User manual

L9908 Software driver

Introduction

The L9908 Software driver is a MISRA compliant software written in "C" that enables the operation of the L9908 Gate Driver Unit.

This document contains information about the L9908 software driver overview and a guide to install the software driver.

1 L9908 Driver introduction

L9908 software allows the user to handle the L9908 GDU (Gate Driver Unit).

Follow the list of the main features:

- Written in C code
- MISRA compliant
- Provides handling of all main features of L9908 for AA or BA silicon version
- Driver is able to control up to 3 L9908 drivers and switch handling between them
- Includes handling functions:
  - Driver objects handling (to takeover control between all L9908 GDU in the project)
  - Control SPI registers for read or write operations (with SPI packets creating, parsing, CRC processing, automatic frame counter control, handling of register lock management: SRR, NSR, SLR). See L9908 GDU datasheet for further information
  - Driver initialization
  - L9908 internal state machine handling
  - Fault management
  - Watchdog control
  - High impedance (HiZ) control
  - Current reading and processing
  - Driver ENBR and NDIS pins control
  - Reading operational mode

Driver code is described via Doxygen documentation, which is part of the installation package. Doxygen documentation is generated automatically from the code and provides information about the software driver.

The documentation contains:

- Driver and files description;
- Code setup and steps to include the driver in the user project with examples.

Figure 1. Doxygen documentation

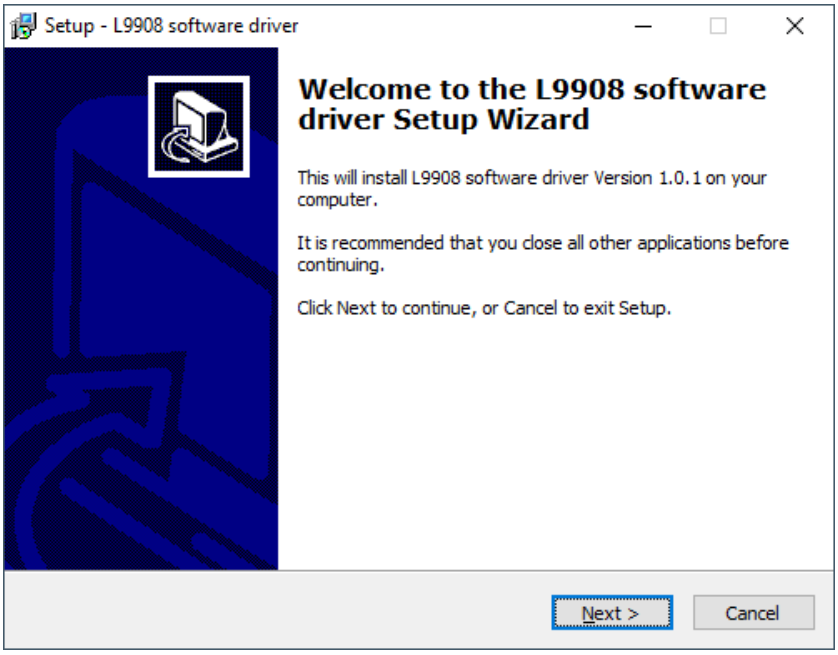
2 L9908 Software driver installation

Installation packet contains driver code and Doxygen documentation files.

Follow next steps to install the software correctly:

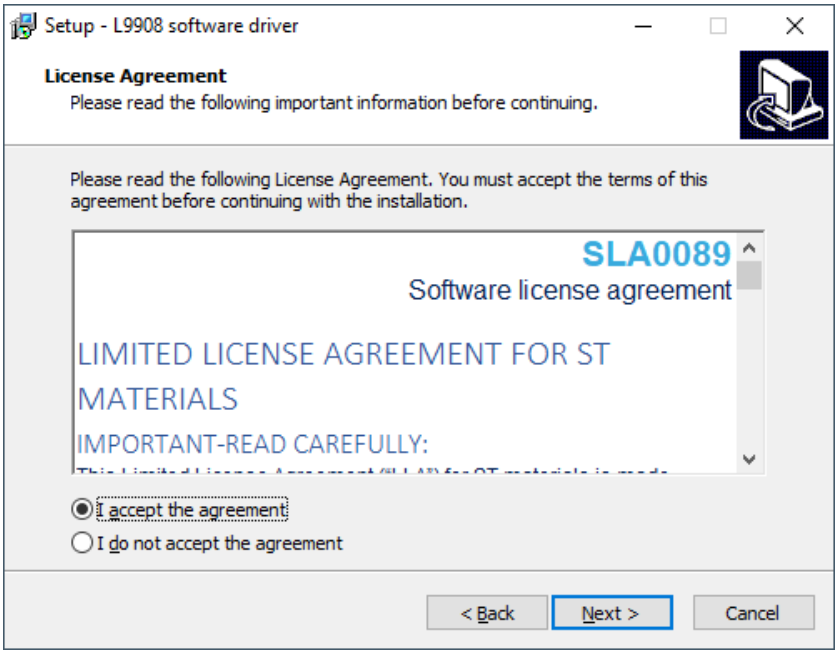
1. Run installation file "*L9908drv_Y_Y_Y.exe*"", where "*Y_Y_Y*" means version of L9908 software and installation wizard will pass you through the installation process;

Figure 2. Driver installation wizard



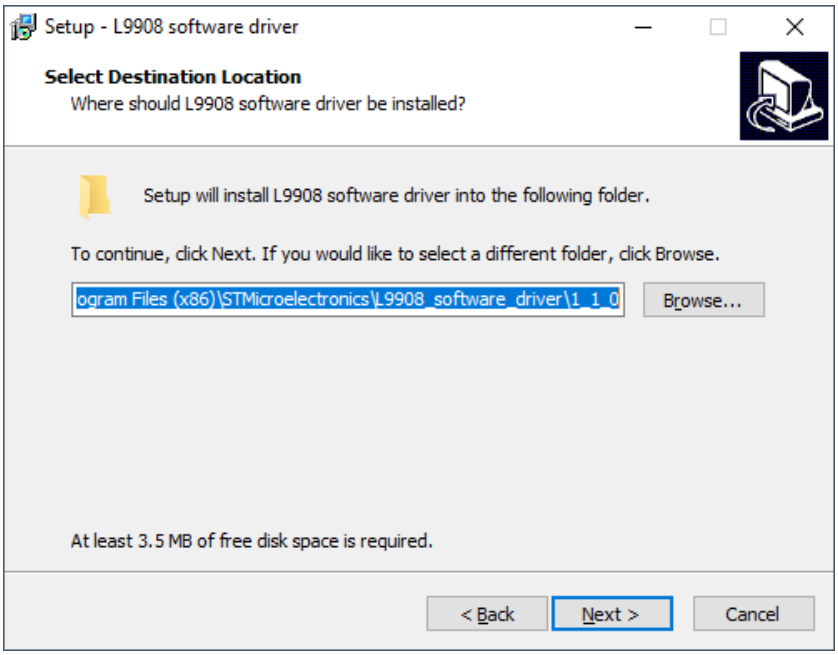
2. Click "*Next*" and carefully read and accept the license agreement;

Figure 3. Driver installation wizard - License agreement



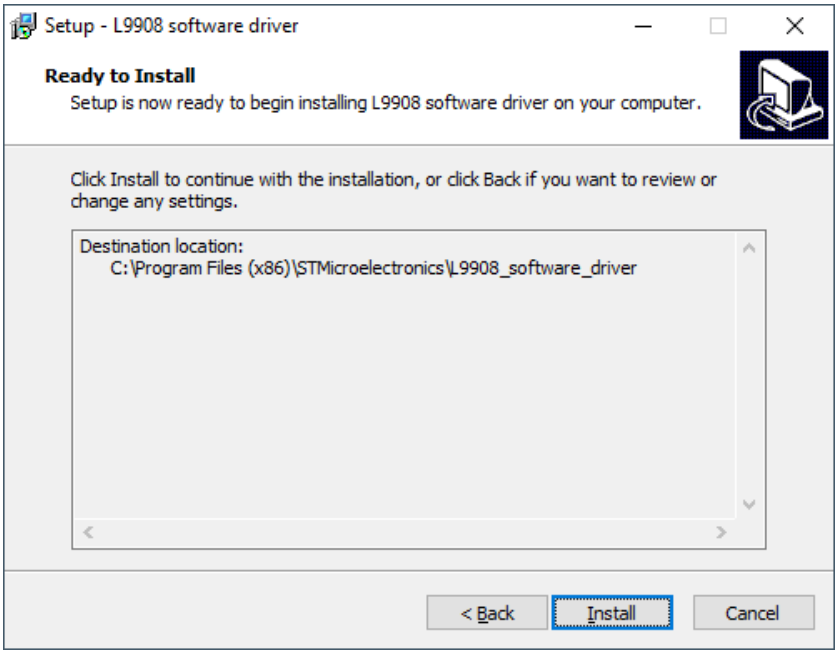
3. Select installation directory;

Figure 4. Driver installation wizard - Select destination location



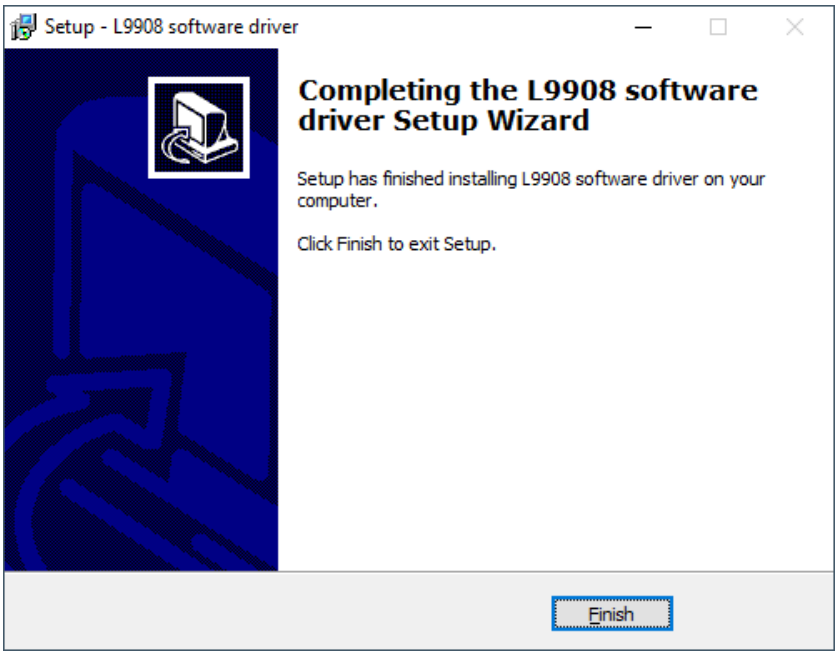
4. Accept the summary by clicking "*Install*";

Figure 5. Driver installation wizard - Install summary



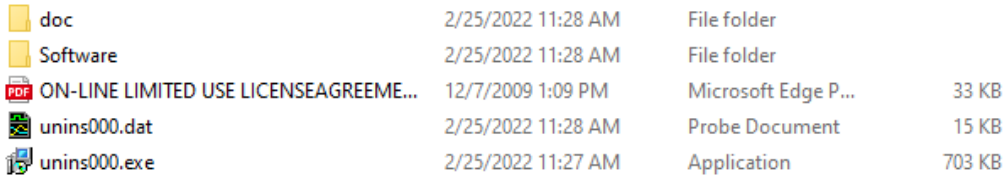
5. Click "*Finish*".

Figure 6. Driver installation wizard - Completing



When the installation has finished, the following folder structure is created:

Figure 7. Installation folder files structure



The installation folder contains:

- Doc folder, includes Doxygen code automatically generated documentation (see Figure 7);
- Software folder, includes "C" code software driver files;
- License agreement PDF file, code license agreement, read carefully;
- Uninstall file.

Appendix A Other information

A.1 Reference documents

Table 1. **Reference documents**

Doc Name	ID	Title
DS13546	034830	Automotive 3-Phase motor gate driver unit
SLA0079	031429	Software license agreement

Revision history

Table 2. **Document revision history**

Date	Version	Changes
04-Apr-2022	1	Initial release.
05-May-2022	2	Removed watermark "Restricted".

Contents

1 L9908 Driver introduction 2
2 L9908 Software driver installation 3
Appendix A Other information 6
A.1 Reference documents 6
Revision history 7

List of tables

Table 1. Reference documents 6
Table 2. Document revision history 7

List of figures

Figure 1. Doxygen documentation . . . 2
Figure 2. Driver installation wizard . . . 3
Figure 3. Driver installation wizard - License agreement . . . 3
Figure 4. Driver installation wizard - Select destination location . . . 4
Figure 5. Driver installation wizard - Install summary . . . 4
Figure 6. Driver installation wizard - Completing . . . 5
Figure 7. Installation folder files structure . . . 5

IMPORTANT NOTICE – READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgment.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2022 STMicroelectronics – All rights reserved