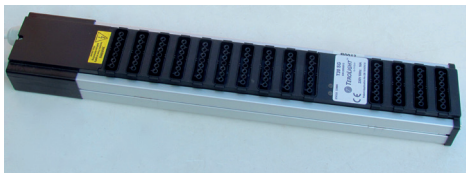
MPE
Quality, Reliability, Performance

Company Bulletin

for EMC, EMP & TEMPEST Protection

Issue 7

The custom EMC filter developed by MPE for TerOpta's TeroLight intelligent lighting system



A TeroLight unit

A TeroLight unit in situ

Custom EMC filter lights up the green energy market

TerOpta Ltd has been developing the TeroLight intelligent lighting system for a number of years. The system is based upon independent marshalling boxes being used to control different elements or circuits within buildings, with communications between them using mains-borne signalling. To ensure signal integrity and high system performance, mains-borne noise and interference need to be removed from the system.

In 2012 TerOpta approached MPE to develop a custom EMC filter for use on their system, after having unsuccessfully tested many commercial units. Since the marshalling unit had already been designed and prototyped, the space envelope, mounting style, connection type and cost budget were prescribed to MPE, who were asked to achieve a level of electrical performance within these limits.

MPE became heavily involved in the development and testing of the filter units within systems, to determine the optimum level of electrical performance that would ensure the correct operation of the TeroLight system. The result has been a custom unit, very different to those typically manufactured by MPE for its defence customers.

Independent studies and the latest BS building energy rating specifications EN15232 state that the use of a controlled lighting system can provide energy savings of over 30%. In addition it can provide a more sympathetic environment for occupants. Nevertheless a typical current controllable lighting system suffers from disadvantages. It is expensive to install in new buildings or to retrofit, whilst in the latter case modification is generally difficult, is disruptive to occupants and may damage the building fabric.

The TeroLight intelligent lighting solution from TerOpta overcomes these problems by utilising the existing mains wiring to carry control signals. Therefore the building fabric is not impaired, control cabling does not need to be installed, and modification is easy.

The system is simple to install, with its intelligent marshalling boxes being fitted and then interface software, lights, sensors and switches being connected, so that the system can be up and running very swiftly.

Having been designed for use by unskilled operatives, operation is straightforward and intuitive via a web browser, with little training required. The system can be expanded or modified at any stage by simply adding or moving TeroLight units. Moreover there are no serviceable parts, and therefore the system has a very high reliability and can be classed as "fit-and-forget". Its operational life is calculated to be more than 15 years, with a typical payback period as short as 24 to 48 months.

Michael Sharratt, the CEO of TerOpta, explained: "In the first

instance we approached MPE due to their reputation for high performance and their experience of developing custom solutions. During the development process, MPE have been very reactive and also conscious of, and sympathetic to, the iterative processes involved in new concept developments such as the TeroLight system. We continue to work closely with MPE and hope to do so in the coming years."

Paul Currie, Sales & Marketing Director of MPE, commented: "The development with TerOpta of a custom filter for the green energy market presented a number of new challenges, not least of which were the mechanical enclosure requirements. Having MPE's design engineers work closely with the TerOpta team, we gained a much clearer understanding of the problems to be addressed, and this has resulted in a totally unique solution being manufactured, which has furthered MPE as a business.

"I am confident that the innovative TeroLight system will become widely adopted over the coming years, and I also expect that MPE will now expand upon its work in the green energy market."

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