



## 1 New Software and Firmware Versions

- CPU OS version 6.42 for HIMatrix controllers and remote IO devices of the **HIMatrix** system family
- CPU OS version 6.44 for **HIMatrix** controllers
- COM OS version 11.24 for **HIMatrix** controllers
- **ELOP II Factory** Hardware Management versions 8.30, 8.38, and 8.52

## 2 Revisions

### 2.1 Start-up during Undervoltage

After power-on, **HIMatrix** devices suppress the automatic start-up into the RUN state as long as the 24 V supply provides a too low voltage. Thus, prevention of the automatic start-up is avoided, caused by undervoltage errors of the I/O interface connection.

Should the state of too low voltage persist longer than 5 minutes, the **HIMatrix** controller will terminate automatic start-up in the STOP state and waits for action by the user. This should prevent the system from unexpectedly starting up if an unstable 24 V voltage comes up some time later.

### 2.2 Automatic Start-up after Fault Detection

In the rare case that a **HIMatrix** device detects an internal fault, it will automatically restart. Should an internal fault be detected again within the first minute after start up, the device will remain in the ERROR\_STOP state, as was the case in earlier versions of the firmware.

### 2.3 No LED Signalling in case of Line Break

Using digital inputs with line control, a 0 signal on the input is no longer signalled by the LED "FAULT". This arises from the revised approach that a 0 signal is a state of the connected contactor rather than a fault.

In line with this new approach, the system no longer prevents start up when a 0 signal is applied to a digital input with line control.

*This change is inconsequential for existing application programs.*

### 2.4 User Program for Communication Processor

A user program written in C may be now loaded on a **HIMatrix** communication processor and run cyclically. This user program is interference-free to the safety-related user program running in the CPU.

To implement the user program, HIMA provides the necessary development environment, including a special library with numerous functions. This allows one to use the communication processor's Ethernet and RS485 interfaces. In this way it is possible e.g. to create special TCP and UDP applications. Refer to the additional COM User Task (CUT) manual HI 800 329 for more details.

### 2.5 Interbus Master

The **HIMatrix** controller now supports an Interbus Master connection. For more details, refer to the online help of **ELOP II Factory**.

## Software and Firmware Revisions for the HIMatrix Product Family

### 2.6 Modbus Option for Function Code 23

The **HIMatrix** controllers offer a new option:

The **HIMatrix** controllers offer a new option for use within an ELOP-II-Factory project, allowing users to specify whether the Modbus function code 23 is read from the input or the output area.

### 2.7 LED Signaling for Field Busses

The LED displays for the field busses Modbus RS485 and Profibus-DP have been functionally enhanced. For more details, refer to additional documentation about field busses within the **HIMatrix** device family:

**HIMatrix** MODBUS Master/Slave Manual HI 800 003

**HIMatrix** PROFIBUS DP Master Manual HI 800 009.

## 3 Further Enhancements

### 3.1 Rejected User Program

If the code size of an application program for the CPU was exactly 200708 or 431108 bytes, the program was unjustifiably rejected by the **HIMatrix** controller. This faulty behaviour has now been eliminated.

### 3.2 Comparison Faults in case of Ethernet Broadcast

In very rare cases, comparison faults occurred in remote IO modules within the **HI-Matrix** device family. Under certain external circumstances – many Ethernet broadcasts – this was caused by an IC behaving in an erroneous manner. The firmware now handles these conditions without any functional restrictions.

*For this reason, replacement of the controller or the IO module is not necessary.*

### 3.3 Handling of Incorrect Modbus Requests

If the **HIMatrix** controller receives a faulty Modbus request with function code 23, the corresponding write transmission is no longer executed.

## 4 Known Problem

ELOP II Factory Hardware Management version 8.30, 8.38, and 8.52 contain the following known problem affecting the transfer of variable values:

The values of variables and signals are no longer transported between the parts of the project:

- User Program
- Standard communication protocols
- safe**ethernet** between controllers

The problem only occurs in rare cases, and only when exchanging vaules between the named project parts. One of the preconditions is a big number of variables, at least 256, being configured for transport in one direction between two project parts. [HE15450]