

SM104 Redundant BMS (System Mirroring)



Overview

The Neutrino BMS monitors and controls technical building services. In certain operational areas, the failure of the plants must be avoided under any circumstances. The *Redundant BMS (System Mirroring)* is designed for these operational areas. Users can continue to work uninterrupted. The long-lasting operation of the plant is guaranteed, downtimes are significantly reduced.

The software module *SM104 Redundant BMS (System Mirroring)* as a component of the Neutrino BMS reduces the probability of a GLT failure to a minimum. The redundant system consists of two identical BMSs (primary and secondary BMS), which monitor each other via network connections. If one BMS fails, the other automatically takes over its tasks.

Features

The *Redundant BMS (System Mirroring)* guarantees uninterrupted operation, consistent display of plant data, and data backup:

- During Hardware Failure: In the event of hardware failure or a cut in the power supply of one BMS, the redundant BMS continues to operate without interruption. Depending on the scope of the damage, either the failed BMS or only the faulty components can be replaced.
- Expanding an Existing System: If you expand technical building services (e.g. a new building section is finished and must be brought into operation), you can configure new automation stations and bring them into operation: the *Redundant BMS (System Mirroring)* will continue to operate without interruption during this period and does not have to be restarted.
- During Maintenance Work: During manual data backup or maintenance work, the plant values are displayed continuously; maintenance personnel will be informed of any errors.
- During Software Update: the *Redundant BMS (System Mirroring)* automatically ensures that the BMSs involved work with the same version of the software.

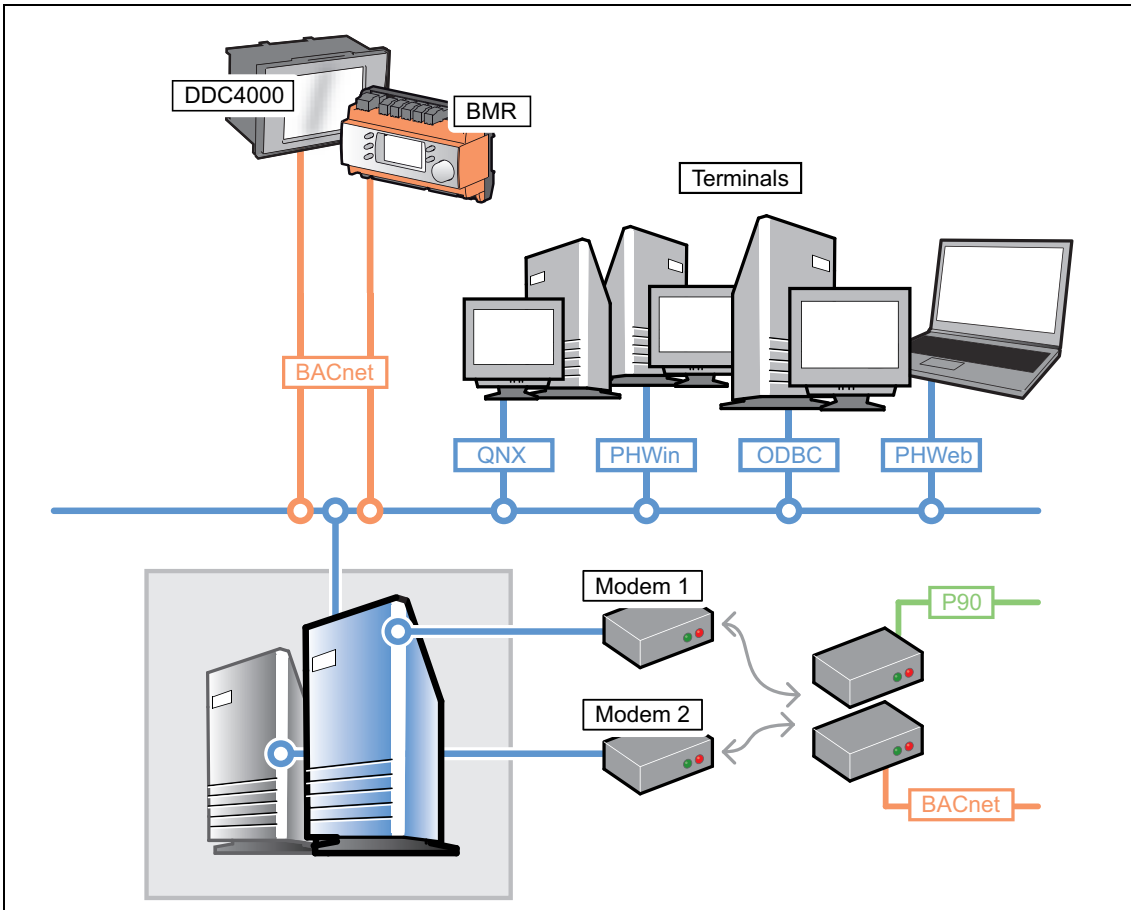
When suitable hardware is used, reliability in accordance with AEC-3 and availability class 3 is achieved with the *Redundant BMS (System Mirroring)*: that means 99.9 % availability.

Änderungen vorbehalten - Contents subject to change - Sous réserve de modifications - Reservado el derecho a modificación - Wijzigingen voorbehouden - Con riserva di modifiche - Innehåll som skall ändras - Změny vyhrazeny - Zmiany zastrzeżone - Возможны изменения - A változtatások jogát fenntartjuk - 保留未经通知而改动的权力




Functional Design

The *Redundant BMS (System Mirroring)* consists of two identical components:

- During normal operation, the primary BMS is the active BMS. It is responsible for functional operation, communicates with the (DDC) devices, and displays plant values. In addition, it issues the notification in the event of plant malfunctions.
- As a passive BMS, the secondary BMS constantly accepts the dynamic data and projection changes from the active BMS.
- If the active BMS malfunctions, this is recognised by the passive BMS: the passive BMS will take on the role of the active BMS.



From the users’s perspective, the operation of the Neutrino BMS remains unchanged. The current operating state of the *Redundant BMS (System Mirroring)* is displayed as an icon in the BMS status bar as follows, users can continue to operate without interruption:

| Icon | Operating Status of the System Mirroring |
|---|--|
|  | Normal Operation: System mirroring |
|  | Scheduled Maintenance Status: One BMS has been shut down and the system mirroring has been interrupted for an expansion of the system, data backup, software update. |
|  | Unscheduled Operational State (flashing): One BMS has malfunctioned - hardware or components are faulty or there is a configuration malfunction. System mirroring is no longer available. |