Replace outdated electronics on length measuring machines

A French company specialising in electronic and embedded systems has developed a retrofit of the electronics of SIP length measuring machines. The measuring instruments can thus be brought up to date with the latest technology.

Figure 1. Modernizing the electronics of length measuring machines restores the original performance. (© My-Metrology)

The company My-Metrologie from Cologne is the contact person for all aspects of the length measuring machines of the SIP (Société Genevoise d'Instruments de Physique) from Geneva. The devices, which are still in use and whose manufacturer no longer exists, can be equipped with new electronics. Since 2014, the French company Cedarnet SAS has developed and improved the SIPSI retrofit solution, which is used in the 302M, 305M, 550M, 750M, 1002M and 301M measuring machines.

The SIPSI electronic module replaces the existing electronics without any change to the mechanics or the optics of the measuring machine. The module is equipped with a high-performance signal processing unit and thus achieves resolutions in the order of one hundredth of a micrometer – and this with high repeatability, according to the service provider. A dynamic correction algorithm analyzes machine and signal errors in real time and automatically adjusts to minimize interpolation errors.

The new possibilities of this module, combined with the good mechanical stability of the SIP length measuring machines, are intended to guarantee an exceptional measurement quality that goes far beyond that of the original electronics.

Modernizing the SIP length measurement machine with a SIPSI module restores, improves, and enables more powerful and stable equipment compared to more complex alternative solutions such as replacing the scale or adding a laser interferometer. The SIPSI PC software with ergonomic user interface includes the main functions of the original software (SIP-LMC), which have been improved by new functions. Multiple communication interfaces allow automatic access to the measured values, which prevents re-entry of the measured value and thus minimizes the risk of errors