle  $AOB = \gamma = \alpha - \beta$



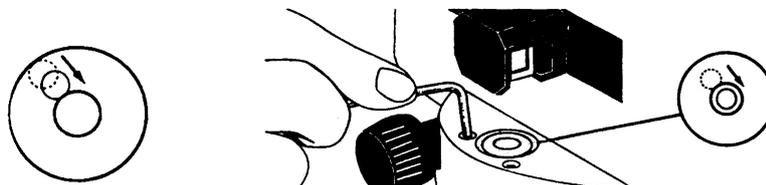
## CHECKING AND CALIBRATING

### 1. Circular vial:



**Checking:** using the levelling screws move the bubble to the centre of the vial. Turn the instrument  $180^\circ$ . Vial bubble should be still in centre. If it's not calibration is necessary.

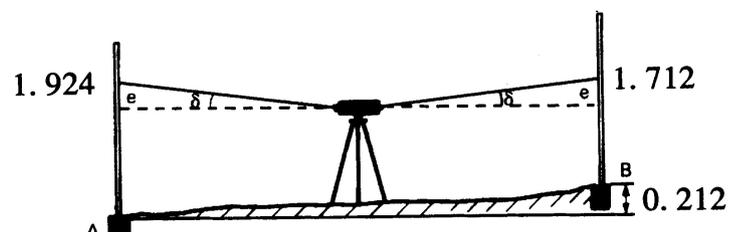
**Calibration:** Using levelling screws remove the half of vial bubble inclination, next using the calibration wrench move the bubble to the centre of the vial. Check the vial again.



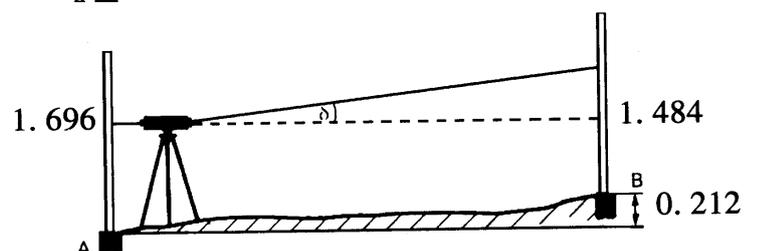
### 2. Crosshair:

**Checking:** Place staves in distance from 30m to 50m between of them. Place the level in half of distance between the staves. Using the levelling screws, level the vial.

Perform the reading of staff A in example 1,924m. Perform the reading of staff B in example 1,712m  
 Calculate the height difference  $H=A-B$  in example 0,212m



Set the level near staff A (about 1 m from staff). Aim at staff A and make the reading in example 1,696m. From reading of A staff subtract calculated height difference, the result with accuracy 3mm should be equal reading on staff B in example 1,484m. If the difference is greater the calibration is necessary.



**Calibration:** Remove the eyepiece cover. Gently turn the calibration screw to crosshair set the calculated earlier value on a staff in example *1,484m*. Replace the eyepiece cover.

### General notes

The following suggestions will help in the long comfortable work of level:

1. After finishing the measurements, clean the level before putting it in box.
2. For cleaning lens use soft brush or special cloths. Never touch the lens by fingers
3. If the instrument was damaged or it doesn't work properly it should be fixed by authorized service.
4. The level should be kept in clean, dry and breezy place.
5. While transporting the level you should avoid impacts and vibrations.

### GENERAL NOTES

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### SPECIFICATION

	N24x	N26x	N32x
<b>Telescope</b>			
Length	215 mm		
Magnification	24x	26x	32x
Diameter	42 mm		
Resolving power	3,5"		
Field of view	1°20'		
Minimum focus	0,3m		
Image	erect		
<b>Standard deviation for 1km of double run levelling</b>			
Accuracy	2,0mm		1,5mm
<b>Automatic compensator</b>			
Type	magnetic		
<b>Horizontal circle</b>			
Graduation	1gon / 1°		
<b>Pozostałe informacje</b>			
Water resistance	IPX6		
Operating temperature range	-20°C do +50°C		
Size	130 x 215 x 140mm		
Weight	1,75kg		

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