



## Third-party manufacturer licenses PNOZ m ES 14DO

This document is the original document.

Where unavoidable, for reasons of readability, the masculine form has been selected when formulating this document. We do assure you that all persons are regarded without discrimination and on an equal basis.

All rights to this documentation are reserved by Pilz GmbH & Co. KG. Copies may be made for the user's internal purposes. Suggestions and comments for improving this documentation will be gratefully received.

Pilz®, PIT®, PMI®, PNOZ®, Primo®, PSEN®, PSS®, PVIS®, SafetyBUS p®, SafetyEYE®, SafetyNET p®, the spirit of safety® are registered and protected trademarks of Pilz GmbH & Co. KG in some countries.



SD means Secure Digital

---

## Licensing

This product includes Open Source software with various licenses.

## STM32F10x\_StdPeriph\_Lib 3.1.0

### Copyrights

Copyright (c) 2009 STMicroelectronics

Copyright (c) 2009 ARM Limited

(c) COPYRIGHT 2009 STMicroelectronics

Copyright (c) ARM Ltd.

Copyright (c) 2005-2006 Keil Software

Copyright RAISONANCE S.A.S. 2008

Copyright RAISONANCE 2005

(c) Keil Software

### License

**Libraries\CMSIS\Core used (LEC-PRE-00425-V2.0), Libraries\CMSIS  
\STM32F10x\_StdPeriph\_Driver used (SLA0048 Rev4 March 2018)**

06 November, 2008 LEC-PRE-00425-V2.0

Your Licence to Use the Source Code and Specification for the Cortex Microcontroller Software Interface Standard:

THIS END USER LICENCE AGREEMENT IS A LEGAL AGREEMENT ("LICENCE") BETWEEN YOU (EITHER A SINGLE INDIVIDUAL, OR SINGLE LEGAL ENTITY) AND ARM LIMITED ("ARM") FOR THE USE OF THE SOURCE CODE AND SPECIFICATION ACCOMPANYING THIS LICENCE. ARM IS ONLY WILLING TO LICENSE THE SOURCE CODE AND SPECIFICATION TO YOU ON CONDITION THAT YOU ACCEPT ALL OF THE TERMS IN THIS LICENCE. BY CLICKING "AGREE" OR BY INSTALLING OR OTHERWISE USING OR COPYING EITHER OR BOTH THE SOURCE CODE AND SPECIFICATION YOU INDICATE THAT YOU AGREE TO BE BOUND BY ALL THE TERMS OF THIS LICENCE. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENCE, ARM IS UNWILLING TO LICENSE THE SOURCE CODE AND SPECIFICATION TO YOU AND YOU MAY NOT INSTALL, USE OR COPY THE SOURCE CODE OR SPECIFICATION, BUT YOU SHOULD PROMPTLY RETURN THE SOURCE CODE AND SPECIFICATION TO ARM.

"Source Code" means the source code for the Cortex Microcontroller Software Interface Standard.

"Specification" means the specification for the Cortex Microcontroller Software Interface Standard. Notwithstanding the foregoing, "Specification" shall not include (i) the implementation of other published specifications referenced in the Specification; (ii) any enabling technologies that may be necessary to make or use any product or portion thereof that complies with the Specification, but are not themselves expressly set forth in this Specification (e.g. compiler front ends, code generators, back ends, libraries or other compiler, assembler or

---

linker technologies; validation or debug software or hardware; applications, operating system or driver software; RISC architecture; processor microarchitecture); (iii) maskworks and physical layouts of integrated circuit designs; or (iv) RTL or other high level representations of integrated circuit designs.

#### LICENCE GRANTS

1. Subject to the provisions of Clauses 2, 3, 4 and 5, ARM hereby grants to you under any intellectual property that is (a) owned or freely licensable by ARM without payment to unaffiliated third parties and (b) either embodied in either or both the Source Code and Specification, as applicable, or Necessary (defined in Clause 4 below) to copy or implement an applications binary interface compliant with the Specification, a perpetual, non-exclusive, non-transferable, royalty free, worldwide licence to:

(i) use and copy the Specification for the purpose of developing, having developed, manufacturing, having manufactured, offering to sell, selling, supplying or otherwise distributing products which comply with the Specification;

(ii) use, copy, modify and sublicense the Source Code (in source or object code form) solely for the purpose of developing, having developed, manufacturing, having manufactured, offering to sell, selling, supplying or otherwise distributing products which comply with the Specification, provided that you preserve all copyright notices included in the Source Code.

2. The Source Code and Specification are owned by ARM or its licensors and are protected by copyright laws and international copyright treaties as well as other intellectual property laws and treaties. The Source Code and Specification are licensed not sold.

Except as specifically licensed in accordance with Clause 1, you acquire no right, title or interest in the Source Code and Specification or any intellectual property embodied therein. In no event shall the licences granted in accordance with Clause 1 be construed as granting you, expressly or by implication, estoppel or otherwise, a licence to use any ARM technology except the Source Code and Specification.

Except as provided in Clause 1, no right is granted to you to sublicense the rights granted to you under this Licence.

3. THE SOURCE CODE AND SPECIFICATION ARE PROVIDED "AS IS". ARM PROVIDES NO WARRANTIES EXPRESS, IMPLIED OR STATUTORY, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, SATISFACTORY QUALITY, NONINFRINGEMENT OR FITNESS FOR A PARTICULAR PURPOSE. THE SOURCE CODE AND SPECIFICATION MAY INCLUDE ERRORS. ARM RESERVES THE RIGHT TO INCORPORATE MODIFICATIONS TO THE SOURCE CODE IN LATER REVISIONS OF IT, AND TO MAKE IMPROVEMENTS OR CHANGES IN THE SPECIFICATION OR THE PRODUCTS OR TECHNOLOGIES DESCRIBED THEREIN AT ANY TIME.

4. This Licence shall immediately terminate and shall be unavailable to you if you or any party affiliated to you asserts any patents against ARM, ARM affiliates, third parties who have a valid licence from ARM for either or both the Source Code and the Specification, or any customers or distributors of any of them based upon a claim that your (or your affiliate) patent is Necessary to implement the Specification. In this Licence; (i) "affiliate" means any entity controlling, controlled by or under common control with a party (in fact or in law, via voting securities, management control or otherwise) and "affiliated" shall be construed accordingly; (ii) "assert" means to allege infringement in legal or administrative proceedings,

---

or proceedings before any other competent trade, arbitral or international authority; (iii) "Necessary" means with respect to any claims of any patent, those claims which, without the appropriate permission of the patent owner, will be infringed when implementing the Specification because no alternative, commercially reasonable, non-infringing way of implementing the Specification is known; and (iv) English law and the jurisdiction of the English courts shall apply to all aspects of this Licence, its interpretation and enforcement.

5. No licence, express, implied or otherwise, is granted to you, under the provisions of Clause 1, to use the ARM tradename, in connection with either or both the Source Code and the Specification or any products based thereon. Nothing in Clause 1 shall be construed as authority for you to make any representations on behalf of ARM in respect either or both the Source Code and Specification.

6. The total liability of ARM and any of its suppliers and licensors under or in relation to this Licence shall be limited to the greater of the amount actually paid by you for the Source Code and Specification or US\$10.00. The limitations, exclusions and disclaimers in this Licence shall apply to the maximum extent allowed by applicable law.

7. The Source Code and Specification provided under this Licence is subject to U.S. export control laws, including the U.S. Export Administration Act and its associated regulations, and may be subject to export or import regulations in other countries. You agree to comply fully with all laws and regulations of the United States and other countries ("Export Laws") to assure that the Source Code and Specification, are not (1) exported, directly or indirectly, in violation of Export Laws, either to any countries that are subject to U.S.A. export restrictions or to any end user who has been prohibited from participating in the U.S.A. export transactions by any federal agency of the U.S.A. government; or (2) intended to be used for any purpose prohibited by Export Laws, including, without limitation, nuclear, chemical, or biological weapons proliferation.

ARM contract reference number LEC-PRE-00425-V2.0 NM/HB

SLA0048 Rev4/March 2018

BY INSTALLING COPYING, DOWNLOADING, ACCESSING OR OTHERWISE USING THIS SOFTWARE PACKAGE OR ANY PART THEREOF (AND THE RELATED DOCUMENTATION) FROM STMICROELECTRONICS INTERNATIONAL N.V, SWISS BRANCH AND/OR ITS AFFILIATED COMPANIES (STMICROELECTRONICS), THE RECIPIENT, ON BEHALF OF HIMSELF OR HERSELF, OR ON BEHALF OF ANY ENTITY BY WHICH SUCH RECIPIENT IS EMPLOYED AND/OR ENGAGED AGREES TO BE BOUND BY THIS SOFTWARE PACKAGE LICENSE AGREEMENT.

Under STMicroelectronics' intellectual property rights and subject to applicable licensing terms for any third-party software incorporated in this software package and applicable Open Source Terms (as defined here below), the redistribution, reproduction and use in source and binary forms of the software package or any part thereof, with or without modification, are permitted provided that the following conditions are met:

1. Redistribution of source code (modified or not) must retain any copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form, except as embedded into microcontroller or microprocessor device manufactured by or for STMicroelectronics or a software update for such device, must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.



- 
3. Neither the name of STMicroelectronics nor the names of other contributors to this software package may be used to endorse or promote products derived from this software package or part thereof without specific written permission.
  4. This software package or any part thereof, including modifications and/or derivative works of this software package, must be used and execute solely and exclusively on or in combination with a microcontroller or a microprocessor devices manufactured by or for STMicroelectronics.
  5. No use, reproduction or redistribution of this software package partially or totally may be done in any manner that would subject this software package to any Open Source Terms (as defined below).
  6. Some portion of the software package may contain software subject to Open Source Terms (as defined below) applicable for each such portion ("Open Source Software"), as further specified in the software package. Such Open Source Software is supplied under the applicable Open Source Terms and is not subject to the terms and conditions of license hereunder. "Open Source Terms" shall mean any open source license which requires as part of distribution of software that the source code of such software is distributed therewith or otherwise made available, or open source license that substantially complies with the Open Source definition specified at [www.opensource.org](http://www.opensource.org) and any other comparable open source license such as for example GNU General Public License (GPL), Eclipse Public License (EPL), Apache Software License, BSD license and MIT license.
  7. This software package may also include third party software as expressly specified in the software package subject to specific license terms from such third parties. Such third party software is supplied under such specific license terms and is not subject to the terms and conditions of license hereunder. By installing copying, downloading, accessing or otherwise using this software package, the recipient agrees to be bound by such license terms with regard to such third party software.
  8. STMicroelectronics has no obligation to provide any maintenance, support or updates for the software package.
  9. The software package is and will remain the exclusive property of STMicroelectronics and its licensors. The recipient will not take any action that jeopardizes STMicroelectronics and its licensors' proprietary rights or acquire any rights in the software package, except the limited rights specified hereunder.
  10. The recipient shall comply with all applicable laws and regulations affecting the use of the software package or any part thereof including any applicable export control law or regulation.
  11. Redistribution and use of this software package partially or any part thereof other than as permitted under this license is void and will automatically terminate your rights under this license.

THIS SOFTWARE PACKAGE IS PROVIDED BY STMICROELECTRONICS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS, IMPLIED OR STATUTORY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS ARE DISCLAIMED TO THE FULLEST EXTENT PERMITTED BY LAW. IN NO EVENT SHALL STMICROELECTRONICS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PRO-

---

CUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE PACKAGE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

EXCEPT AS EXPRESSLY PERMITTED HEREUNDER AND SUBJECT TO THE APPLICABLE LICENSING TERMS FOR ANY THIRD-PARTY SOFTWARE INCORPORATED IN THE SOFTWARE PACKAGE AND OPEN SOURCE TERMS AS APPLICABLE, NO LICENSE OR OTHER RIGHTS, WHETHER EXPRESS OR IMPLIED, ARE GRANTED UNDER ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHTS OF STMICRO-ELECTRONICS OR ANY THIRD PARTY.

---

## CoOS 1.1.4

### Copyrights

(c) COPYRIGHT 2009 CooCox

(c) COPYRIGHT 2010 CooCox

### License

#### TERMS AND CONDITIONS

Welcome to CooCox! This software will be installed using the CooCox Updater, which is included in the CooCox Pack. By downloading, installing or using CooCox software or any portion thereof ("CooCox Software") and/or any third party software or any portion thereof provided via the CooCox website or in conjunction with CooCox's software ("Third Party Software"), you agree to the following terms and conditions (the "Terms and Conditions").

Open source software licenses for CooCox source code constitute separate written agreements. To the limited extent that the open source software licenses expressly supersede these Terms and Conditions, the open source licenses govern your agreement with CooCox for the use of CooCox products or specific included components of CooCox products. The CooCox Software, and any portion thereof, and the Third Party Software, and any portion thereof, are referred to herein as the "Software."

#### 1. USE OF SOFTWARE

CooCox CoOS is free and open-source, it is licensed under the Berkeley Software Distribution (BSD) and can be used in commercial applications under this license.

No body has the right to sell the software or related products without permission. You may not use the CooCox Software in any manner that could damage, disable, nor may you use Software in any manner that could interfere with any other party's use and enjoyment of CooCox's services or the services and products of Third Parties. "Third Parties" means the third party licensors of the Software.

#### 2. PRIVACY POLICY

Protecting users' privacy is very important to CooCox and the Third Parties. As a condition of downloading and using the Software, you agree to the terms of the CooCox Pack Privacy Policy at <http://www.coocox.com/policy.htm>, which may be updated from time to time and without notice. Information collected by CooCox or Third Parties in connection with your use of the Software may be stored and processed in China or any other country in which CooCox, its agents, the Third Parties or their agents maintain facilities. Accordingly, by using the Software you consent to any transfer of such information outside of your country. You acknowledge and agree that CooCox and/or Third Parties may access, preserve, and disclose your account information if required to do so by law or in a good faith belief that such access preservation or disclosure is reasonably necessary to: (a) satisfy any applicable law, regulation, legal process or governmental request, (b) enforce these Terms and Conditions, including investigation of potential violations hereof, (c) detect, prevent, or otherwise address fraud, security or technical issues (including, without limitation, the filtering of spam), (d) respond to user support requests, or (e) protect the rights, property or safety of CooCox, its users, Third Parties, their users, and the public. Neither CooCox nor any Third Party will be responsible or liable for the exercise or non-exercise of rights under these Terms and Conditions.



---

### 3. PROPRIETARY RIGHTS

You acknowledge that (a) the Software contains proprietary and confidential information that is protected by applicable intellectual property and other laws, and (b) CooCox and/or Third Parties own all right, title and interest in and to the Software and software provided through or in conjunction with the Software, including without limitation all Intellectual Property Rights therein and thereto. "Intellectual Property Rights" means any and all rights existing from time to time under patent law, copyright law, trade secret law, trademark law, unfair competition law, and any and all other proprietary rights, and any and all applications, renewals, extensions and restorations thereof, now or hereafter in force and effect worldwide. You agree that you will not, and will not allow any third party to, (i) copy, sell, license, distribute, transfer, modify, adapt, translate, prepare derivative works from, decompile, reverse engineer, disassemble or otherwise attempt to derive source code from the Software, unless otherwise permitted, (ii) take any action to circumvent or defeat the security or content usage rules provided, deployed or enforced by any functionality (including without limitation digital rights management functionality) contained in the Software, (iii) use the Software to access, copy, transfer, transcode or retransmit content in violation of any law or third party rights, or (iv) remove, obscure, or alter CooCox's or any Third Party's copyright notices, trademarks, or other proprietary rights notices affixed to or contained within or accessed in conjunction with or through the Software.

### 4. AUTOMATIC UPDATES

The Software may communicate with CooCox servers and/or Third Party servers from time to time to check for available updates to the Software, such as bug fixes, patches, enhanced functions, missing plug-ins and new versions (collectively, "Updates"). By installing the Software, you agree to automatically request and receive Updates.

### 5. TERMINATION

You may terminate these Terms and Conditions at any time by permanently deleting the Software in its entirety. Your rights automatically and immediately terminate without notice from CooCox or any Third Party if you fail to comply with any provision of these Terms and Conditions. In such event, you must immediately delete the Software.

### 6. DISCLAIMER OF WARRANTIES

YOU EXPRESSLY UNDERSTAND AND AGREE THAT:

A) YOUR USE OF THE SOFTWARE IS AT YOUR SOLE RISK. THE SOFTWARE IS PROVIDED ON AN "AS IS" BASIS AND WITHOUT WARRANTY OF ANY KIND. TO THE MAXIMUM EXTENT PERMITTED BY LAW, COOCOX AND THE THIRD PARTIES EXPRESSLY DISCLAIM ALL WARRANTIES AND CONDITIONS OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.

B) NEITHER COOCOX NOR THE THIRD PARTIES MAKE ANY WARRANTY (I) THAT THE SOFTWARE WILL MEET YOUR REQUIREMENTS, (II) THAT THE SOFTWARE WILL BE ERROR-FREE OR BUG-FREE, (III) REGARDING THE SECURITY, RELIABILITY, TIMELINESS, OR PERFORMANCE OF THE SOFTWARE, AND (IV) THAT ANY ERRORS IN THE SOFTWARE WILL BE CORRECTED.

---

C) ANY CONTENT OR MATERIAL DOWNLOADED OR OTHERWISE OBTAINED THROUGH THE USE OF THE SOFTWARE IS DONE AT YOUR OWN DISCRETION AND RISK. YOU WILL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO YOUR COMPUTER SYSTEM OR OTHER DEVICE OR LOSS OF DATA THAT RESULTS FROM THE DOWNLOAD OF ANY SUCH CONTENT OR MATERIAL.

#### 7. LIMITATION OF LIABILITY

YOU EXPRESSLY UNDERSTAND AND AGREE THAT NEITHER COOCOX NOR THE THIRD PARTIES SHALL BE LIABLE TO YOU FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, INCLUDING BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFITS, GOODWILL, USE, DATA OR OTHER INTANGIBLE LOSSES (EVEN IF COOCOX OR THE THIRD PARTIES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES) RESULTING FROM: (I) THE USE OR THE INABILITY TO USE THE SOFTWARE; (II) THE INABILITY TO USE THE SOFTWARE TO ACCESS CONTENT OR DATA; (III) THE COST OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; (IV) UNAUTHORIZED ACCESS TO OR ALTERATION OF YOUR TRANSMISSIONS OR DATA; OR (V) ANY OTHER MATTER RELATING TO THE SOFTWARE. THE FOREGOING LIMITATIONS SHALL APPLY NOTWITHSTANDING A FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY AND TO THE FULLEST EXTENT PERMITTED BY LAW.

#### 8. THIRD PARTY PRODUCTS AND SERVICES

The Third Party Software may also be governed by applicable licenses, terms of service and privacy policies of the respective Third Parties . Solely with respect to Third Party Software, in the event of a conflict between these Terms and Conditions and any Third Party Licenses and Policies, the Third Party Licenses and Policies shall control.

#### 9. MISCELLANEOUS PROVISIONS

A) Entire Agreement. These Terms and Conditions constitute the entire agreement between you and CooCox relating to the Software and govern your use of the Software, superseding any prior or contemporaneous agreements between you and CooCox regarding the Software.

B) Choice of Law and Forum. These Terms and Conditions and the relationship between you and CooCox shall be governed by the laws of China without regard to its conflict of law provisions. You and CooCox agree to submit to the personal and exclusive jurisdiction of the China courts.

C) Waiver and Severability of Terms. The failure of CooCox to exercise or enforce any right or provision of these Terms and Conditions shall not constitute a waiver of such right or provision. If any provision of these Terms and Conditions is found by a court of competent jurisdiction to be invalid, the parties nevertheless agree that the court should endeavor to give effect to the parties' intentions as reflected in the provision, and the other provisions of these Terms and Conditions shall remain in full force and effect.

D) Statute of Limitations. You agree that regardless of any statute or law to the contrary, any claim or cause of action arising out of or related to use of the Software or these Terms and Conditions must be filed within one (1) year after such claim or cause of action arose or be forever barred.

E) Content License. You retain copyright and any other rights you already hold in Content which you submit, post or display on or through, the Services.

---

F) Comments. If you have comments regarding the Software or ideas on how to improve it, please visit <http://www.coocox.com/> and enter your comments. Please note that by doing so, you also grant CooCox and Third Parties permission to use and incorporate your ideas or comments without restriction and without compensation.

---

## CoOS 1.1.5

### Copyrights

Copyright (c) 2011, CooCox

<arasmussen@consultant.datasys.swri.edu>

Copyright (c) 2001, 2002 Swedish Institute of Computer Science

Adam Dunkels <adam@sics.se>

Adam Dunkels at the Computer and Networks Architectures (CNA)

Adam Dunkels, Leon Woestenberg, Christiaan Simons

Christiaan Simons

Adam Dunkels

Copyright (c) 2001-2003 Swedish Institute of Computer Science

Copyright (c) 2006 KEIL - An ARM Company

Copyright (c) 2008 ARM Limited

Copyright (c) 2001-2004 Swedish Institute of Computer Science

Simon Goldschmidt

Copyright (c) 2001-2004 Leon Woestenberg <leon.woestenberg@gmx.net>

Copyright (c) 2001-2004 Axon Digital Design B.V., The Netherlands

Leon Woestenberg <leon.woestenberg@gmx.net>

Copyright (c) 2002-2003, Adam Dunkels

Adam Dunkels <adam@sics.se> Simon Goldschmidt

Copyright (c) 2007 Dominik Spies <kontakt@dspies.de>

Dominik Spies <kontakt@dspies.de>

Copyright (c) 2002 CITELE Technologies Ltd.

Jani Monoses <jani@iv.ro> Simon Goldschmidt

Copyright (c) 2006 Axon Digital Design B.V., The Netherlands

Christiaan Simons <christiaan.simons@axon.tv>

Jani Monoses <jani@iv.ro>

Jim Pettinato

Copyright (c) 2001, 2002 Leon Woestenberg <leon.woestenberg@axon.tv>

Copyright (c) 2001, 2002 Axon Digital Design B.V., The Netherlands

Leon Woestenberg <leon.woestenberg@axon.tv>

Copyright (c) 2003-2004 Leon Woestenberg <leon.woestenberg@axon.tv>

Copyright (c) 2003-2004 Axon Digital Design B.V., The Netherlands

Copyright (c) 2006 by Marc Boucher, Services Informatiques (MBSI) inc.

Copyright (c) 2002 The NetBSD Foundation, Inc.

Martin Husemann <martin@NetBSD.org>

---

the NetBSD Foundation, Inc. and its contributors  
Copyright (c) 2001, Swedish Institute of Computer Science  
Magnus Ivarsson  
Copyright (c) 2003 by Marc Boucher, Services Informatiques (MBSI) inc.  
portions Copyright (c) 1997 by Global Election Systems Inc.  
Copyright (c) 1993 The Australian National University  
Copyright (c) 1991 Gregory M. Christy  
the Australian National University  
Gregory M. Christy  
Copyright (c) 1990, RSA Data Security, Inc.  
portions Copyright (c) 1997 Global Election Systems Inc.  
Copyright (c) 1989 Carnegie Mellon University  
Copyright (c) 1994 The Australian National University  
Carnegie Mellon University  
portions Copyright (c) 1998 Global Election Systems Inc.  
portions Copyright (c) 2001 by Cognizant Pty Ltd.  
Copyright (c) 1998 Global Election Systems Inc.  
(c) COPYRIGHT 2014 CooCox  
(c) COPYRIGHT 2007 STMicroelectronics  
(c) COPYRIGHT 2008 STMicroelectronics  
(c) COPYRIGHT 2009 Coocox  
(c) COPYRIGHT 2009 STMicroelectronics  
(c) COPYRIGHT 2010 CooCox  
Copyright (c) 2005-2007 Keil Software  
(c) COPYRIGHT 2009 CooCox  
(c) Keil Software  
Copyright (c) 1992-2004 by P.J. Plauger

## License

### **sem.c used**

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

\* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

\* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

---

\* Neither the name of the <ORGANIZATION> nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.



# ► Support

Technical support is available from Pilz round the clock.

## Americas

### Brazil

+55 11 97569-2804

### Canada

+1 888 315 7459

### Mexico

+52 55 5572 1300

### USA (toll-free)

+1 877-PILZUSA (745-9872)

## Asia

### China

+86 21 60880878-216

### Japan

+81 45 471-2281

### South Korea

+82 31 778 3300

## Australia and Oceania

### Australia

+61 3 95600621

### New Zealand

+64 9 6345350

## Europe

### Austria

+43 1 7986263-0

### Belgium, Luxembourg

+32 9 3217570

### France

+33 3 88104003

### Germany

+49 711 3409-444

### Ireland

+353 21 4804983

### Italy, Malta

+39 0362 1826711

## Scandinavia

+45 74436332

## Spain

+34 938497433

## Switzerland

+41 62 88979-32

## The Netherlands

+31 347 320477

## Turkey

+90 216 5775552

## United Kingdom

+44 1536 462203

## You can reach our international hotline on:

+49 711 3409-222

support@pilz.com

Pilz develops environmentally-friendly products using ecological materials and energy-saving technologies. Offices and production facilities are ecologically designed, environmentally-aware and energy-saving. So Pilz offers sustainability, plus the security of using energy-efficient products and environmentally-friendly solutions.



We are represented internationally. Please refer to our homepage [www.pilz.com](http://www.pilz.com) for further details or contact our headquarters.

Headquarters: Pilz GmbH & Co. KG, Felix-Wankel-Straße 2, 73760 Ostfildern, Germany  
Telephone: +49 711 3409-0, Telefax: +49 711 3409-133, E-Mail: [info@pilz.com](mailto:info@pilz.com), Internet: [www.pilz.com](http://www.pilz.com)

**PILZ**  
THE SPIRIT OF SAFETY