



Application Report

New cars in the best light

Partner eichmann tableaux ag
Area Transport and traffic technology

Light control

Capacitive inrush currents

Zero-crossing switching

Power contacts

Partner

eichmann tableaux ag specialises in the design and execution of low-voltage switchgear assemblies for industry and building services / EMSRT measure control regulate / heating-ventilation-air-conditioning and detailed engineering of control systems, and active throughout Switzerland with 30 employees.



ComatReleco products in use

- High inrush power relay CHI14/34

Almost all new cars are imported into Switzerland from abroad. Before they go on sale, the appropriate customs formalities must be completed and the cars prepared for handover to the dealers. With around 350,000 first-time road vehicle registrations per year, this involves an enormous expenditure on logistics. Galliker Transport AG handles the distribution to resale points of 23 vehicle brands at its Altishofen site.

Given the large number of vehicle movements, even small savings add up to enormous amounts. With this in mind, Galliker Transport AG began the construction of a modern Car House in 2017. It provides space for 4,500 new cars and the central storage and processing of imports means that interim storage at other locations can be avoided. 380,000 truck kilometres and the emission of 350 tonnes of CO₂ are saved.

The Car House offers exclusively covered parking spaces inside the building and on the roof under solar panels used as cover. With economical lighting that can be integrated into the ecology of the building, the resource conservation concept has been pursued further. The use of LED luminaires has imposed itself, although handling a large quantity of LEDs is a challenge. When the luminaires are switched on, a very high current peak is generated for a short period.

A small DC voltage is required for the correct operation of an LED. In most lamps, this is generated from the 230V mains voltage by an integrated power supply unit or LED driver. The switching power supplies used in this process represent a capacitive load that generates inrush currents of up to 100 times the nominal current for a few microseconds. When several LED luminaires are connected in parallel, the inrush currents add up.

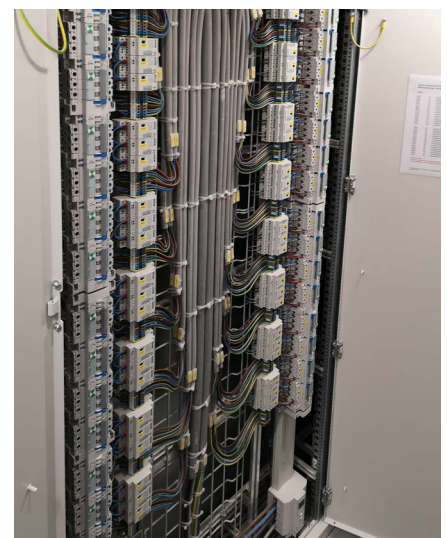


Modern Car House with LED lighting

The relays used in switching actuators are also adversely affected by the high inrush currents. The mechanical contacts can wear out more quickly, or in the worst case can even stick and result in permanent illumination.

This is not the case when using the CHI14/34 high-performance relays from ComatReleco. These relays are designed to handle high inrush currents. They can handle a current peak of 800 A for 200 μ s and handle 165 A for 20 ms.

The operational reliability and the long service life of the relays convinced the panel manufacturer Eichmann Tableaux AG to use the CHI14/34 high inrush current relays to control the lighting in Galliker Transport AG's Car House.



Insight into the inner workings of a lighting control cabinet