PFIM Type B for LED loads

Sustainability and environmental friendliness are indispensable for buildings. This applies for new constructions or renovation. For this reason, more and more energy saving LEDs are used within electrical systems:

General information

LED loads offer a broad spectrum of benefits in regards of planning, designing and energy saving throughout their lifecycle. Due to the push of regulatory bodies to increase the energy efficiency of buildings, LED loads become much more common and will be retrofitted into existing applications. Yet, if LED loads are deployed within a system, a few additional steps to ensure a reliable and safe installation need to be taken.

Why type B?

LED loads and LED drivers affect the electrical system negatively through possible high inrush currents. This effect comes from capacitive filters and inductive transformers within the LED driver. Therefore, peak currents can be present within your electrical system in a magnitude of several hundred ampere for less than one (1) millisecond.

In addition, LED drivers can generate residual currents consisting of either pure or pulsating direct current. These residual currents make it necessary to provide devices with all-current sensitive protection, because conventional switchgear cannot detect these types of faults reliable. It has been proven that the power electronics of these drivers cause a certain leakage current through line filters, which, above a certain level, impair the tripping of a standard Type A residual current circuit breaker or cause the switchgear to go "blind" in the worst possible scenario. The desired safety level cannot be achieved without a type B RCCB*.

In addition, operating LED loads, especially switching them on can cause a current surge within the electrical system which could trip conventional RCCBs. Therefore, the type B which offers the highest levels of system availability is the right product for the job.

In order to be prepared for the future and such demanding loads, Eaton relies on a comprehensive solution for a sustainable and safe electrical installation which is proof for an energy efficient future.

Advantages of the PFIM type B

Eaton's PFIM type B meets the highest safety standards when used for fault or additional protection and achieves the highest accuracy through its digital detection, thus preventing unwanted false tripping and ensuring maximum system availability. Surge current proofness and delayed tripping curve offers the best solution for LED loads.

RCCB - Residual Current Circuit Breaker*

Powering Business Worldwide

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