

Electromagnetic compatibility - Notes on conducted emissions & network filtering systems

The electromagnetic compatibility analyses the interference phenomena in electronic systems. In particular, it concerns the characteristics with which the various equipment must comply in order to avoid producing interference affecting them, being subjected to interference from the electrical network and emitting interference in it. As far as the emission is concerned, it is necessary that the equipment does not emit such an electromagnetic field as to interfere with other components. Conducted emissions are determined by phenomena of direct propagation in conductors. Speaking, for instance, of the line cord, we can verify that numerous spurious signals, generated by other systems connected with the electrical energy distribution network, propagate on it. Being direct, this type of coupling is much more efficient than the irradiated one. Consequently, a good project of a feeder must always foresee the presence of adequate filters that limit such signals. The undesired signals that are emitted by a system and that propagate from it to other systems by means of interconnection cables are called conducted emissions. Vice versa, the sensitivity of a system to disturbance signals reaching it through the line cord or through other interconnection cables is called conducted susceptibility. The conducted emission of a device is measured through the use of a linear impedance stabilization network (LISN).

LISN network

Another example is the norm introduced in 1985 by the French CISPR. In 1985 this Committee presented the Issue 22: this consists of a series of norms concerning the emission of equipment used by the information technology. It is difficult to comply with those levels if the electrical and electronic equipment is not equipped with adequate network filters that stabilize and limit the undesired emissions. Finally, it is worth highlighting that the choice of the most suitable filtering system, usually consisting of a pre-assembled network filter, cannot be improvised as it is subjected to measures that determine the effective amount of the disturbance emission, exceeding the standard levels, so that the choice falls on the most adequate product, from the technical as well as the economic point of view. The support provided by Comestero Sistemi and by its product specialists offers the technical assistance for the choice, testing and installation of the best product that will equip your electric/electronic equipment with EC mark. The complete range that we propose includes small size filters and various mechanical configurations: filters with connectors, in the models with or without fuse holder and with or without switch (also luminous) for electronic equipment, up to power filters for applications in the automation/Inverter sector. Today customers can unload the pdf format files of all products from our virtual catalogue, directly from our web site www.comesterosistemi.com, and they can contact us for the relative sampling.



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