

Digital Level Accuracy – DigiPas® Technology

In any measurement instruments and tools, **ACCURACY** and **RELIABILITY** are very important aspects to users. This is because using analogue/digital readings from an inaccurate measuring instrument/tool would result in making a faulty decision and in many cases could have unintended consequences.

Digi-Pas® Digital Level is built with advanced digital **MEMS** Technology Sensor and precisely calibrated for **non-linearity** within the entire measurement range using high precision computer numerical controlled machines with resolution of less than 0.001 degree (4 Arc Seconds). The accuracy and repeatability conformance of these highly specialised machines are tested and verified by ultra high precision Moore Nanotechnology Systems (<0.03 Arc Second) – NanoTech 350FG (USA) and also calibrated by various accredited certification bodies. This has demonstrated **Digi-Pas®** technology and capability to develop world-first dual axis high precision digital level for leading-edge applications in precision CNC machining, medical, and aerospace industries.

The digital technology adopted has enabled **Digi-Pas®** Digital Level to be compensated for operating **temperature variation** utilising our company's patented advanced manufacturing processes. Programmable Precision Temperature and Humidity Chambers are also utilised, the ESPEC –TABAI (JAPAN), to calibrate **Digi-Pas®** products for temperature range over -20°C to +60°C. This has enabled the products to reliably withstand stringent operating environment in many harsh terrains ranging from building skyscrapers in the hot desert of Middle-East and Africa countries to the constructing of oil pipes, tunnels and bridges in the freezing cold countries such as Canada, the Nordic and Russia.

Digi-Pas® product performance such as accuracy and repeatability is also externally verified by inspection, testing and certification bodies worldwide. **Calibration Certificates** on product conformity assessments from independent accredited third parties and various world-leading National Metrology Laboratories such as **NIST, UKAS, TÜV SÜD & JIS** are available for user references. The mutual recognition among the Member Countries in the International Laboratory Accreditation Cooperation (**ILAC**) and American Association for Laboratory Accreditation (**A2LA**), ensures the acceptance of conformity assessments in America, Japan, Europe and all over the world.

What happen to the accuracy if digital level drops?

Likewise to any high precision measurement instrument/tool, mishandling such as dropping a digital level to floor or storing it outside the specified temperature range could affect its accuracy. This is primarily due to structural deformation resulted from mechanical shock on impact when dropped and physical micro-dimensional changes (e.g. non-linearity) resulted from thermal expansion or contractions when storage temperature exits maximum specified range.

However, unlike traditional 'bubble' spirit levels and many other digital levels in the market, all **Digi-Pas®** digital level is built with **User's Self-Calibration feature**. This feature empowers users to perform their own calibration without the need to sending to 3rd party testing laboratory for inspection when minor mishandling the device. At user's convenient work site or field work, User's Self-Calibration can reliably reset the **Digi-Pas®** digital level back to factory preset accuracy whenever he/she is in doubt with its accuracy.