



EMC pre-testing

EMC (Electromagnetic Compatibility) immunity testing is an important part of the type examination of measuring instruments. The definition of EMC refers to the way a device endures its electromagnetic environment. In other words, the extent to which a device influences other equipment (emission) or the extent to which the device itself is influenced by other equipment (immunity). NMI now offers EMC pre-testing, which will avoid costly and time-consuming modifications at a later stage.

PREVENTION IS BETTER THAN CURE

Before NMI officially tests a product (type approval), you have the possibility to carry out a pre-test yourself, by using NMI's test facilities.

Manufacturers often tend to struggle with EMC requirements, which in turn can give rise to nonconformities during the type examination process. This can be avoided by pre-testing the product prior to the official test, as it will provide manufacturers with insight into the functioning of their product and the likelihood of whether it will pass the official tests or not. Consequently, designs can thus be modified much faster.

More importantly, this significantly reduces the time involved in getting a measuring instrument certified for market access. For the manufacturer, a much faster Return on Investment and smooth access to the market is assured. This applies to measuring instruments as well as to all other electronic instruments, devices and installations, since they are subject to the EMC requirements according to the EMC directive.

FACILITIES AND TYPES OF IMMUNITY TESTS

We have four testing facilities available:

- Current injection (conducted disturbances induced by radio-frequency fields)
- ESD/EFT-Burst/Surge/Voltage dips, interruptions etc.
- Automotive testing for ISO7637
- Fully Anechoic chamber

These facilities can be used to test ten different immunity phenomena.



10 TYPES OF IMMUNITY TESTS

EMC basic standard	Test
IEC 61000-4-2	Electrostatic discharge immunity test
IEC 61000-4-3	Radiated, radio-frequency, electromagnetic field immunity test
IEC 61000-4-4	Electrical fast transient/burst immunity test
IEC 61000-4-5	Surge immunity test
IEC 61000-4-6	Immunity to conducted disturbances, induced by radio-frequency fields
IEC 61000-4-8	Power frequency magnetic field immunity test
IEC 61000-4-11	Voltage dips, short interruptions and voltage variations immunity test
IEC 61000-4-17	Ripple on d.c. input power port immunity test
IEC 61000-4-29	Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests
ISO 7637-2	Road vehicles - Electrical disturbances from conduction and coupling Part 2: Electrical transient conduction along supply lines only
ISO 7637-3	Road vehicles - Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines

There are two options when hiring NMI's test facilities.

The first option involves using our test facilities under the guidance of one of our experts, who will carry out the pre-tests together with you.



The second option includes hiring our test facilities and carrying out the pre-tests yourself, after having received an extended explanation. In both cases, if the product should fail to pass the pre-tests, our experienced test-engineers can give you advice on possible solutions.



NMI TRAINING

Pre-testing is not the only important element to remember in the development phase of your product. A good understanding and up-to-date knowledge of the regulatory framework in the market is also crucial. Therefore, NMI organises regular training sessions and seminars in order to inform manufacturers about the latest developments regarding relevant regulative matters. During these courses, you will learn how to use directives, standards and normative documents. You will be better prepared for the type of testing that your measuring instrument must undergo and for the certification requirements that apply during the metrological EMC testing.

MORE INFORMATION

For more information regarding our EMC test facilities and/or training sessions, please contact our sales department via nmi@nmi.nl or by calling +31 88 636 23 32.