

# ZTH

## Release Notes

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### Revision History

Revision / Date	Author, Remarks
01 / 03-Nov-2012	C. Graf, Release V02.04-0014 (first release of ZTH software)
02 / 18-Sep-2013	C. Graf, Release V02.01-0006 (release for serial production)
03 / 23-Jan-2014	C. Graf, Release V02.02-0000 (additional menu for ePIV)
04 / 15-May-2014	C. Graf, Release V02.03-0000 (bugfix VRD-2)
05 / 01-Jul-2015	C. Graf, Release V02.05-0000 (MP-Tester, RT-Monitor)
06 / 26-Oct-2016	M. Wild, Release V02.06-0000 (38400 Baud, additions for PR-actuator)
07 / 29-Mar-2017	M. Wild, Release V02.08-0000 (Menu corrections for PR-actuator)

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## 1. Introduction

This document in an incremental release notes that describes the development steps.

### 1.1 Purpose, intended Audience, Scope

retracing the single development steps of ZTH software

### 1.2 References

no references

### 1.3 Definitions, Acronyms, Abbreviations

Term	Explanation
ZTH	general purpose handheld tool for MFT actuators (merge of ZTH-GEN and ZTH-2)

### 1.4 Open Issues in this Document Revision

In this document revision the following open issues are identified:

- There are no open issues identified.

## 2. Release Note to V 02.08-0000

### 2.1 Changes to previous version

With this Release, the ZTH has been optimized for the new PR-actuator family.

No other changes have been made beside of this:

- Omit menus "Set Min Value" and "Set Mid Value" in case of PR-Actuator
- Omit menu "Control Mode" in case of PR-open/close (EU / AP -versions only)
- Omit menus "Control Signal" and "DC variable" in case of PR-open/close (US-version only)
- Omit menus "Feedback U5", "Start value U5", "Stop value U5", " Inversion of U5 signal" in case of PR-open/close (US-version only)
- Omit all address setting menus in case of PR-Actuator
- Omit menu "Messages" in case of PR-Actuator (US-version only)

### 2.2 Hardware description

- same as ZTH V02.02-0000

### 2.3 Wiring possibilities

- same as ZTH V02.02-0000

#### 2.3.1 Inapplicable wiring cases

- same as ZTH V02.02-0000

### 2.4 Known constraints of current release

There are no known constraints in this release.

### 3. Release Note to V 02.06-0000

#### 3.1 Changes to previous version

- Added possibility to communicate with 38400 baud over Tool plug in PP Mode.
- No menu "MP Address" (M23) in case of 38400 baud
- Toolkey=2 supported. Needed to support for instance PR-actuator.
- Proper identification of Rotary valves (family suffix 4)
- Handling of write protection for Set Min Value, Set Mid Value, Set Max Value (M13, M13.1, M14) for Rotary valves.
- US-version only: Added new menu "Inversion of U5 signal" (M84) for Rotary valve actuators
- Added new menu "Power Off Position" (M107) for Rotary valve actuators with SuperCap
- Menu "Set to original" (M56) also available in expert mode

#### 3.2 Hardware description

- same as ZTH V02.02-0000

#### 3.3 Wiring possibilities

- same as ZTH V02.02-0000

##### 3.3.1 Inapplicable wiring cases

- same as ZTH V02.02-0000

#### 3.4 Known constraints of current release

There are no known constraints in this release.

### 4. Release Note to V 02.05-0000

This release contains some adaptations in the non-standard menus and additional the MP-Tester and the RT-Monitor functionality.

#### 4.1 Changes to previous version

##### 4.1.1 Available functionality

- VAV
  - M53 Set an override function → Edit Mode changed to general look and feel of ZTH
- ePIV
  - M78 Set an override function → Edit Mode changed to general look and feel of ZTH
  - Settings menu "unit water" : New unit l/s added
  - M82 and M83 "display scaling": Menus have been removed
  - flow values have 1...3 digits depending on the unit
    - m3/h 3
    - l/min 1
    - gpm 2
    - l/s 3
- Water Globe
  - M95 Y-characteristic: Menu has been removed
- Fire and Smoke
  - If no forced control is set when reading the actuator the tool will
- Divers
  - KNX actuator will be treated in the same way than LON (no Mode menu etc...)

- RT MP-Monitor integrated: The BusRecorder part of the RT MP-Monitor has been integrated in the settings menu. To monitor an MP-Bus realtime a special PC-Tool frontend (V5.0.2.0) is needed recording the MP-Frames.
- same as ZTH V02.02-0000
- Bugfix M79 Edit Mode not stable
- Bugfix: Enable ZIP will **no longer** toggle the MP-Line after 500ms (bootloader delay)
- Bugfix: LCD Driver fixed that the display will work properly at low ambient temperature (QB2014\_0612)
- Bugfix: Enable Line is no longer switched on during "ZIP disabled" status

#### 4.1.2 Configuration Menu

- New water flow unit "l/s" added for
- Menu AC-measurement: Halfwave <80% will be indicated as "bad conditions".
- Menu "Start RT-Monitor" added

#### 4.1.3 Languages

- same as ZTH V02.02-0000

#### 4.1.4 MP-Tester

- MP-Tester functionality has been added. MP-Tester consists of
  - MP-Level Tester
  - Frame Counter

### 4.2 Hardware description

same as ZTH V02.02-0000

### 4.3 Wiring possibilities

same as ZTH V02.02-0000

#### 4.3.1 Inapplicable wiring cases

- same as ZTH V02.02-0000

### 4.4 Known constraints of current release

There are no known constraints in this release. Constraint from V02.01-0006 has been fixed.

## 5. Release Note to V 02.03-0000

This release is not available in case of needed bug fix with the customer. The release is available on Belimo Web-Page for download.

### 5.1 Changes to previous version

- Bugfix with problem of VRD-2 device. The bug, that VRD-2 devices with serial number with leading "0" connected to the ZTH causes a wrong menu tree, is fixed in this version.

## Functionality

### 5.1.1 Available functionality

- same as ZTH V02.02-0000

### 5.1.2 Configuration Menu

- same as ZTH V02.02-0000

### 5.1.3 Languages

- same as ZTH V02.02-0000

### 5.1.4 MP-Tester

- same as ZTH V02.02-0000

## 5.2 Hardware description

same as ZTH V02.02-0000

## 5.3 Wiring possibilities

same as ZTH V02.02-0000

### 5.3.1 Inapplicable wiring cases

- same as ZTH V02.02-0000

## 5.4 Known constraints of current release

same as ZTH V02.02-0000

## 6. Release Note to V 02.02-0000

### 6.1 Changes to previous version

- Additional menu for M106 for ePIV (Sensor check)
- Bugfix: Removing MP\_Get\_ForcedControl command from Menus VAV M50, M53, ePIV M76, M78 (the command has generally removed from the code.) In version 02.01-0006 this command had an impact to the connected actuator in case of MP control and a sensor connected to the actuator. It manipulates the sensor measurement value
- Timeout increased from 5 to 30sec in case of MasterClient, when the master no longer polls the ZTH (slave). Now the timeout is conform with the spec.

see 8.5 Appendix A: Remarks to V02.02-0000

## Functionality

### 6.1.1 Available functionality

- same as ZTH V02.01-0006

### 6.1.2 Configuration Menu

- same as ZTH V02.01-0006

### 6.1.3 Languages

- same as ZTH V02.01-0006

### 6.1.4 MP-Tester

- same as ZTH V02.01-0006

## 6.2 Hardware description

same as ZTH V02.01-0006

## 6.3 Wiring possibilities

same as ZTH V02.01-0006

### 6.3.1 Inapplicable wiring cases

- same as ZTH V02.01-0006

## 6.4 Known constraints of current release

- same as ZTH V02.01-0006

## 7. Release Note to V 02.01-0006

This is first release for series production

### 7.1 Changes to previous version

- Additional functionality for CMV
- Bug fixing from V02.00-0014
- Improvements from pilot lot review
- ZIP functionality available

## 7.2 Functionality

### 7.2.1 Available functionality

- All functionalities form ZTH-2 (V01.06-0000 or V01.05-0034)
- Functionalities from ZTH-GEN (V4.2x) with following exceptions:
  - new key pad concept
  - no MP-Tester functionality (only power supply check)
- ZIP functionality

### 7.2.2 Configuration Menu

Configuration Menu contains following services

- Language (German and English)
- Flow (Air) (units m<sup>3</sup>/h, l/s, cfm)
- Flow (Water) (units l/min, gpm, m<sup>3</sup>/h)
- Pressure unit (Pa, inWC)
- AC measurement (check power supply)
- PICCV function (enable PICCV wizard)
- Expert mode (enable expert mode)
- Advanced mode (enable advanced mode)
- OEM-Number.
- Show favorites (used with sharedlogic)
- Backlight timeout
- Empty cache (deletes cached Property Sets)

To enter configuration menu plug cable and push "ok" button simultaneously.

### 7.2.3 Languages

Available Languages are German and English. Other languages are not intended. Language can be changed in configuration menu.

### 7.2.4 MP-Tester

- There is no MP-Tester implemented in ZTH and there are no MP-Tester Menus in configuration menu

## 7.3 Hardware description

ZTH hardware is based on a new hardware that contains also parts to provide ZIP functionalities. The actual software is designed for 512kByte Flash STM32 uControllers.

## 7.4 Wiring possibilities

### 7.4.1 Possible wiring cases

Following wiring cases are feasible with ZTH

- connect ZTH by new generation tool plug
- connect ZTH to any single MFT actuator by connection cable



- connect ZTH by tool plug of BKN230-24MP or BKN230-24LON
- connect ZTH to energy valve by tool plug



After connecting ZTH with a device it takes 10-15 sec. to read configuration data. During this time no entries are possible by the user.

### 7.4.2 Inapplicable wiring cases

following wiring cases do not work with ZTH-GEN

- Connect ZTH to an **MP-Bus** by tool plug of UK24LON or any other gateway or Controller that provides a tool plug.

## 7.5 Known constraints of current release

Following points don't work or work incorrect in the current version V 02.01-0006.

- In US Version when using Control Signal menu after using "DC variable" procedure the first line remains "Stop value" instead of changing to "Control Signal". Switching one menu up and down corrects the text again. (The functionality in programming the actuator is not affected)

## 8. Release Note to V 02.00-0014

This release has only prototype status.

### 8.1 Changes to previous version

V 02.00-0014 is the first version of ZTH firmware.

## 8.2 Functionality

### 8.2.1 Available functionality

All functionalities form ZTH-2 (V01.04-0035)

Functionalities from ZTH-GEN (V4.2x) with following exceptions:

- new key pad concept
- US specific menus
- Language texts

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ZIP functionalities are not yet available. There is no functionality on USB connector

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### 8.2.2 Configuration Menu

Configuration Menu contains following services

- enable PICCV wizard (from ZTH-GEN)
- enable advanced mode (from ZTH-GEN)
- enable expert mode (from ZTH-GEN)
- select languages (from ZTH-GEN)
- VAV units (from ZTH-GEN)
- ePIV units (from ZTH-GEN)
- OEM-Nr. (from ZTH-GEN)
- Client password (from ZTH-2)
- Del. Property Sets (from ZTH-2)

To enter configuration menu plug cable and push "ok" button simultaneously.

### 8.2.3 Languages

Available Languages are German and English. Other languages are not intended. Language can be changed in configuration menu.

Language texts are not yet approved!

### 8.2.4 MP-Tester

- There is no MP-Tester implemented in ZTH and there are no MP-Tester Menus in configuration menu

## 8.3 Hardware description

ZTH hardware is based on a new hardware that contains also parts to provide ZIP functionalities.

## 8.4 Wiring possibilities

### 8.4.1 Possible wiring cases

following wiring cases are feasible with ZTH

- connect ZTH by new generation tool plug
- connect ZTH to any single MFT actuator by connection cable
- connect ZTH by tool plug of BKN230-24MP

- connect ZTH to energy valve by tool plug
- connect ZTH to IAQ sensor by connection cable



After connecting ZTH with a device it takes 10-15 sec. to read configuration data. During this time no entries are possible by the user.

### 8.4.2 Inapplicable wiring cases

following wiring cases do not work with ZTH-GEN

- Connect ZTH to an **MP-Bus** by tool plug of UK24LON or any other gateway or Controller that provides a tool plug.
- connect ZTH to a LON BF-Topline actuator by tool plug of BKN230-24LON gateway is not yet tested

## 8.5 Known constraints of current release

following points don't work or work incorrect in the current version V02.00-0014.

- Release is not tested by Belimo
- No US specific menus provided
- No ZIP functionality
- Language texts not yet approved

## Appendix A: Remarks to V02.02-0000

Following source files have been changed for V02.02-0000:

Aktualisiert: c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Environment  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/SWAP\_510000/SWAP.Base.Core/SWAP.Base.Core/PlatformConfigApp.h  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/SWAP\_510000/SWAP.Base.Core/SWAP.Base.Core  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/SWAP\_510000/SWAP.Base.Core  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/SWAP\_510000  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/UnitTest\_ZTH2/TestNonStandardMenu.cpp  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/UnitTest\_ZTH2  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/NonStandardMenu.h  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/TextContainer.h  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/MenuItemVolumeDeltaP.h  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/ForcedControlTask.cpp  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/ValueActualFlow.h  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/ValueSensor.cpp  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/MenuItemMoveVAV.h  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/TextDefinitions.h  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/MenuItemVolumeSetpoint.cpp  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/MenuItemVolumeDeltaP.cpp  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/ZTH2.vcxproj  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/TextContainer.cpp  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/ZTH2.h  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/ValueActualFlow.cpp  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/MenuItemVolumeSetpoint.h  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/NonStandardMenu.cpp  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/ValueSensor.h  
Hinzugefügt:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/MenuItemSensorStatus.cpp  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/MenuItemMoveVAV.cpp  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/ZTH2.vcxproj.filters  
Aktualisiert:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/ZTH2.ewp  
Hinzugefügt:  
c:/Users/Balazs/Documents/LocalDev/belimo\_zth\_plus/Implementation/ZTH2/ZTH2/MenuItemSensorStatus.h