

# Immunity tests on energy meters

Always correct, whatever the circumstances

## ■ Accuracy in all conditions?

New energy meters with increasing functions such as wireless communication hit the market with regular frequency. As the distributor, before you make these extra functions available, you want a guarantee that they extra functions don't negatively impact the performance of your meter.

As a user, you want to be sure that the meter will function perfectly, under any condition. You need to know how the meter functions during EMC disruptions. How does it react to electrostatic discharges? What is the impact of harmonics? How does it perform beyond the normal temperature spectrum? Is it watertight, fire-safe and mechanically robust?

## ■ Standards don't cover everything

When testing the quality of your meter, your best decision is to call in experts. It is unnecessary to point out the complexity of the subject matter. It's often a case of studying a wide variety of factors that are sometimes beyond the scope of the different standards. Knowledge of various user requirements and impact issues is then a prerequisite.

## ■ All expertises in house

Laborelec is the partner you're looking for. We have all the expertise and test equipment you need to ensure in-depth quality testing of your meter. The tools available to our professionals include a metrological lab, an EMC lab, power quality experts and communication and data transfer experts. All our contracts include a standard confidentiality clause.

## All impact factors studied

### ■ Compliance with the standards

We start by investigating the energy meter's ability to meet prevailing (international) standards. In doing so, we check compliance with electrical standards (IEC, EN, etc.) We take your own technical specifications into account as well. We have all the requisite expertise in house.

### ■ Special environmental conditions

If your kWh meters are aimed to work within special environmental constraints, for instance for data communication, we can advise you at setting up the appropriate specifications and we can later help you checking the corresponding testing protocols.



The technical Competence Center  
in energy processes and energy use.  
**From innovation to operational assistance.**



We share our expertise with you to guarantee the proper functioning of your entire measuring installation.

#### ■ Communication tests

Data transfer is a key characteristic for the most up-to-date meters. Laborelec runs a wide variety of tests to check the compatibility of various interfaces (optical, galvanic, modems and GSM).

#### ■ EMC tests

Electromagnetic compatibility (EMC) is an important condition governing the proper functioning of the meter. Laborelec simulates a host of electrical environments to check the meter's reaction. The results of these tests determine the level of counter immunity and guarantee their proper functioning.

Modem-equipped counters are subjected to a battery of extra tests. Immunity tests check whether modems are disrupted or interrupted by electrical impacts. The immunity of modem registers is similarly tested.

#### ■ We can also

- ...act as an independent expert in the event of complaints or alleged fraud
- ...check compliance with all other specifications you have published

#### ■ Accreditations

To receive a review of the domain for which we are accredited, with corresponding margins of uncertainty, simply email [alain.deffrennes@laborelec.com](mailto:alain.deffrennes@laborelec.com). We will send you a copy of our accreditation certificates at the earliest opportunity.

#### ■ We also offer:

- Onsite verification of your measuring installation
- Calibration of energy meters
- Calibration of instrument transformers
- Calibration of electrical measuring devices



#### Five reasons for you to choose Laborelec:

- you have one-stop shopping for your energy needs;
- you get access to more than 40 years of experience;
- you get rapid service with reliable solutions;
- you increase the profitability of your installations;
- you benefit from independent and confidential advice.

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