

Description of the fuse, earth fault and separate source voltage monitoring of the DCM from V8X.XX.37

General:

1. Detecting fuse errors

Please note: the DCM has only one measuring device at the output. If this device measures no voltage although the circuit is energised, the display always shows the message *fuse blown*. If the internal fuses as well as the fuses at the front are intact, one can assume a defect of the relay or the circuit board.

Front fuse defect

- the concerned circuit is not energised neither in AC nor in DC operation; Error-LED on, Power-LED off
- after pushing the INFO-button the display shows *fuse blown*
- after changing the fuse, you can reset the fuse error by means of the BAS
- in the status menu of the LCD the error message *DCM fault* appears or after a test *circuit fault**

internal AC fuse/relay defect

- the concerned circuit is not energised in AC operation; Error-LED on, Power-LED off
- after pushing the INFO-button the display shows *fuse blown*
- upon switching to DC operation (battery/test mode) the circuit is energised; Error-LED off, Power-LED on
- the pigtail fuse cannot be changed
- in the status menu of the LCD the error message *DCM fault* appears or after a test *circuit fault*

internal DC fuse/relay defect

- the concerned circuit is not energised in DC operation; Error-LED on, Power-LED off
- after pushing the INFO-button the display shows *fuse blown*
- upon switching to AC operation (DS, MB) the circuit is energised; Error-LED on, Power-LED on
- after pushing the INFO-button the display continues showing *fuse blown*
- the fuse error detected in DC operation is not automatically reset after switching back to AC operation. It is still indicated to make sure that on the device which is running in mains operation the defect of the internal DC fuse/relay is indicated
- the pigtail fuse cannot be changed
- in the status menu of the LCD the error message *DCM fault* appears or after a test *circuit fault*

* **Caution:** if the fuses are removed for installation works, a fuse error is automatically detected and *DCM fault* shown on the LCD. In order to avoid the error message, switch the operation mode of the circuit to **deactivated**.

2. Detection of an error voltage at the DCM output

- the error voltage monitoring is only active when the circuit is de-energised (operation mode switch 0; MCT CL off; circuit non-maintained light; SK SAM CL off)
- if the DCM detects a voltage at the output although it has not switched on the circuit (external offset voltage, blocked relay, final circuits parallel), it is indicated by a flashing Power/Error LED on the respective circuit
- after pushing the INFO-button the display shows *circuit volt.-err.*
- if an offset voltage is detected on one of the two circuits, both circuits get locked i.e. do not switch on neither in AC-operation nor in DC-operation; thus a destruction of the DCM can be prevented
- in the status menu of the LCD the error message *DCM fault* appears

3. Signalling luminaire fault

- after function / capacity test a detected luminaire fault is indicated by a continuous light of the Error-LED on the respective circuit
- after pushing the INFO-button the display shows *com.-error*, the Error-LED is switched off
- the luminaire, which is detected as defect is read out via the LCD-menu/web interface
- the Error-LED is also switched off after a correct test

4. Detection of an earth fault at the DCM output

- the earth fault monitoring is only active when the circuit is de-energised (operation mode switch 0; MCT CL off; circuit non-maintained light; SK SAM CL off)*
- if the DCM detects an earth fault <500kOhm, it is indicated by a flashing Error-LED on the respective circuit
- after pushing the INFO-button the display shows *earth fault*
- if an earth fault is detected on the circuit and indicated, this circuit gets locked in AC-operation; in DC-operation the circuit gets switched on
- in the status menu of the LCD the error message *DCM fault* appears or after a test *earth fault (B)*

***please note:**

1. As the DCM monitors the earth fault when the circuit is de-energised, the earth fault can only be measured up to the input of the luminaire module (e.g. MU05). An earth fault after the luminaire module can thus only be detected in test or battery operation by the NLSR and indicated through the message *earth fault (B)*.

2. The emergency lighting control computer has an own measuring device for earth faults; it is more sensitive than the measuring device of the DCM; an *earth fault (B)*, indicated by the LCD, can result from an earth fault in the final circuit, although it is not indicated on the DCM. This *earth fault (B)* gets detected in battery/test operation and indicated on the LCD.

5. Detection Overload

- overload is detected during a function test
- if the DCM detects an overload (ca. 300W), it is indicated by a continuous light of the Error-LED
- after pushing the INFO-button the display shows *overload*, in the status menu of the LCD the error message *circuit fault* appears
- with DCM32/42/62 the circuit remains energised (AC & DC)
- with DCM12E the ELS-function is deactivated to protect the module, both circuits are switched to a safe state (modified non-maintained mode)
- the error *overload* is reset in test mode if the load on the circuit is reduced