

SOFTWARE USER MANUAL

Watchdog V22-1



# 1. Table Of Contents

<b>1. Table Of Contents</b>	<b>2</b>
<b>2. About this document</b>	<b>3</b>
2.1. Legend	3
<b>3. Basic description</b>	<b>4</b>
Important	4
<b>4. Settings</b>	<b>5</b>
<b>5. Behavior of the watchdog module device (DS-WDT)</b>	<b>8</b>
<b>6. Warranty information</b>	<b>10</b>
6.1. Calibration	10
6.2. Support	10
6.3. Service/repair	10
6.4. Restricted Rights	10
6.5. Printing History	11
6.6. Copyright	11
6.7. Trademarks	11
<b>7. Safety instructions</b>	<b>11</b>
7.1. Safety symbols in the manual	11
7.2. General Safety Instructions	11
7.2.1. Environmental Considerations	12
7.2.2. Product End-of-Life Handling	12
7.2.3. System and Components Recycling	12
7.2.4. General safety and hazard warnings for all Dewesoft systems	12
<b>8. Documentation version history</b>	<b>15</b>

## 2. About this document

### 2.1. Legend

The following symbols and formats will be used throughout the document.



**Important**

It gives you important information about the subject.  
Please read carefully!



**Hint**

It gives you a hint or provides additional information about a subject.



**Example**

Gives you an example of a specific subject.

### 3. Basic description

The watchdog timer functionality enables an external way to monitor the behavior of the DewesoftX® software. If the software fails to restart the watchdog timer in the selected time period due to a malfunction, corrective measures will be taken.

To be able to use the watchdog timer a SIRIUS or IOLITE instrument with a Digital out is needed or when using a single instrument, the Sync signals can also be used. The instrument must be connected in order to set up the watchdog timer. A watchdog module (DS-WDT) is not required but can be used.

The watchdog timer functionality is only enabled on the Sirius devices with the FW version 7.X.X.X.

The watchdog timer works on either a Digital out (DO) or a counter (Clk) when it comes to a SIRIUS device, but only on a Digital out when it comes to an IOLITE device.



#### **Important**

The watchdog timer does not work on DEWE-43 or KRYPTON devices, even if they have a Digital out.

## 4. Settings

The watchdog timer is enabled within the Settings -> Devices menu of the SIRIUS instrument.

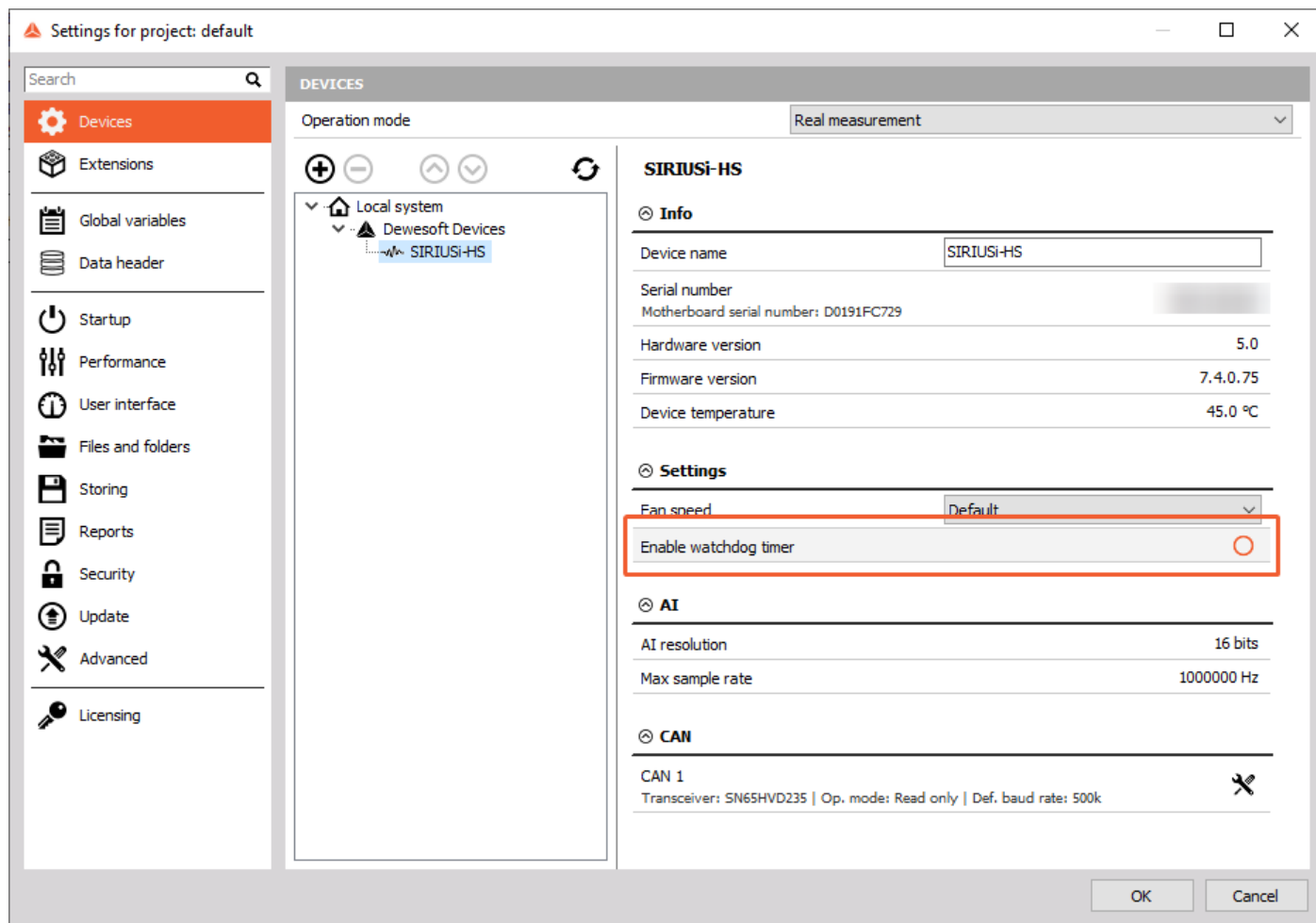


Image 1: Enable watchdog timer

Once enabled, the output selection can be made. Default settings are:

- Digital output: Ctrl DO Clk
- Timeout : 2 sec
- Active in measure mode

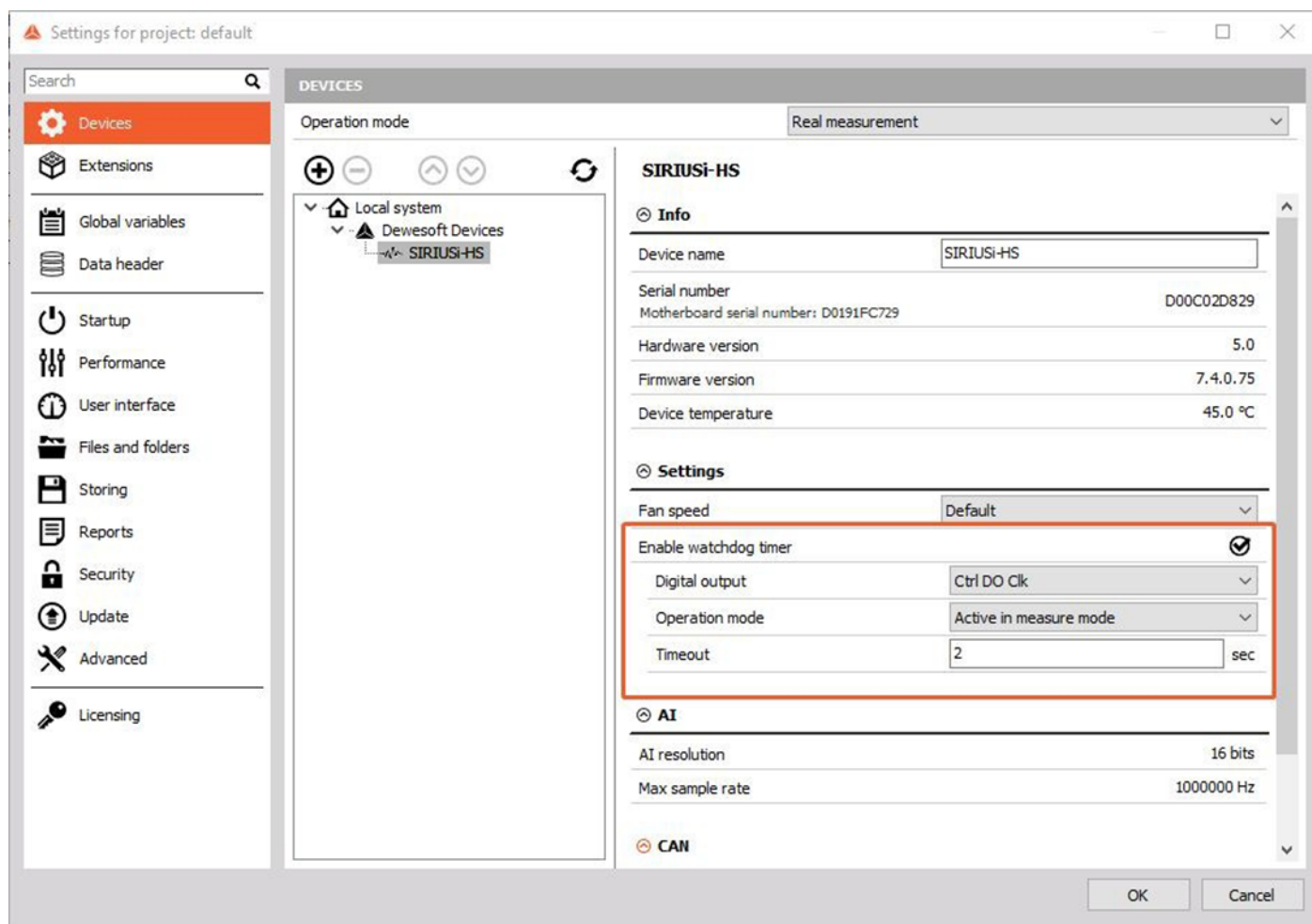


Image 2: Default settings

Digital output menu selects on which digital output the watchdog functionality is enabled. When using the Watchdog module (DS-WDT), which is connected to the SIRIUS instrument via a 25 pin cable, this selector should be set to Ctrl DO 1. **The watchdog timer can be only mapped to one digital output.**

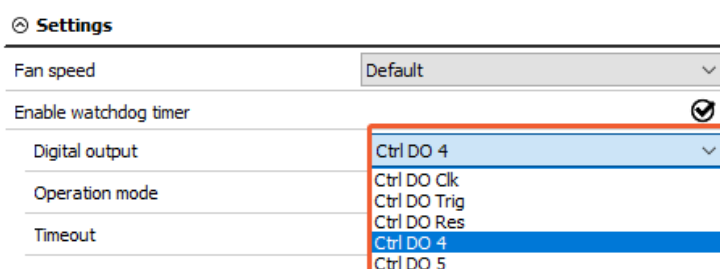


Image 3: Digital output selection

The timeout value specifies the time in which the DewesoftX® must reset the watchdog timer.

You have different Operation modes:

- Active in measure mode
- Active in setup and measure mode
- Always active

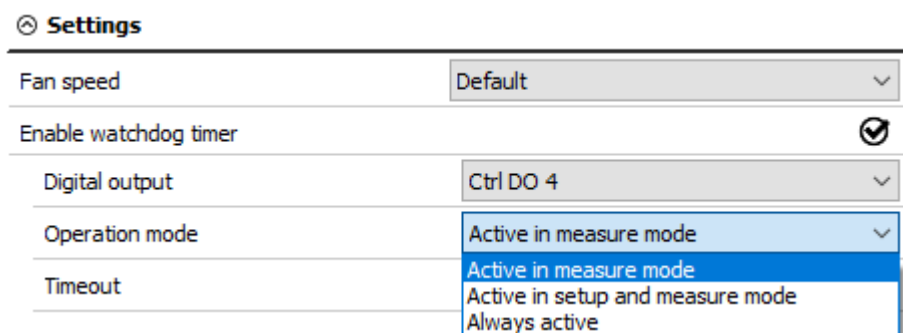


Image 4: Operation mode selection



**Important**

The watchdog timer is not active while in Analysis mode.



## 5. Behavior of the watchdog module device (DS-WDT)

The DS-WDT is an external Warning and Shutdown interface which allows you to monitor and control your measurement. It connects to a SIRIUS device via a D-sub 25 pin cable.



Image 5: DS-WDT



### Hint

The DS-WDT is only compatible with the SIRIUS-8xSTGM+-DB.

It has four LED indicators:

- Watchdog (for monitoring the operation of the watchdog timer)
- Warning (if triggered, external intervention is needed)
- RTI (returns everything to idle)
- Shutdown (forces an external device to shut down)

The watchdog LED indicator works as follows:

- The LED is GREEN when the watchdog timer is in action mode (this depends on the Operation mode you picked for the watchdog timer in the Settings of the SIRIUS instrument)
- The LED is RED when the watchdog timer is not in action mode. This includes:
  - When the instrument is powered up
  - When DewesoftX® is started if the watchdog timer had not been enabled for the instrument in a previous session
  - When the instrument is disconnected from USB. At this time the timer will trigger in case of the computer or software freezing
  - When DewesoftX® is in analysis mode



The watchdog module itself has 3 additional outputs which are user controlled via the A/D module. The respective A/D outputs are CTRL DO 2, CTRL DO 3 and CTRL DO 4.

All four outputs are relay based with a possibility to connect with a NO (Normally open) or NC (Normally closed) position.

When the watchdog has triggered or upon power up the watchdog relay is not energized – meaning that the NO position is OPEN and the NC position is SHORTED.

## 6. Warranty information

### Notice

The information contained in this document is subject to change without notice.

### Note:

Dewesoft d.o.o. shall not be liable for any errors contained in this document. Dewesoft MAKES NO WARRANTIES OF ANY KIND WITH REGARD TO THIS DOCUMENT, WHETHER EXPRESS OR IMPLIED. DEWESOFT SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Dewesoft shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory, in connection with the furnishing of this document or the use of the information in this document.

The copy of the specific warranty terms applicable to your Dewesoft product and replacement parts can be obtained from your local sales and service office. To find a local dealer for your country, please visit <https://dewesoft.com/support/distributors>

### 6.1. Calibration

Every instrument needs to be calibrated at regular intervals. The standard norm across nearly every industry is annual calibration. Before your Dewesoft data acquisition system is delivered, it is calibrated. Detailed calibration reports for your Dewesoft system can be requested. We retain them for at least one year, after system delivery.

### 6.2. Support

Dewesoft has a team of people ready to assist you if you have any questions or any technical difficulties regarding the system. For any support please contact your local distributor first or Dewesoft directly.

Dewesoft d.o.o.  
Gabrsko 11a  
1420 Trbovlje Slovenia

Europe Tel.: +386 356 25 300  
Web: <http://www.dewesoft.com>  
Email: [support@dewesoft.com](mailto:support@dewesoft.com)  
The telephone hotline is available Monday to Friday from 07:00 to 16:00 CET (GMT +1:00)

### 6.3. Service/repair

The team of Dewesoft also performs any kinds of repairs to your system to assure a safe and proper operation in the future. For information regarding service and repairs please contact your local distributor first or Dewesoft directly on <https://dewesoft.com/support/rma-service>.

### 6.4. Restricted Rights

Use Slovenian law for duplication or disclosure. Dewesoft d.o.o. Gabrsko 11a, 1420 Trbovlje, Slovenia / Europe.

## 6.5. Printing History

Version 2.0.0, Revision 217 Released 2015 Last changed: 23. July 2018 at 16:54.

## 6.6. Copyright

Copyright © 2015-2019 Dewesoft d.o.o. This document contains information which is protected by copyright. All rights are reserved. Reproduction, adaptation, or translation without prior written permission is prohibited, except as allowed under the copyright laws. All trademarks and registered trademarks are acknowledged to be the property of their owners.

## 6.7. Trademarks

We take pride in our products and we take care that all key products and technologies are registered as trademarks all over the world. The Dewesoft name is a registered trademark. Product families (KRYPTON, SIRIUS, DSI, DS-NET) and technologies (DualCoreADC, SuperCounter, GrandView) are registered trademarks as well. When used as the logo or as part of any graphic material, the registered trademark sign is used as a part of the logo. When used in text representing the company, product or technology name, the ® sign is not used. The Dewesoft triangle logo is a registered trademark but the ® sign is not used in the visual representation of the triangle logo.

# 7. Safety instructions

Your safety is our primary concern! Please be safe!

## 7.1. Safety symbols in the manual



### **Warning**

Calls attention to a procedure, practice, or condition that could cause the body injury or death



### **Caution**

Calls attention to a procedure, practice, or condition that could possibly cause damage to equipment or permanent loss of data.

## 7.2. General Safety Instructions



### **Warning**

The following general safety precautions must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. Dewesoft d.o.o. assumes no liability for the customer's failure to comply with these requirements.

All accessories shown in this document are available as an option and will not be shipped as standard parts.

### 7.2.1. Environmental Considerations

Information about the environmental impact of the product.

### 7.2.2. Product End-of-Life Handling

Observe the following guidelines when recycling a Dewesoft system:

### 7.2.3. System and Components Recycling

Production of these components required the extraction and use of natural resources. The substances contained in the system could be harmful to your health and to the environment if the system is improperly handled at its end of life! Please recycle this product in an appropriate way to avoid unnecessary pollution of the environment and to keep natural resources.



This symbol indicates that this system complies with the European Union's requirements according to Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). Please find further information about recycling on the Dewesoft web site [www.dewesoft.com](http://www.dewesoft.com)

 Restriction of Hazardous Substances

This product has been classified as Monitoring and Control equipment and is outside the scope of the 2002/95/EC RoHS Directive. However, we take care of our environment and the product is lead-free.

### 7.2.4. General safety and hazard warnings for all Dewesoft systems

Safety of the operator and the unit depend on following these rules.

- Use this system under the terms of the specifications only to avoid any possible danger.
- Read your manual before operating the system.
- Observe local laws when using the instrument.
- DO NOT touch internal wiring!
- DO NOT use higher supply voltage than specified!
- Use only original plugs and cables for harnessing.
- You may not connect higher voltages than rated to any connectors.
- The power cable and connector serve as Power-Breaker. The cable must not exceed 3 meters, the disconnect function must be possible without tools.
- Maintenance must be executed by qualified staff only.
- During the use of the system, it might be possible to access other parts of a more comprehensive system. Please read and follow the safety instructions provided in the manuals of all other components regarding warning and security advice for using the system.
- With this product, only use the power cable delivered or defined for the host country.
- DO NOT connect or disconnect sensors, probes or test leads, as these parts are connected to a voltage supply unit.
- Ground the equipment: For Safety Class 1 equipment (equipment having a protective earth terminal), a non-interruptible safety earth ground must be provided from the mains power source to the product input wiring terminals.
- Please note the characteristics and indicators on the system to avoid fire or electric shocks. Before connecting the system, please read the corresponding specifications in the product manual carefully.

- The inputs must not, unless otherwise noted (CATx identification), be connected to the main circuit of category II, III and IV.
- The power cord separates the system from the power supply. Do not block the power cord, since it has to be accessible for the users.
- DO NOT use the system if equipment covers or shields are removed.
- If you assume the system is damaged, get it examined by authorized personnel only.
- Adverse environmental conditions are Moisture or high humidity Dust, flammable gases, fumes or dissolver Thunderstorm or thunderstorm conditions (except assembly PNA) Electrostatic fields, etc.
- The measurement category can be adjusted depending on module configuration.
- Any other use than described above may damage your system and is attended with dangers like short-circuiting, fire or electric shocks.
- The whole system must not be changed, rebuilt or opened.
- DO NOT operate damaged equipment: Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until the safe operation can be verified by service-trained personnel. If necessary, return the product to Dewesoft sales and service office for service and repair to ensure that safety features are maintained.
- If you assume a more riskless use is not provided anymore, the system has to be rendered inoperative and should be protected against inadvertent operation. It is assumed that a more riskless operation is not possible anymore if the system is damaged obviously or causes strange noises. the system does not work anymore. The system has been exposed to long storage in adverse environments. the system has been exposed to heavy shipment strain.
- Warranty void if damages caused by disregarding this manual. For consequential damages, NO liability will be assumed!
- Warranty void if damage to property or persons caused by improper use or disregarding the safety instructions.
- Unauthorized changing or rebuilding the system is prohibited due to safety and permission reasons (CE).
- Be careful with voltages >25 VAC or >35 VDC! These voltages are already high enough in order to get a perilous electric shock by touching the wiring.
- The product heats during operation. Make sure there is adequate ventilation. Ventilation slots must not be covered!
- Only fuses of the specified type and nominal current may be used. The use of patched fuses is prohibited.
- Prevent using metal bare wires! Risk of short circuit and fire hazard!
- DO NOT use the system before, during or shortly after a thunderstorm (risk of lightning and high energy over-voltage). An advanced range of application under certain conditions is allowed with therefore designed products only. For details please refer to the specifications.
- Make sure that your hands, shoes, clothes, the floor, the system or measuring leads, integrated circuits and so on, are dry.
- DO NOT use the system in rooms with flammable gases, fumes or dust or in adverse environmental conditions.
- Avoid operation in the immediate vicinity of high magnetic or electromagnetic fields, transmitting antennas or high-frequency generators, for exact values please refer to enclosed specifications.
- Use measurement leads or measurement accessories aligned with the specification of the system only. Fire hazard in case of overload!

- Do not switch on the system after transporting it from a cold into a warm room and vice versa. The thereby created condensation may damage your system. Acclimatise the system unpowered to room temperature.
- Do not disassemble the system! There is a high risk of getting a perilous electric shock. Capacitors still might be charged, even if the system has been removed from the power supply.
- The electrical installations and equipment in industrial facilities must be observed by the security regulations and insurance institutions.
- The use of the measuring system in schools and other training facilities must be observed by skilled personnel.
- The measuring systems are not designed for use in humans and animals.
- Please contact a professional if you have doubts about the method of operation, safety or the connection of the system.
- Please be careful with the product. Shocks, hits and dropping it from already- lower level may damage your system.
- Please also consider the detailed technical reference manual as well as the security advice of the connected systems.
- This product has left the factory in safety-related flawlessness and in proper condition. In order to maintain this condition and guarantee safety use, the user has to consider the security advice and warnings in this manual.

#### EN 61326-3-1:2008

IEC 61326-1 applies to this part of IEC 61326 but is limited to systems and equipment for industrial applications intended to perform safety functions as defined in IEC 61508 with SIL 1-3.

The electromagnetic environments encompassed by this product family standard are industrial, both indoor and outdoor, as described for industrial locations in IEC 61000-6-2 or defined in 3.7 of IEC 61326-1.

Equipment and systems intended for use in other electromagnetic environments, for example, in the process industry or in environments with potentially explosive atmospheres, are excluded from the scope of this product family standard, IEC 61326-3-1.

Devices and systems according to IEC 61508 or IEC 61511 which are considered as “operationally well-tried”, are excluded from the scope of IEC 61326-3-1.

Fire-alarm and safety-alarm systems, intended for the protection of buildings, are excluded from the scope of IEC 61326-3-1.

## 8. Documentation version history

Revision	Author	Date	Comment
1.0	Miloš Dimitrijević	25. 9. 2015	First release
1.1	Miloš Dimitrijević	25. 9. 2015	Small corrections
1.2	Aljaž Kropivšek	27. 3. 2017	Small corrections
V20-1	Eva Kalšek	3. 9. 2020	New template
V22-1	Vitjan Lin Zupan	27. 7. 2022	<ul style="list-style-type: none"><li>• Reworked section 5 (DS-WDT)</li><li>• Made small editions to section 3 (basic description)</li><li>• Added information about compatibility with different devices</li><li>• Cleared up potential misunderstandings by differentiating the watchdog timer from DS-WDT</li></ul>