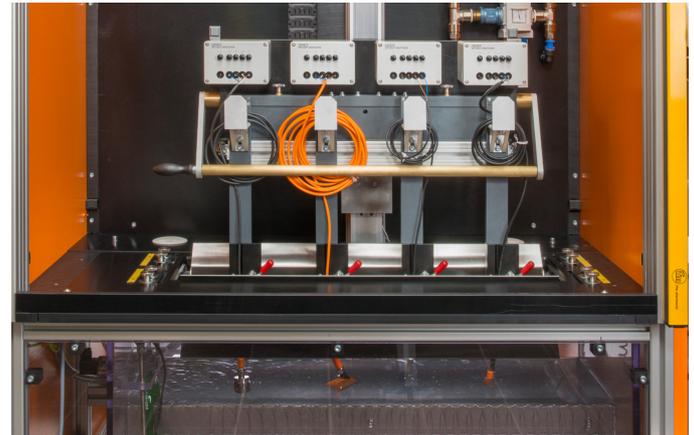


CUSTOMIZED

Industry: Electrical industry

High voltage test in a water bath for position sensors of the protection classes I, II and III



Task

The customer wanted to implement automated, highly flexible testing of its various products. It should be possible to test more than 100 different products on a test system. To cope with rising volumes, more products should be tested with a single mounting. A test had to be carried out in a water bath to guarantee 100% insulation of the casing.

Solution

A high voltage testing system with water bath was developed. The product is completely tested by immersing it in the water bath. The immersion depth is variable and precisely adjustable using a stepper motor to cover all product versions (even in future). The water level is automatically regulated. The contamination of the water bath was counteracted by a recirculation pump in conjunction with a UV clarifier. The safety is ensured by a light curtain. Up to four DUT that are mounted on pneumatic line terminals can be automatically tested at the same time. Single and multiple tests are possible. Drying of the DUT was directly integrated and occurs via a specially developed „air-vent system“.

An arbitrary number of test programs can be stored in the testing system PC. This allows the customer to independently write new test programs when developing new products. However, for products with identical data, it is also possible to use the same test program, which is then allocated to the respective DUT over the product list. The test results are stored automatically in XML or Access format on an arbitrary place on the network.

A separate test dummy is used to check the functionality of the testing system fully automatically. During the daily start of the testing system, the testing personnel is asked to include this dummy and start the corresponding program. The testing system does not allow further testing without a passed dummy test.

Advantages

- + Turnkey solution including DUT support, adaptation and workplace design
- + Simple, intuitive operation for semiskilled personnel
- + The DUT needs to be connected only once, then the whole test process occurs automatically
- + In network operation, all test data is automatically saved at the specified location / database
- + Long service life and service-friendly design
- + All values and settings can be made using software
- + Automatic dummy test
- + Workplace safety according to EN 50191
- + Great flexibility in scope of testing and DUT versions
- + Simple handling
- + Simple mounting
- + Multiple testing

Specifications

- High voltage test from 500 V AC to 5,500 V AC, release current from 0.1 mA to 100 mA
- High voltage test from 1 V DC to 6,000 V DC, release current from 0.1 mA to 100 mA