

## CPU 9442/3x and PM 9445/3x - Firmware Release Notes

| SWU 01.01.08-0003 |            | Release Date   | 20.02.2025 |
|-------------------|------------|--|------------|
| New Features      | Modbus TCP | Status bits indicating BusRail failure   |            |
|                   | Modbus RTU | Status bits indicating when a redundant PM fails                               |            |
|                   |            | New register containing an automatic counter to detect stale values.           |            |
| Bugfix            | CPU        | Fix bit timing for backplane telegrams, reducing backplane errors              |            |
|                   |            | Detect PM changes after CPU redundancy switch                                  |            |
|                   | ModbusRTU  | Mode "Even Parity" working<br>No Reboot required after configuration change    |            |
| Known Bugs        | ModbusRTU  | Status bit not correct for redundant I/O modules                               |            |
|                   | ModbusTCP  | I/O modules in configuration error have no alarm bits set, status bits are BAD |            |
| Remarks           | --         |  |            |

| SWU 01.01.07-0001 |            | Release Date   | 25.10.2024 |
|-------------------|------------|--|------------|
| New Features      | CPU        | Detection of BusRail HW failure during runtime   |            |
|                   |            | If PM are in FW update, active CPU flashes LED “PWR”, “ERR” and “M/S”                              |            |
|                   |            | Warning is shown in Webserver during PM update.  |            |
| Bugfix            | ModbusTCP  | A single CPU forced to backup CPU via control register will switch back to primary after 1 second. |            |
| Known Bugs        | HART       | If a HART passthrough is in progress, no busy response is sent                                     |            |
|                   | Modbus RTU | Mode “Even Parity” is not working<br>Reboot is required to activate changes in configuration       |            |
| Remarks           | --         |  |            |

| SWU 01.01.06-0008 |            | Release Date   | 01.08.2024 |
|-------------------|------------|--|------------|
| New Features      | ModbusRTU  | Replacement for redundant 9440 CPM (use PM redundancy).  |            |
|                   | ProfibusDP | Extended Diagnosis<br>Replacement for redundant 9440 CPM (use PM redundancy)   |            |
|                   | PM         | Add new PM firmware, Downgrade to older versions not possible.<br>PM will start even if previous update was interrupted.   |            |
|                   | Webserver  | Remove section “SERVICE”<br>Add PM information   |            |
| Bugfix            | CPU        | Configured I/O modules 9466 with 8 AO + 4 / 8 HV can be replaced by 9468 / 9469 without bus rail errors.<br>PM communicating after update of redundant CPU.<br>In rare cases, start-up problems have occurred after replacing a socket in a system with redundant CPUs |            |
| Known Bugs        | Modbus TCP | After switching single CPU to backup CPU via control register, I/O data freezes, Power On is required  |            |
| Remarks           | --         |  |            |

| SWU 01.01.05-0000 |          | Release Date   | 02.04.2024 |
|-------------------|----------|--|------------|
| New Features      | --       | --   |            |
| Bugfix            | PROFINET | Add new stack with update for PROFINET S2 redundancy and MRP I/O modules will be configured if started with signal errors.   |            |
|                   | CPU      | Output values are not initialized after receiving new parameters   |            |
| Known Bugs        | PROFINET | Starting with signal errors will show a global error only, no signal specific information. Use webserver to get error information. If signal error is removed or I/O module is plugged and pulled, system is OK. |            |
|                   |          | I/O module redundancy not working<br>I/O modules do not work in compatible mode.   |            |
|                   | CPU      | Configured I/O modules 9466 with 8 AO + 4 / 8 HV replaced by 9468 / 9469 (see list of compatible I/O modules) will cause bus rail errors. Reconfigure correct I/O modules.                                       |            |
|                   |          | No communication with PM after updating redundant CPUs from 01.00.24. Restart CPU.   |            |
| Remarks           | --       |  |            |

| SWU 01.01.04-0003 |   | Release Date  | 15.11.2023 |
|-------------------|---|---|------------|
| Bugfix            | Webserver   | Show correct information in tab „CPU+PM“ -> „AS Protocol“. ModbusRTU only   |            |
|                   | PROFINET  | Fix problem with temperature I/O modules 9482   |            |
| SWU 01.01.04-0001 |   | Release Date  | 17.10.2023 |
| New Features      | CPU   | Update protocol stacks<br>2. Ethernet port for Profibus DP and Modbus RTU<br>MAINT LED indicates invalid protocol and servicebus address selection<br>Support of new IS1+ Detect, V3<br>Supports parameter to disable “plant stop” diagnosis, (default: on)<br>Check device name according to PROFINET / DNS rule (all protocols)<br>Download log files as zip file |            |
|                   | PROFINET  | HART FDI over PROFINET  |            |
|                   | ModbusRTU   | New protocol, replacement for 9440  |            |
| Bugfix            | CPU   | 9468/ and 9469/ with 8AO + 4 HV or 8 AO + 8 HV fixed<br>PROFINET S2 redundancy<br>Issue with PROFIBUS DP parameter written twice<br>Configuration of SIL modules 9462<br>DTM configuration of 9442/32 Zone1 possible  |            |
|                   | PM  | No more BPL telegram errors   |            |
|                   | PROFINET  | MRP handling<br>ARP and UDP bursts crashing stack<br>UDP concatenation<br>Diverse errors in telegram response   |            |
|                   | Webserver   | 9462: add I/O module<br>9469: show correct DO value   |            |
| Known Bugs        | CPU   | Start problem could occur after factory reset was performed or with spare parts from factory. Only if new socket and new CPU on slot 1 are powered first time. Replacing single items are not affected.<br>Output values are initialized after receiving a new parameter set for that I/O module  |            |
|                   | PROFINET  | If started with signal errors, I/O module may not receive configuration<br>Temperature modules 9482 do not work properly  |            |
|                   | Webserver   | PM status and power consumption are sometimes not updated<br>Incorrect information in tab „CPU+PM“ -> „AS Protocol“. ModbusRTU only   |            |
| Remarks           | Add all features and bugfixes made since 01.00.25 |   |            |

| SWU 01.01.03 |          | Release Date  | 23.05.2023 |
|--------------|----------|---|------------|
| New Features | --       | --  |            |
| Bugfix       | PM       | Correct calculation of current in Zone 1 PM   |            |
| Known Bugs   | CPU      | DTM configuration of 9442/32 Zone1 not possible (IS1 Wizard only)<br>Start problem could occur after factory reset was performed or with spare parts from factory.<br>Only if new socket and new CPU on slot 1 are powered first time. Replacing single items are not affected. |            |
|              | PM       | Small percentage of BPL telegram errors. Only with some PM, no I/O module failures  |            |
|              | PROFINET | S2 redundancy not working properly<br>MRP problems  |            |
|              | Remarks  | Firmware identical to version SWU 01.00.25, only PM firmware changed  |            |

| SWU 01.01.02 |         | Release Date  | 16.05.2023 |
|--------------|---------|---|------------|
| New Features | --      | --  |            |
| Bugfix       | PM      | Update of all power module firmware versions to this version is possible  |            |
| Known Bugs   | CPU     | Start problem could occur after factory reset was performed or with spare parts from factory.<br>Only if new socket and new CPU on slot 1 are powered first time. Replacing single items are not affected.<br>DTM configuration of 9442/32 Zone1 not possible (IS1 Wizard only) |            |
|              | PM      | Current of Zone 1 PM not correct. Maintenance LED can be switched on  |            |
|              | Remarks | Firmware identical to version SWU 01.00.25, only PM firmware changed  |            |

| SWU 01.01.01 |  | Release Date   | 03.05.2023 |
|--------------|--|--|------------|
| New Features | --   | --   |            |
| Bugfix       | PM   | Change FLASH erase. PM will not switch off output during power on.<br>use correct temperature correction in current measurement PM zone 2  |            |
| Known Bugs   | CPU  | Start problem could occur after factory reset was performed or with spare parts from factory.<br>Only if new socket and new CPU on slot 1 are powered first time. Replacing single items are not affected.                   |            |
|              |  | DTM configuration of 9442/32 Zone1 not possible (IS1 Wizard only)  |            |
|              | PM   | PM with FW < 01.00.25 cannot be updated and will switch of power.<br>restarted using separate power supply (using SWU 99.00.00)<br>updated to 01.00.25 prior<br>If updated once to 01.01.01 or later, any update is possible |            |
|              | PROFINET   | S2 redundancy not working properly<br>MRP problems   |            |
| Remarks      | Firmware identical to version SWU 01.00.25, only PM firmware changed |  |            |

| SWU 01.01.00 |  | Release Date  | 04.04.2023 |
|--------------|--|---|------------|
| New Features | PM   | Improved load balancing in redundant mode<br>Switch output off faster if power is disconnected<br>add support for new PM Z1<br>Use constant output voltage while in boot mode   |            |
| Bugfix       | PM   | Problem with firmware update solved. Some PM got stuck in download mode and switched output off<br>Reduce critical time for power drop  |            |
| Known Bugs   | CPU  | Start problem could occur after factory reset was performed or with spare parts from factory.<br>Only if new socket and new CPU on slot 1 are powered first time. Replacing single items are not affected.  |            |
|              |  | 9468 and 9469: configuration with 8 AO + 4 / 8 HV did not work. Can be solved if configured as 8 AO/AI + HV.  |            |
|              |  | DTM configuration of 9442/32 Zone1 not possible (IS1 Wizard only)   |            |
|              | PM   | PM with a FW < 01.00.25 cannot be updated and will switch of power.<br>restarted using separate power supply (using SWU 99.00.00)<br>updated to 01.00.25 prior<br>Skipped temperature compensation of current measurement PM zone 2, values in webserver too high |            |
| Remarks      | Firmware identical to version SWU 01.00.25, only PM firmware changed |   |            |

| SWU 01.00.25 |     | Release Date   | 23.11.2022 |
|--------------|-----|--|------------|
| New Features | CPU | Password reset, only with socket HW Rev C or later (HEX decoder)<br>PROFINET: Input Status of readback independent of input status   |            |
|              | PM  | Switch off red. PM while other PM is in update.<br>Serial firmware download of redundant PM  |            |
| Bugfix       | CPU | Improved redundancy switching<br>Webserver<br>Show DI instead of DO, fix text<br>Correct display of CPU zone 1<br>Add gateway address to UBOOT environment   |            |
|              | PM  | Fixed power on problem<br>Serial firmware download<br>Switch off PWR OUT LED if power supply of PM is removed<br>Correct display of zone 1 PM in webserver   |            |
| Known Bugs   | CPU | Start problem could occur after factory reset was performed or with spare parts from factory.<br>Only if new socket and new CPU on slot 1 are powered first time. Replacing single items are not affected. |            |
|              |     | 9468 and 9469: configuration with 8 AO + 4 / 8 HV did not work. Can be solved if configured as 8 AO/AI + HV.   |            |
| Remarks      | --  |  |            |

| SWU 01.00.24                                  |     | Release Date  | 28.03.2022 |
|---|-----|---|------------|
| New Features                                  | CPU | HART communication over backup CPU  |            |
|   |     | Add support for virtual COM port  |            |
|   |     | Add OPC UA demo mode in standard CPU  |            |
|   |     | Add NTP support   |            |
|   |     | Add global data (field station name, location, comments...) available in both redundant CPU |            |
|   |     | Add support for IOM redundancy  |            |
|   |     | Add PROFINET extensions   |            |
|   |     | Improved Web diagnostics  |            |
|   |     | Licenses loadable via webserver   |            |
| Add support for HEX decoders of socket (9496) |     |   |            |
| Bugfix  | CPU | Extend PROFINET to 1024 Bytes   |            |
|   |     | Boot from sockets from factory (empty sockets)  |            |
|   | PM  | Improve PM redundancy   |            |
| Known Bugs                                    | PM  | Power on problem may occur  |            |
| Remarks                                       | --  |   |            |

| SWU 01.00.23 |     | Release Date                  | 26.10.2020 |
|--------------|-----|-------------------------------|------------|
| New Features | --  | --                            |            |
| Bugfix       | CPU | Optimize timeout on backplane |            |
| Known Bugs   | --  | --                            |            |
| Remarks      | --  |                               |            |

| SWU 01.00.22 |                     | Release Date  | 22.09.2020 |
|--------------|---------------------|---|------------|
| New Features | CPU                 | Webserver extended history<br>Webserver timesync with PC<br>IS1+ Virtual Com port support |            |
| Bugfix       | PM                  | no maintenance alarm of red. PM, with a switched off PM                                   |            |
| Known Bugs   | CPU                 | Update from SWU 01.00.21 requires a power on to show correct PM information               |            |
| Remarks      | No official release |   |            |

| SWU 01.00.21 |     | Release Date                      | 09.07.2020 |
|--------------|-----|-----------------------------------|------------|
| New Features | CPU | PROFIBUS DP<br>New PROFINET stack |            |
| Bug Fixes    | CPU | Webserver                         |            |
| Known Bugs   | --  | --                                |            |
| Remarks      | --  |                                   |            |

| SWU 01.00.18 |     | Release Date             | 19.03.2020 |
|--------------|-----|--------------------------|------------|
| New Features | CPU | PROFIBUS DP              |            |
| Bugfix       | CPU | PROFIBUS DP<br>Webserver |            |
| Known Bugs   | --  | --                       |            |
| Remarks      | --  |                          |            |

| SWU 01.00.17 |     | Release Date                                       | 11.02.2020 |
|--------------|-----|--|------------|
| New Features | --  |  |            |
| Bugfix       | CPU | Synchronization between redundant CPU<br>Webserver |            |
| Known Bugs   | --  | --   |            |
| Remarks      | --  |  |            |

| SWU 01.00.16 |     | Release Date                          | 11.09.2019 |
|--------------|-----|---------------------------------------|------------|
| New Features | --  | --                                    |            |
| Bugfix       | CPU | Synchronization between redundant CPU |            |
| Known Bugs   | CPU | HART over PROFIBUS DP not working     |            |
|              |     | No slave startup on PROFIBUS DP       |            |
|              |     | RS485 only point to point connection  |            |
| Remarks      | --  |                                       |            |

| SWU 01.00.11 |     | Release Date  | 06.02.2019 |
|--------------|-----|---|------------|
| New Features | CPU | All protocols implemented   |            |
| Bugfix       |     |   |            |
| Known Bugs   | CPU | No HART communication on inactive CPU<br>No update of inactive CPU if other CPU is active<br>RS485 only point to point connection |            |
| Remarks      | --  |   |            |

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