Digital vertical inclinometer calculation formula

1. OLD Version (Model 5480)

Measurement unit: : mV

Calculation formula :

- Measurement Value = (A0 – A180) / 2
- Gage Factor = (0.5 -(-0.5))/(12500 – (-12500)) = 1/25000

Maximum measurement value	Tilt	Displacement
12500	Sin(30°)	0.5mm
-12500	Sin(-30°)	-0.5mm

- Deviation of Point(mm) = Measurement Value x Gage Factor x Interval

● **Deviation Point(mm) = (A0 – A180) / 50000 x Interval**

2. NEW Version (Model 5481)

Measurement unit : mm (Displacement is displayed by calculating Interval × sin(θ) internally in Mycom)

● **Deviation Point(mm) = (A0 – A180) / 2**

3. Vertical Inclinometer System Operating Software [GeoPro V3.0]

The Model 5481 Digital inclinometer currently manufactured by our company is a digital type, and the measurement values are displayed as displacement in application. However, for the convenience of users who are using the OLD version of the calculation formula, the measured displacement can be converted into voltage for display in Geopro V3.0. If necessary, the displacement value can be recalculated using the old version formula.

Displacement calculation example of measurement points for each measuring interval	The measurement point's displacement (mm) is displayed based on the set measuring interval. The calculation formula for the displacement of the measurement point for each measuring interval is as follows.
Deviation of point(mm)	**Deviation of point(mm) = (A0 Value – A180 Value) / 50000 x Interval(L)** For example, if the A0 measurement value is 232, the A180 measurement value is -222, and the measuring interval is 500mm, the calculation of the displacement of the measurement point is as follows: Deviation of point(mm) = (232 – (-222)) / 50000 x 500 = 4.54(mm)

※ Note: A slight deviation may occur due to decimal points during the process of converting displacement to voltage and recalculating the displacement.