1. Introduction

The BlackBox is a software feature installed in Tridonic emergency drivers.
The BlackBox automatically monitors the operation of the driver and stores information about its use.

When needed, this information can be read out from the device and helps analyzing the operation of a luminaire or detect possible problems in the installation.

2. Usage

Finding the reason why a luminaire is not operating as expected, can be quite difficult.
Different actors are involved, the technician on site, the OEM and the components manufacturer. They all have to exchange their knowledge about the installation, its environment, installed parts and much more.

With the BlackBox, the most commonly needed information is stored in one place and is easily accessible.

3. Information storage

The information saved in the BlackBox can be clustered into five main categories:

- System
- Mains
- Battery
- Gear
- LED

In each of the categories three different kinds of information are stored.

- Error: An occurrence which will influence the device or the behaviour in emergency operation.
- Event: An occurrence which contains important information but does not necessarily link to a failure.
- Counter: Counts how often an error or event has occurred.

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4. Different use cases

There are different sets of information stored depending on the device and the requirements that come from its design.

Installers	When an installation incorporating emergency lighting is finished, there is the need to check for correct installation of the luminaires. With the BlackBox, it is possible to make a quick check by using the parameters as an indication if any issues occurred in the installation phase. Emergency lighting installations must undergo a final check before they go on line. »» The BlackBox provides parameters that can be used to check and detect possible issues in the installation phase.
On Site	Emergency lighting plays an important role in the safety of a building. Therefore it is important to analyze issues as fast as possible. With the BlackBox, it is possible to read out important information about the luminaire directly on site by a technician. This can shorten the time from an occurring issue to the solution significantly. Emergency lighting plays an important role in the safety of a building. If issues occur, they must be analyzed as fast as possible. »» The BlackBox monitors installations. The stored information can be easily read out by a technician on site.
Luminaire Manufacturer	The OEM can further analyze occurring issues with his expertise. When there is no possibility to already read out the BlackBox on site, the OEM can do it to gather more information about the usage of the luminaire. With the BlackBox, important application information is stored which provides useful insights. If it is not possible to read out the Black Box on site, the OEM can gather additional information with the BlackBox. »» The BlackBox contains important application information (about the usage of the luminaire, for example) which can provide additional insights.
Tridonic	For Tridonic, the additional information stored in the emergency drivers ensures a fast and detailed analysis. With the BlackBox, much more details on the use of the emergency driver can be gathered which leads to a more detailed analysis result. For Tridonic, the additional information stored in the emergency drivers ensures a fast and detailed analysis. »» With the BlackBox, more details can be gathered.

5. Information read out

With PRO emergency drivers, the BlackBox information can be read out via DALI. The Tridonic masterCONFIGURATOR is a free of charge tool and makes the read out very convenient.

For BASIC and ST emergency drivers, special equipment is needed to access the information from the internal storage. For this, the emergency drivers have to be sent to Tridonic. Get in touch with your Tridonic contact person if you need to read out such devices.

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