Probitsite from Lichtvision enables comprehensive diagnosis of DALI systems

During DALI installation, errors such as incorrect cabling or address conflicts between the components can occur, which often only become apparent during acceptance. Lichtvision Engineering GmbH has developed Probitsite to eliminate these and other stumbling blocks before commissioning. This is a portable DALI test device weighing around 300 g that has been specially designed for troubleshooting and analyzing DALI installations on site. With its compact design and user-friendly operation, it enables technicians to check the functionality of DALI systems directly on site and quickly identify potential problems such as signal weakness, unsupported hardware or address conflicts. Simply connected to the DALI bus, it automatically detects all connected devices without changing the existing configuration. The integrated DALI bus supply guarantees the possibility of testing even if the DALI control center is not yet connected.

(picture: Lichtvision)

Modern lighting control with DALI opens up a world of possibilities in which lighting goes far beyond simply switching lights on and off. From individually coordinated lighting scenarios to dynamic color changes, DALI provides the basis for efficient, flexible and intelligent lighting solutions that fit seamlessly into any environment.

However, if errors or deviations occur during installation that cannot be quickly identified on site, timely commissioning is jeopardized and the successful completion of the job is at risk. “Incorrect cabling can restrict the system just as much as signal interference or the installation of light sources that are only apparently DALI-capable,” explains Karsten Heinrich, Managing Director of Lichtvision GmbH. “If this only becomes apparent on the day of acceptance, the helplessness immediately overruns any deadline.”

Markus Jörger, a self-employed electrician, knows this feeling all too well: when the client was present at the construction site for the acceptance test on one job, everything was supposed to work smoothly. But a soft hiss sounded and 25 of 38 recessed lights remained dark. “At that moment, all sorts of things went through my head,” says Jörger. “Remove the lights? In this concrete ceiling? A nightmare!” Such a scenario is not uncommon for many installers, who are often responsible for planning, project planning and installation at the same time.

This shows that DALI lighting systems, however efficient they may be, pose tricky problems even for experienced specialists. Ensuring precise control, making sure that every single luminaire is addressed and making sure that everything works before the client moves in - all of this can be a Herculean task. Everyday life in the last few days before acceptance is then often characterized by a complex diagnostic setup with laptop and software, which is simply not practicable on the construction site.

Probitsite, a handy power pack that can be used to determine the signal quality of the DALI bus at the touch of a button, is the solution. Thanks to the integrated bus power supply with a guaranteed output of at least 190 mA, it can also supply the DALI bus with power all by itself if required. A separate power supply is not necessary and searching for sockets and dragging cables around is a thing of the past. The power supply starts automatically as soon as it is needed.

(Picture: Lichtvision)

Compact, robust and lightweight for use on construction sites

In contrast to many stationary test devices, the Probitsite is lightweight, robust and designed for mobile use. With a weight of only around 300 grams and a battery life of up to eight hours, it is ideal for use on construction sites. To determine the functionality and performance of the DALI circuit, it simply needs to be connected to the bus via the two cables and activated. All connected DALI devices are then scanned and a large number of measured values are determined. The voltage and central diagnostic information can be easily read on the color display using two semicircles.

Trivial faults, such as a missing connection or defective ballasts, are indicated by intuitive flashing signals, while log analyses help the commissioning engineer to quickly rectify problems such as unrecognized devices. The Probitsite not only shows whether a luminaire is working at all, but also provides specific information on possible sources of error. “If, for example, only 19 out of 20 installed light sources are detected, these can be made to flash using a button on the measuring device. The one that does not react is also the source of the fault,” says Heinrich. This makes it possible to see immediately where the fault is located. When one of the lights on Markus Jörger's construction site did not react as expected, the tool helped to analyze the problem with pinpoint accuracy: “I could see that one color of the RGB chip was not working. And the best thing: I didn't have to remove all the lights first, but could see directly which light source was causing the fault.”

While the use of other tools often requires extensive training, the ProbitSite is characterized by its intuitive user interface and ease of use. “We have equipped the device with a large display and four buttons. That's enough to be able to concentrate on the essentials,” explains Heinrich. “This allows even less experienced technicians to use it effectively.” Once connected to the DALI bus, the Probitsite automatically detects all connected devices without changing the existing configuration. Once the scan is complete, the buttons can be used to navigate through the report. In addition to the status of the luminaires, push-buttons and sensors, this also shows the status of their DALI certification and the type of component. If one of the connected components such as luminaires, switches or sensors is faulty, this is made visible on the display. “Before, I had to bring a laptop, a DALI gateway and the right software. Now I have a device that combines everything I need,” explains Jörger. The recorded data can then be transferred via the USB interface for further processing, for example as part of the final report to the commissioning engineer.

Precise assignment of light sources thanks to DALI database synchronization

Probitsite not only identifies DALI-certified devices, but also detects non-certified DALI components, usually from DALI Generation 1. “Installers often don't select the light sources themselves in advance, but are confronted with predetermined hardware. If one of them doesn't work properly, it unfortunately falls back on him in practice,” says Heinrich. The device therefore has access to the DiiA database in order to compare the installed light sources with it. This product database from the DALI Alliance is updated regularly so that the

Probitsite always has the latest data set as part of the updates. This enables the installer to recognize immediately which devices comply with the standards and which do not. This is particularly helpful in identifying and rectifying potential sources of problems at an early stage. At the same time, it ensures legal security, as the installer can point this out immediately instead of being surprised by it himself.

The Probitsite provides installers as well as building owners and system integrators with a reliable companion for the successful installation and acceptance of a DALI system. It can be used to quickly and accurately detect common errors such as inadequate cabling, address conflicts between individual components or incompatible devices that impair functionality. “We wanted to provide the people on site with an all-rounder that can be used to determine whether all devices are responding correctly even before commissioning. In this way, deviations between planning and actual behavior can be uncovered so that subsequent improvements can be avoided during installation,” says Heinrich. This is how Probitsite also became a savior in times of need for Markus Jörger. “Instead of laboriously trying things out, it was now possible to test the DALI bus directly - simply, quickly and reliably. Connect two cables, press a button and the answer was there: all 38 luminaires could be checked,” summarizes the electrical installer.