

Maximum safety in building automation

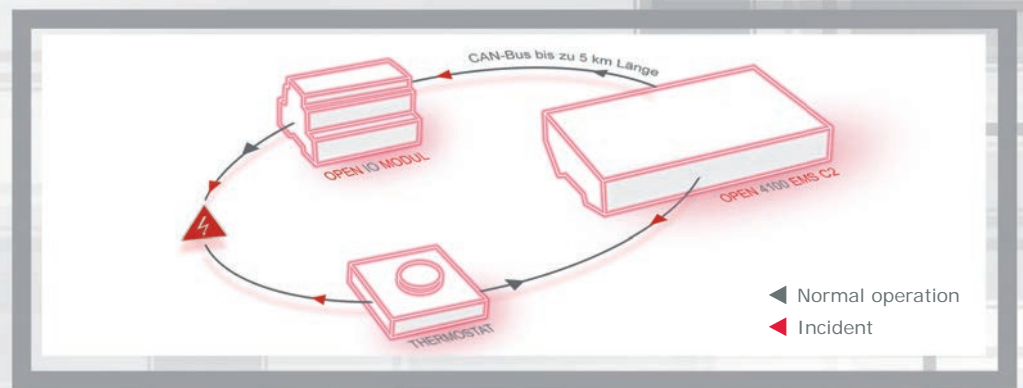
CAN-HSB High Safety Bus

With the CAN-HSB (High Safety Bus), DEOS AG offers a further development of the worldwide approved CAN-bus.

For the safe operation of CAN-HSB, both CAN-interfaces of an OPEN 3100 EMS C2 or an OPEN 4100 EMS C2 will be used. With these interfaces the field level can be operated in a ring and therefore it is possible that the field devices can be operated during an interruption from the functional side.



Functions and diagnostic options



Functional reliability in spite of ring interruption - CAN-HSB

For these controllers the following two operating modes are available from firmware version 1.050 onwards. They can be individually activated as required:

- Both CAN-bus interfaces are used independently in the standard mode
- In the CAN-HSB mode both CAN interfaces will be integrated in the safety ring

The existing diagnostic options have been extended by the following security functions:

In case of an interruption within the CAN-ring bus a diagnosis starts automatically. At the same time the complete CAN-bus remains fully operational due to the redundant access.

For a fast troubleshooting all accessible IO modules will be displayed. By functional program modules (FUP-Modules), which are especially designed for the CAN-HSB, additional status information of the current operating status will be displayed and evaluated. Due to this permanent online monitoring, the high availability of the bus-communication is achieved.

Note:

On the CAN-HSB up to 99 OPEN IO modules can be connected at the same time.

A modification of the control program is not necessary for using the CAN-HSB.

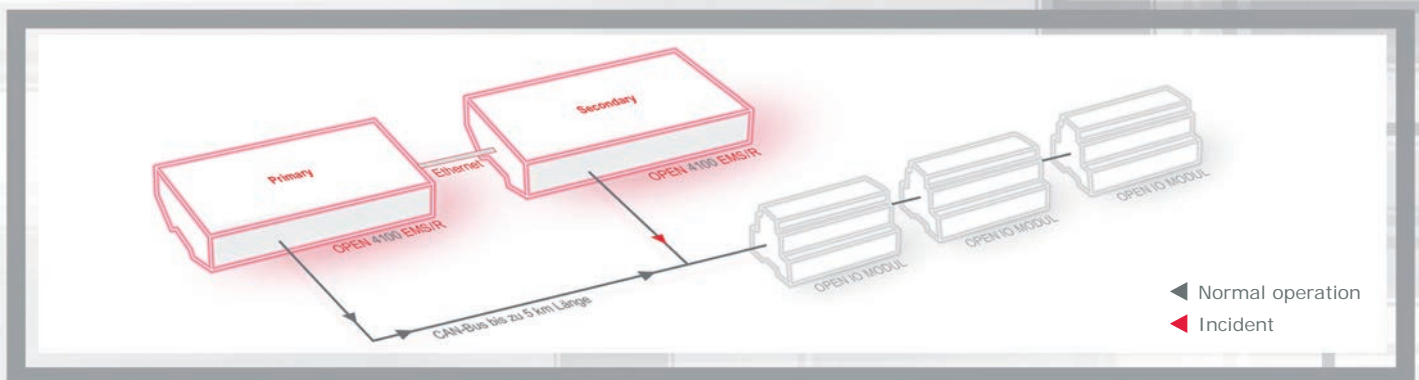
Hot Standby Controller (Redundancy)

For a maximum operational safety, the system can be designed as a redundant system with two OPEN 4100 EMS/R. Therefore two OPEN 4100 EMS/R controllers are operated at one CAN-bus. The first controller (Primary) normally handles all monitoring and control functions.

The second controller (Secondary) is in a hot standby mode. If the Primary controller breaks down, the Secondary controller will automatically take over all monitoring and control functions, with no downtime. The option 'Redundancy' must be activated for both controllers.

Functions:

- Automatic cyclic imaging of all variables (incl. intermediate results) from the Primary controller to the standby controller (Secondary).
- Automatic switching from the active controller (Primary) to the standby controller (Secondary), in case the Primary controller malfunctions or breaks down.
- The secondary controller is available for this functions as "Hot Standby".
- Both controllers are operated at one CAN-bus. No physical switching of the CAN-bus is required.
- During switchover: There won't be any impact on the current operating status of the control system.
- In case of failure of the standby controller a notice will be shown that the standby controller is not ready for taking over.
- The operational system will be displayed in only one system overview in the BMS.
- Once the secondary controller has taken over the control function it will be displayed on the BMS.



Note:

The option "Redundancy" is available only on the OPEN 4100 EMS/R. For a redundant system 2 controllers are required.

The maximum safety in building automation through the best combination: Redundant controllers and the High Safety Bus.

About us

Since 1967 DEOS AG, with headquarters in Rheine, has developed, installed and maintained forward-looking intelligent building automation which connects energy efficiency, cost transparency and comfort into a perfect balance.

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