HIMA

SMART SAFETY.

# HIMax®

## Release Notes V13.2

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# 1 HIMax Operating System V13.2

This chapter describes the improvements, new functions and restrictions of the following HIMax operating system versions (V13.2) compared to the previous ones:

| OS version | File name | Description |
|---|---|---|
| V13.2 | HIMAXCPU_HA1_OS_V13.2.ldb | Safety-related operating system for X-CPU 01 processor modules |
| V13.2 | HIMAXCPU31_HA1_OS_V13.2.ldb | Safety-related operating system for X-CPU 31 processor modules |
| V13.2 | HIMAXCOM_HA2_OS_V13.2.ldb | Operating system for X-COM 01 communication modules |
| V7.50 | HIMAXIO_HA3_OS_V7.50.ldb | Safety-related operating system for the HIMax I/O modules |
| V7.50 | HIMAXIO_HA1_OS_V7.50.ldb | Safety-related operating system for the HIMax I/O modules |

Table 1: Modified Operating System Versions

The operating system versions not mentioned in Table 1 are listed in the previous release notes.

HIMA recommends upgrading all modules to the current operating system version.

# 2 New Functions

- The COM operating systems offer OPC UA Server functionality.
  The CPU operating systems have been extended with an interface for the OPC UA Server to enable access to system events.

  The OPC UA Server functionality requires its own license.

# 3 Firmware Improvements

- X-DO 12 02, X-DO 24 01, X-DO 24 02, X-DO 32 01
  Line monitoring is read several times within an I/O cycle and is not aborted if an open-circuit is detected. This allows open-circuits to be reliably detected even in case of long field lines.
  Line monitoring is read several times within an I/O cycle, thus allowing short-circuits to still be reliably detected.
  If a short-circuit occurs in the field, it is detected as a read-back error of digital outputs (0 instead of 1, channel status code 0x0080), but is no longer logged in the diagnostics. The diagnostics for the individual modules are only accessible in the online view of the Hardware Editor.
  The read-back error no longer affects the system parameters *Module OK*, *Submodule OK* and *-> Channel OK [BOOL]*, but the parameter *-> LS* is set to TRUE instead.
  If a channel is switched off due to overcurrent and cannot be switched on again (channel status code 0x0004), the error is no longer logged in the diagnostics. The diagnostics for the individual modules are only accessible in the online view of the Hardware Editor.
  The error no longer affects the system parameters *Module OK*, Submodule OK and *-> Channel OK [BOOL]*, but the parameter *-> LS* is set to TRUE instead.

- X-DO 24 01, X-DO 24 02
  The slot ID and the rack ID of the I/O modules are used to synchronize the line monitoring. This ensures that redundant I/O modules perform line monitoring in the field at differing times.
  Line monitoring is synchronized when the *Minimum Configuration Version* parameter is set to a value ≥ *SILworX V12*.
  The *OC Blanking (Number of SC/OC Intervals)* parameter specifies the number of test intervals (parameter *SC/OC Interval [µs]*) that must run before a detected field error is reported to the processor module (X-CPU) as an open-circuit. Transient disturbances are blanked until the fault response occurs.

- After a reload, the SOE function did not report the first occurrence of a scalar event threshold being exceeded to the X-OPC Server. This problem was fixed in processor module operating system V13 (HIMatrix V17).

- If an I/O module rejects its new configuration during the reload, this cannot cause the system to stop operation, but it can cause the reload to be rejected.

# 4 Firmware Restrictions

- In very seldom cases, if one or more communication protocols such as Modbus or ComUserTask are used under load control and the controller or COM module changes from RUN to STOP, the COM module may reboot.

- Restriction with respect to reload licenses:
  Features that are used in a COM module with a demo license, cannot be activated by performing a reload of the controller (CPU-Module) with a full license. The message displayed in the license management of the CPU module reports that a regular license is available, but a DEMO license is in use. This behavior occurs if no reload or cold reload is performed for the COM module itself.
  The full license is only used and properly reported after a restart of the controller (CPU module), a reload or cold reload of the COM module.

- If I/O modules with operating system version ≤ V5 are to be changed or added to the configuration by performing a reload, the reload must not include any additional changes.

- In redundant systems, only the value 1 may be selected for *Prio A&E* or problems might occur during synchronization.

# 5 References

- HIMax system manual (HI 801 001 E).
- HIMax safety manual (HI 801 003 E).
- Communication manual (HI 801 101 E).

## 5.1 Zstandard License Terms

The CPU operating systems contain a Zstandard decompression algorithm provided with the following license terms:

BSD License

For Zstandard software

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## 5.2 Apache License

The COM operating system includes an SSL/TLS library Mbed TLS licensed by ARM Limited.

http://www.apache.org/licenses/LICENSE-2.0

# Appendix

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**Release Notes**

**HI 801 549 E**

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