

Janitza electronics GmbH • Vor dem Polstück 6 • 35633 Lahnau

To whom it may concern

Lahnau, February 7, 2025

Confirmation UMG Meters and Analyzers Calibration

Dear Ladies and Gentlemen,

We, Janitza electronics GmbH, with business address "Vor dem Polstück 6, 35633 Lahnau, Germany" do hereby confirm that Janitza electronics GmbH as the original manufacturer and supplier of UMG devices, have designed, manufactured and tested the UMG Power Analyzers along and in line with international EN and IEC standards.

UMG measuring devices are thoroughly designed by our engineers in order to provide long lasting products. Only well proved high quality components are used. Extensive test cycles during and after development confirm long service life.

Typical lifetime expectations for our UMG devices are 15 years. The individual lifetime of our UMG devices depends on the application conditions and stress parameters, such as ambient temperatures, transient voltages, harmonics ...

Janitza UMG devices are along and in line with the following standard:

- IEC 61557-12
- IEC 62052-11
- EN 52023-21
- DIN EN 61326 (2002-03)
- EN 61010-1 (2002-08)
- EN61010-1 08:2002
- IEC 61010-1:2001

Requirements of electromagnetic compatibility

: DIN EN61326:2002-03

Noise emission

Basic unit : DIN EN61326:2002-03, table 4 class B, (residential areas)
 Basic unit with option 1 : DIN EN61326:2002-03, table 4 class B, (residential areas)
 Basic unit with option 2 : DIN EN61326:2002-03, table 4 class A, (industrial areas)

Noise Immunity (Industrial areas)

Casing : Electrostatic discharge immunity test, IEC61000-4-2 (4kV/8kV)
 : Electromagnetically fields, IEC61000-4-3 (10V/m)
 Voltage and supply : Voltage dips, IEC61000-4-11 (0,5Periode)
 : Electrical fast transient/burst, IEC61000-4-4 (2kV)
 : Surge immunity test, IEC61000-4-5 (1kV)
 : Immunity to conducted disturbances, IEC61000-4-6 (3V)

Input/output, serial interfaces

: Electrical fast transient/burst, IEC61000-4-4 (1kV)
 : Surge immunity test, IEC61000-4-5 (1kV)

UMG devices follow in both, measurement method & measurement accuracy, the standards and are fully in line with it.

The 100 % end tests (calibration, function, safety) of each and every unit ensures that only high-quality products are shipped out of the factory. The calibration made during end test before shipping to the customer, is verifying the device under test during this time at test. Our experience shows that the accuracy drift over time for UMG devices is very minor, the tolerance drift over the years, even after 10 years and more is very, very minor. With modern electronics, with high quality components and a proper design there is basically no aging effect in terms of accuracy.

In order to check the measuring accuracy of the UMG measuring devices, especially with regard to the measured electrical work [kWh], in an EMS energy management system (e.g. ISO 50001), the following procedure can be recommended:

The user of an EMS checks the measuring devices by means of a parallel measurement to the installed energy meter. Here, the real energy is measured over a period of 1 week. Then the two measured energy values are compared. A measurement error in the range of inaccuracies of the current transformers and possibly voltage transformers as well as the measuring devices used is permissible. If the comparison value is outside the permissible tolerances, the instrument must be recalibrated. A reliable statement can be achieved by sampling the installed measuring devices. We recommend that approx. 15% of the measuring instruments are checked with a parallel measurement per year. A customer with 100 energy meters in use would then have to cross-check 15 instruments per year. Starting with the second year of measurement, this ensures that after 8 years of installing an EMS, all measuring devices have been checked once for accuracy. In order to be able to carry out the parallel measurement, measuring devices with an accuracy at least equal to that of the measuring devices installed in the EMS, or if possible one level higher, must be used.

Very truly yours,

Janitza electronics GmbH



Rudolf Mueller
Managing Director