

AUTOMATIC LEVEL

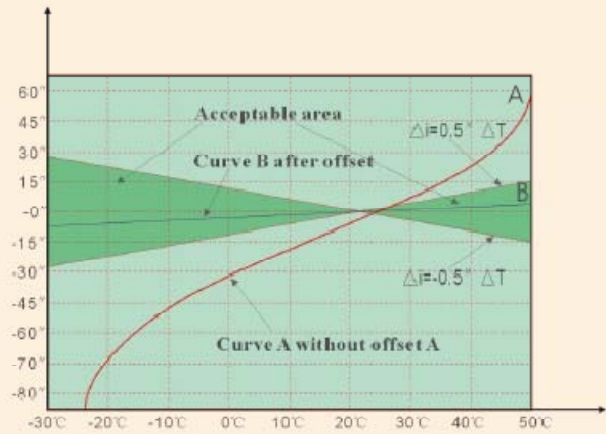
Application:

DSZ2, DSZ3 are used in 3rd and 4th order leveling and in geodetic control, construction of roads and industrial applications. The DSZ2 with FS1 may be used in 2nd order leveling or in monitoring structural deformation etc. The use of automatic compensator speeds up work and improves accuracy. They can be operated in the temperature from -30°C to +50°C.

Features:

- Equipped with a press button for compensator checking.
- Dismountable eyepiece, assorted accessories, such as: Diagonal Eyepieces.
- Adopt crossing suspender frame and compensator of air damper.

We know that compensator is made up of metal material and glass material, the temperature can affect these materials results in slight changes of compensator, then causes change of \angle angle. The instrument without temperature offset is always not to reach the standard of nation (GB/T10156-1997). In the diagram, the green area where between the red lines is a acceptable area when the compensator is changed along with the temperature's change (Company standard: $\pm 0.5''/\text{°C}$). The red thick line A is a change curve for angle \angle of level without temperature offset. Our DSZ2/DSZ3 levels add a device of temperature offset, it can correct the change value of angle \angle when changing the temperature. The green thick line B is a change curve for angle \angle after offset, the instrument can be good work in the mal-conditions of larger temperature change, especially apply to transformation observation at a long time.



Theory diagram for temperature offset of compensator

Specifications:

	DSZ2	DSZ3	
Standard deviation of 1KM double run	$< \pm 1.0\text{mm}^*$	$\leq \pm 2.0\text{mm}$	
DSZ2+FS1	$< \pm 0.5\text{mm}^*$	/	
Telescope	erect image	erect image	
Clear objective aperture	45mm	38mm	
Magnification	32 \times	24 \times	
Field of view at 100m	2.3m	3.2m	
Shortest focussing distance	1.6m	0.7m	
Multiplication factor	100	100	
Additive constant	0	0	
Automatic compensator			
Working range	$\pm 14'$	$\pm 14'$	
Setting accuracy	$< \pm 0.3''$	$< \pm 0.5''$	
Setting time	$< 2\text{S}$	$< 2\text{S}$	
Sensitivity of circular level per 2mm run	$8' / 2\text{mm}$	$8' / 2\text{mm}$	
Operating Temp	$-30' - +50'$		
Net Weight	2.5kg	2.0kg	
Parallel Plate Micrometer FS1 (Optional accessory)			
Range	Interval	Estimation	Net weight
10mm	0.1mm	0.01mm	1.25kg

* Depending on staff and levelling technique.



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