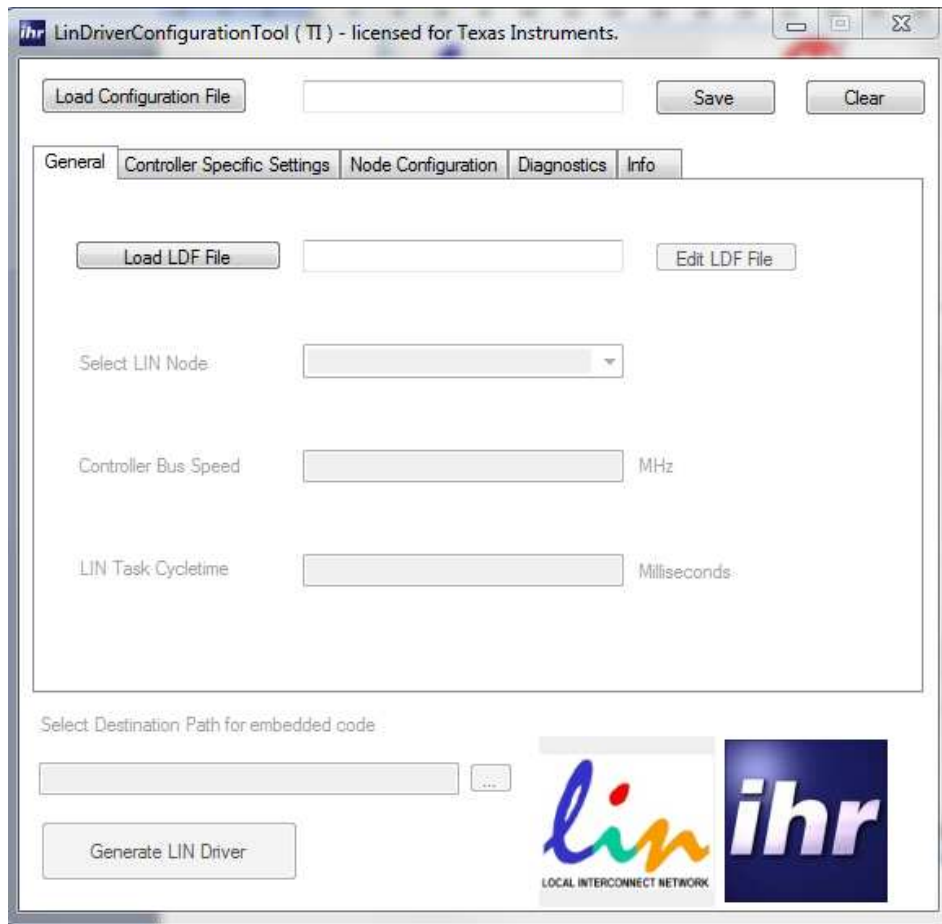


## TEXAS INSTRUMENTS LDC LIN Driver and Configuration Tool



## LIN Driver and Configuration Tool V2.0.1.0 – User Guide

<b>1</b>	<b>TEXAS INSTRUMENTS LDC – LIN DRIVER AND CONFIGURATION TOOL ....</b>	<b>5</b>
1.1	Preface.....	5
1.2	Purpose of the LDC Tool .....	5
1.3	Document Revision History.....	5
<b>2</b>	<b>INSTALLATION.....</b>	<b>5</b>
2.1	Host System Requirements.....	5
2.2	Setup Routine .....	5
<b>3</b>	<b>CONFIGURATION OF THE LDC-TOOL .....</b>	<b>5</b>
3.1	The Elements of the User Configuration.....	5
3.2	Main Screen .....	5
3.2.1	LOAD CONFIGURATION FILE.....	5
3.2.2	Clear.....	5
3.2.3	Select Controller.....	5
3.2.4	Save.....	5
3.3	Tab “General” .....	5
3.3.1	Load LDF.....	5
3.3.2	Edit LDF .....	5
3.3.3	Select Node .....	5
3.3.4	Controller Speed.....	5
3.3.5	LIN Task Cycletime .....	5
3.3.6	Select Destination Path .....	5
3.4	Tab “Node Configuration” .....	5
3.4.1	Assign NAD .....	5
3.4.2	Preconfigured Protected ID’s .....	5
3.4.3	Conditional Changed NAD .....	5
3.4.4	Data Dump .....	5
3.4.5	Read Message ID .....	5
3.4.6	Read ECU Serial number .....	5
3.4.7	Enable User Defined .....	5
3.4.8	Enable Fixed Initialized NAD.....	5
3.5	Tab “Diagnostics”.....	5
3.5.1	Cooked API.....	5
3.5.2	Raw API.....	5
3.6	Tab “Controller Specific Settings”.....	5
3.6.1	MSP430F2xx Controller .....	5
	Tab “Info” .....	5
3.6.2	License Info.....	5



# Index

---

<b>4</b>	<b>LIN CONFORMANCE .....</b>	<b>5</b>
<b>5</b>	<b>LIMITATION OF THE DEMO RELEASE .....</b>	<b>5</b>
<b>6</b>	<b>GUARANTEE CONTRACTS .....</b>	<b>5</b>
6.1	Limited Warranty .....	5
6.2	Customer Remedies .....	5
6.3	No other Warranties.....	5
6.4	No Liability for Consequential Damages .....	5
6.5	License and Purchase Agreement .....	5
6.6	Grant of Software License.....	5
6.7	Copyright .....	5
6.8	Other Restrictions .....	5
6.9	Hardware .....	5
<b>7</b>	<b>GLOSSARY.....</b>	<b>5</b>
<b>8</b>	<b>TECHNICAL DATA .....</b>	<b>5</b>

# 1 TI LDC – LIN Driver and Configuration Tool

---

## 1 Texas Instruments LDC – LIN Driver and Configuration Tool

### 1.1 Preface

**ihr** GmbH is an associated member to the LIN consortium since the beginning and member of the LIN testing workgroup since 2003. **ihr** GmbH is a well known supplier for premium LIN emulators and LIN measurement equipment. Since 2004 **ihr** GmbH performs conformance tests as an accredited test house. We have seen dozens of LIN applications and we know the always repeating customer demands related to the LIN topic.

Since **ihr** and Texas Instruments have a long and strong relationship over many years, the idea was born for the LIN Driver and Configuration Tool (**LDC-Tool**) for Texas Instruments controllers.

### 1.2 Purpose of the LDC Tool

Without special LIN expertise, designers can easily add a LIN interface to their applications using Texas Instruments microcontrollers (MCUs). The LIN configuration tool supports LIN specifications 1.3, 2.0 and 2.1.

The configuration tool simply needs basic information such as:

- The TI MCU derivate (from the Code Composer Studio IDE)
- The LIN Description File (LDF)
- The node to be implemented (as per LDF)
- The controller speed

Additionally, designers can select optional services in LIN specifications. The tool then generates C Code for the embedded project. The configuration can be stored for later usage. The generated driver files are integrated into the Code Composer Studio IDE project, and the code generated supports the specified compliant LIN API.

Therefore, the project manager can concentrate on the application and rely on the LIN conform driver.

**Formatiert:** Englisch  
(Großbritannien)

**Feldfunktion geändert**

**Formatiert:** Englisch  
(Großbritannien)



## 1.3 Document Revision History

### Revision A (October 2011)

- Initial release of this document.

## 2 Installation

---

## 2 Installation

### 2.1 Host System Requirements

To install and run the program the host system need to fulfill the following requirements:

- PC-compatible system
- Microsoft® Windows XP ,Vista or 7
- Microsoft® Framework 3.5 or higher.

### 2.2 Setup Routine

Just copy the LinDriverConfigurationTool.exe file, LDFapi3.dll file and license.lic file (if available) to the same folder. Then run the LinDriverConfigurationTool.exe file to start the program.

### 3 Configuration of the LDC-Tool

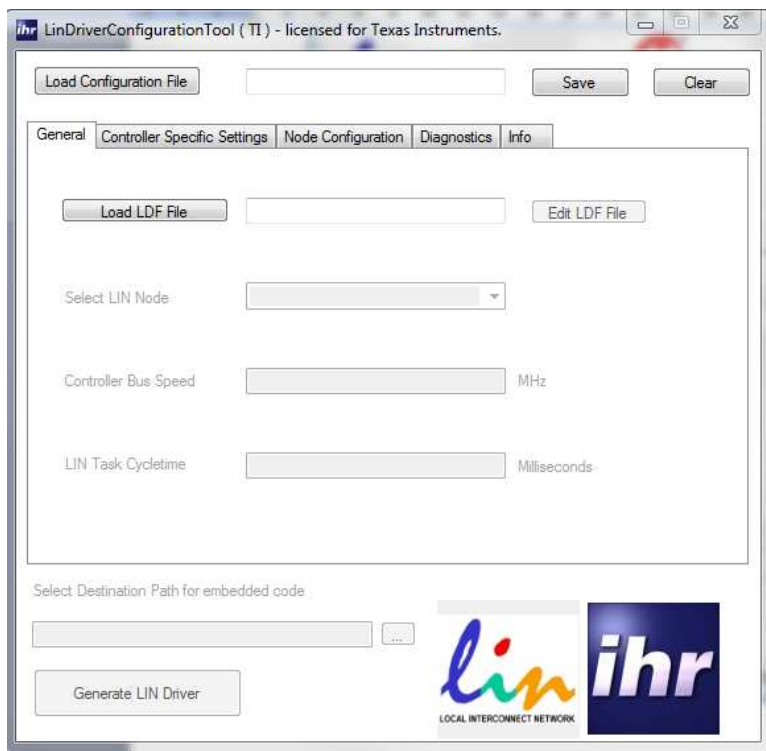


**Formatiert:** Nummerierung und Aufzählungszeichen

## 3 Configuration of the LDC-Tool

### 3.1 The Elements of the User Configuration

Starting the SW; you will see the following screen:



**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**

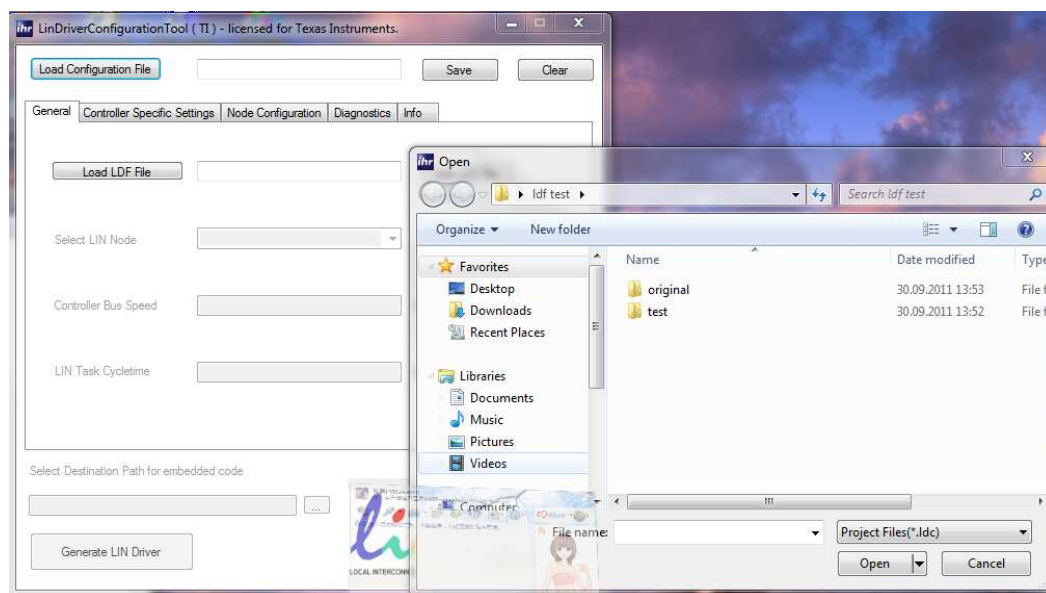
## 3 Configuration of the LDC-Tool



### 3.2 Main Screen

#### 3.2.1 LOAD CONFIGURATION FILE

With “Load configuration File” you can load a project file. The project file contains all settings made in the LDC-Tool. The LDC project file has the suffix \*.ldc .



#### 3.2.2 Clear

The “CLEAR” button resets all values to the default values.

**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**



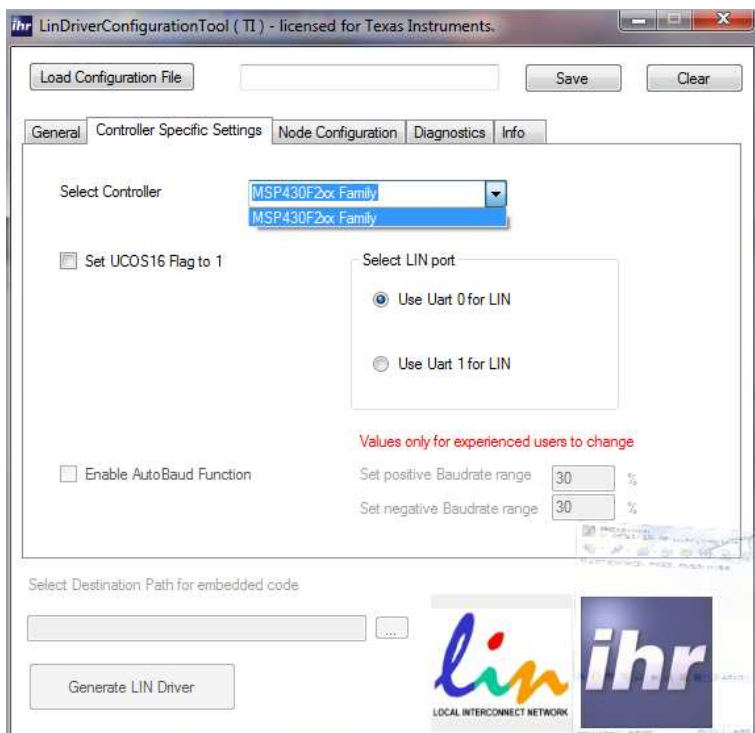
## 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen

### 3.2.3 Select Controller

Select the controller of the Texas Instruments family.



### 3.2.4 Save

Save stores all settings made in the project. Project files have the suffix \*.ldc. The project files can be loaded with "Load Configuration File" (see 2.1.2).

**Formatiert:** Englisch (Großbritannien)

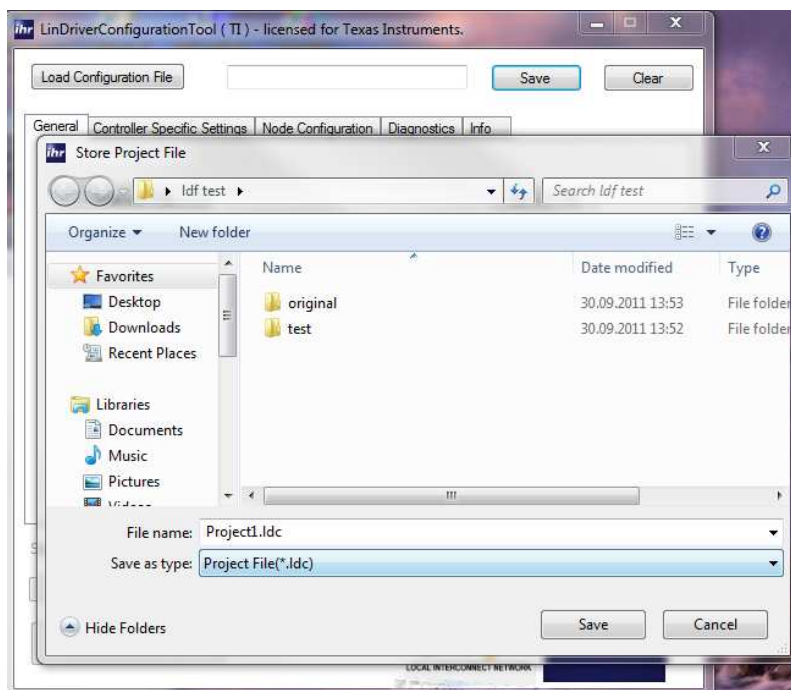
**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**

### 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen



Tip: Use the same path as used for the project

#### 3.3 Tab “General”

In the Section General, you can select the LDF-File; select the node and controller speed as well as the LIN task cycling time.

##### 3.3.1 Load LDF

Load LDF selects the LDF file of the node to be developed.

**Formatiert:** Englisch (Großbritannien)

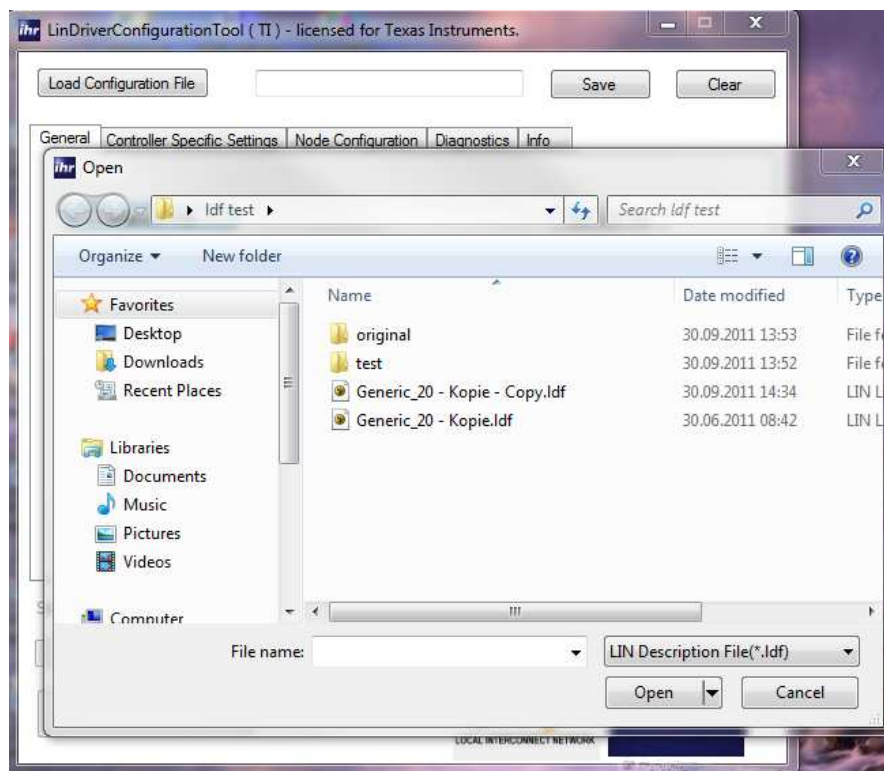
**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**

### 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen



Select the LDF file corresponding to the project. The internal LIN-parser checks the syntax of the LDF file. If the LDF parser detects errors in the LDF file, a corresponding error message is displayed. The LDF parser accepts LDF files in accordance to Standard LIN 1.3, 2.0 and 2.1.

**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**

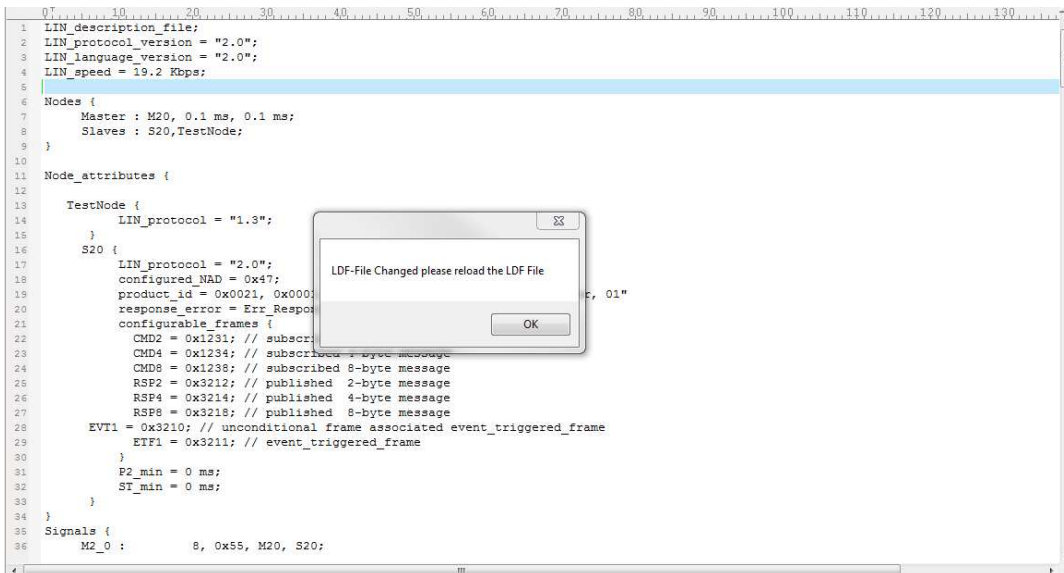
## 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen

### 3.3.2 Edit LDF

With “Edit LDF” the windows editor opens the selected LDF file to view and modify the LDF file. In case of modifications have been made, the program will remind to reload the LDF file to check the syntax again.



### 3.3.3 Select Node

Select node chooses the node you want to develop:

**Formatiert:** Englisch (Großbritannien)

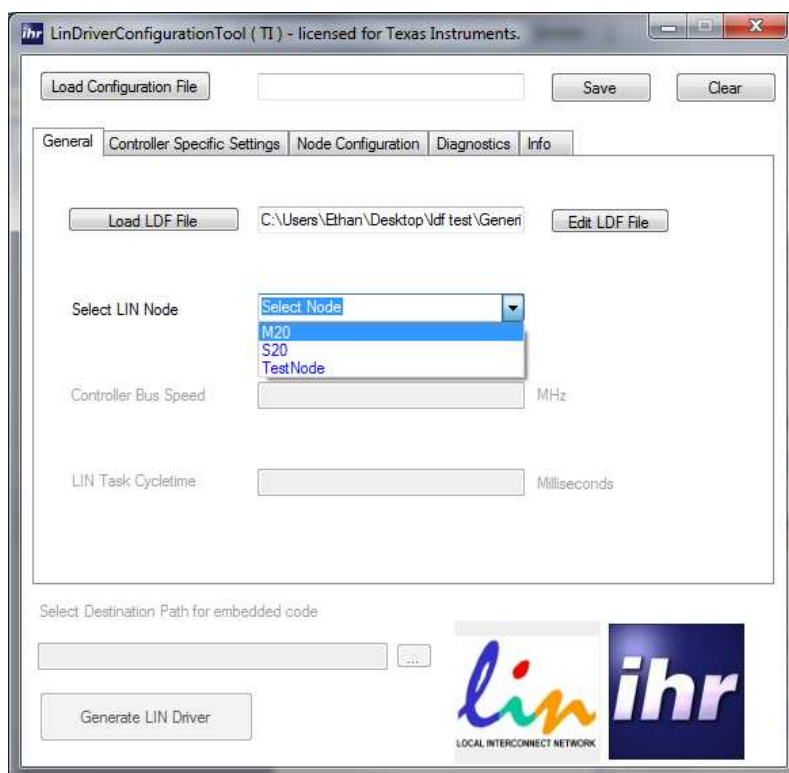
**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**

### 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen



The available nodes are extracted from the LDF-file with the internal LIN-parser (see 2.2.3)

#### 3.3.4 Controller Speed

Enter the Controller Speed according to the microcontroller and project requirements. Please refer to the data and errata sheet of your Texas Instruments product for correct settings.

**Formatiert:** Englisch (Großbritannien)

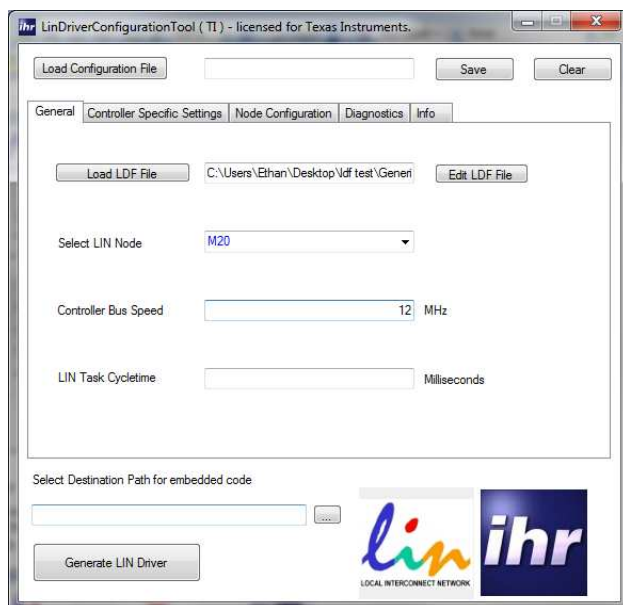
**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**

### 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen



#### 3.3.5 LIN Task Cycletime

Fill in the time period in milliseconds at which the “Id\_task” will be called in your application. This Task is needed for supervising the auto baud function in the Microcontroller. Typical values are between 1 to 10 milliseconds.

**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**

### 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen



**Formatiert:** Nummerierung und Aufzählungszeichen

#### 3.3.6 Select Destination Path

Select the Destination Path to where the generated code will be copied to.

**Formatiert:** Englisch (Großbritannien)

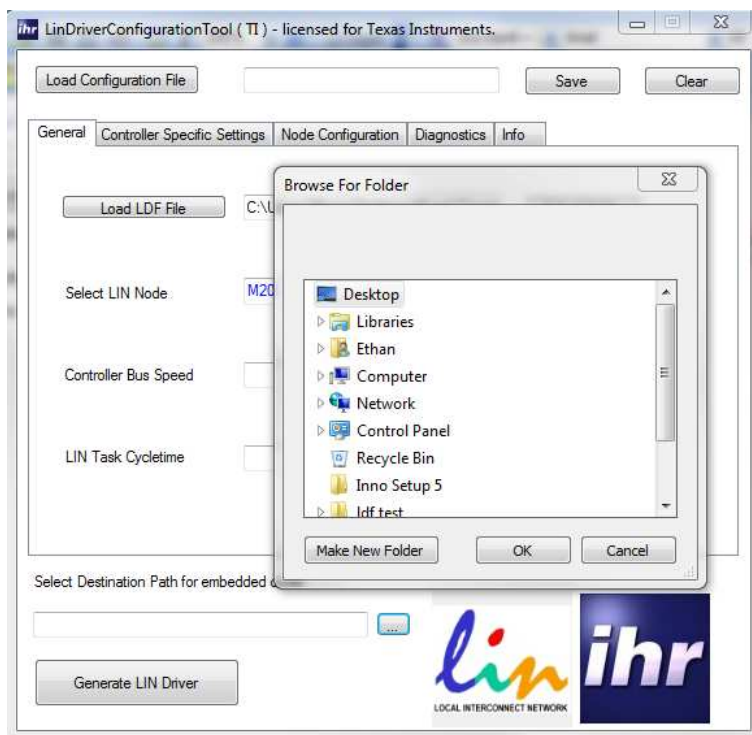
**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**

### 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen



**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**



## 3 Configuration of the LDC-Tool

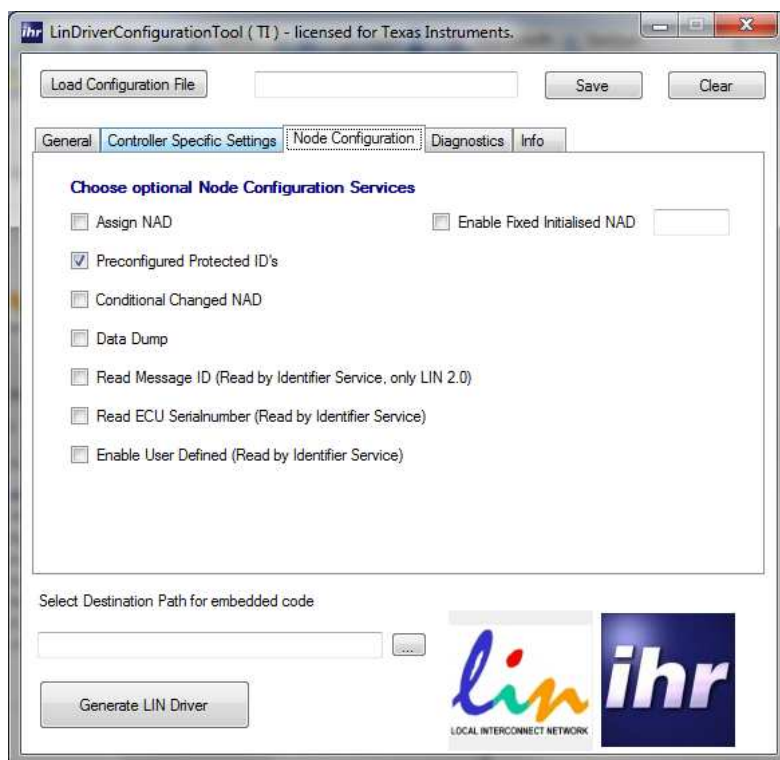


**Formatiert:** Nummerierung und Aufzählungszeichen

### 3.4 Tab “Node Configuration”

Optional Services

Select the optional services according to your LIN project:



#### 3.4.1 Assign NAD

Assign NAD is an optional service as per LIN Specification. By activating Assign NAD the node address change is supported by the LIN driver.

For reference see also LIN Specification Package available through the LIN consortium <http://www.lin-subbus.de/>

**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**



### 3 Configuration of the LDC-Tool

#### 3.4.2 Preconfigured Protected ID's

When this service is enabled send and receive frames use the identifiers defined in the LDF-file. If this service is NOT active the frames have to be configured with the mandatory LIN service "Assign Frame ID"

**Note:** The frame IDs in the LDF file are NOT the protected Identifiers. The LDC-Tool calculates the protected ID by adding the two parity bits as per LIN specification. For further information see the LIN specification package.

Example:

The Preconfigured Protected ID  
for the frames

- "CMD2"  
= 0xC1 (ID = 01 = 0x01)
- "RSP2"  
= 0x42 (ID = 02 = 0x02)

```
Frames {
  CMD2 : 1, M20, 2{
    M2_0, 0;
    M2_1, 8;
  }
  RSP2 : 2, S20, 2{
    Wakeup, 0;
    Err_Bus, 1;
    Err_Parity, 2;
    Err_Frame, 4;
    Err_Checksum, 5;
    Err_Bit, 6;
    Err_Sync, 7;
    Err_Response, 15;
    S2_0, 0;
    S2_1, 8;
  }
  CMD4 : 33, M20, 4{
    M4, 0;
  }
  RSP4 : 34, S20, 4{
    S4, 0;
  }
  CMD8 : 49, M20, 8{
    M8, 0;
  }
  RSP8 : 50, S20, 8{
    S8, 0;
  }
}
```

#### 3.4.3 Conditional Changed NAD

If this configuration service is enabled, the LIN driver provides the LIN configuration service "Conditional Change NAD" (SID = 0xB0) as per LIN specification. For further information see the LIN specification package.

#### 3.4.4 Data Dump

If this configuration service is enabled, the LIN driver provides the LIN configuration service "Data dump" (SID = 0xB4) as per LIN specification. Additionally a callback function as interface for application specific functionality is enabled. For further information see the LIN specification package.

#### 3.4.5 Read Message ID

If this configuration service is enabled, the LIN driver provides the LIN configuration service "Read Message ID" (SID = 0xB2, ID 16 – 31) as per LIN specification. For further information see the LIN specification package.

Formatiert: Englisch  
(Großbritannien)

Formatiert: Englisch  
(Großbritannien)

Feldfunktion geändert

### 3 Configuration of the LDC-Tool



#### 3.4.6 Read ECU Serial number

If this configuration service is enabled, the LIN driver provides the LIN configuration service "Read Message ID" (SID = 0xB2, ID 1) as per LIN specification. Additionally a callback function as interface for application specific functionality is enabled. For further in formation see the LIN specification package.

#### 3.4.7 Enable User Defined

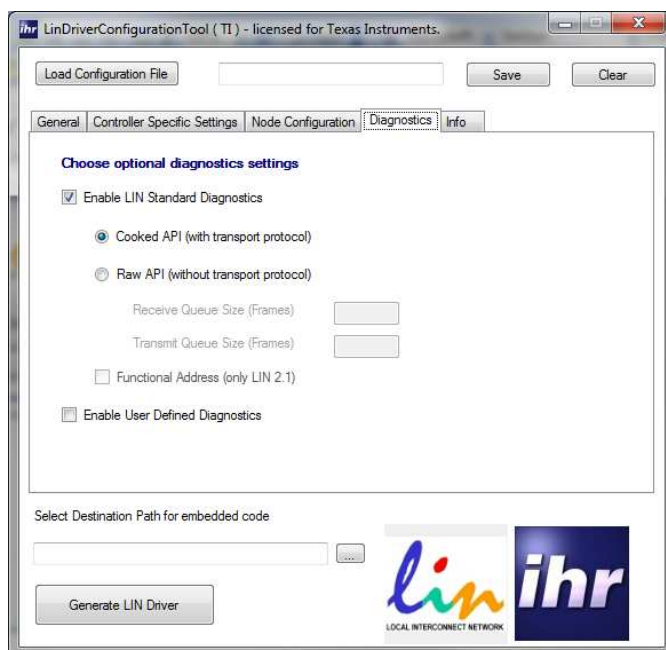
If this configuration service is enabled, the LIN driver provides the LIN configuration service "Enable Used Defined" (SID = 0xB2, ID 32 - 63) as per LIN specification. Additionally a callback function as interface for application specific functionality is enabled. For further in formation see the LIN specification package.

#### 3.4.8 Enable Fixed Initialized NAD

If you want to use a fixed Initial NAD in your project, select this checkbox and enter the value for the Initial NAD.

### 3.5 Tab "Diagnostics"

Insert Diagnostic setting according to the LIN project.



Diagnostic services are specified since LIN 2.0.

### 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen

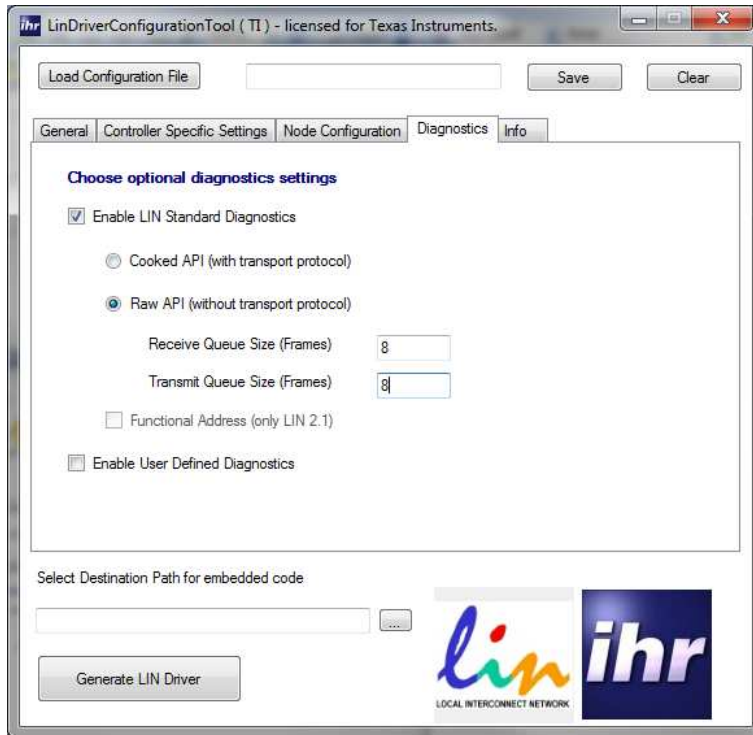
#### 3.5.1 Cooked API

In the mode „Cooked API“ the transport protocol layer is implemented in the LIN driver. The application exchanges the complete diagnostic messages to the drives (more than 8 Bytes possible)

**Formatiert:** Nummerierung und Aufzählungszeichen

#### 3.5.2 Raw API

**Formatiert:** Nummerierung und Aufzählungszeichen



In the mode „Raw API“, the driver exchanges the single frames without the transport protocol layer. This is useful, when the application uses its own transport protocol layer or to reduce memory use in case of low-level diagnostics. The values „Receiver Queue Size“ and „Transmit Queue Size“ need to be defined.

**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**

## 3 Configuration of the LDC-Tool



Formatiert: Nummerierung und Aufzählungszeichen

### 3.6 Tab “Controller Specific Settings”

#### 3.6.1 MSP430F2xx Controller

Select the controller specific setting according to the LIN project / microcontroller:



##### 3.6.1.1 Use Uart0 / 1

In case of the microcontroller has several Uarts, select which Uart is used for the LIN communication.

##### 3.6.1.2 Enable UCOS16 Flag

The UCOS16 flag is used to enable the Uart to generate Oversampling Baud Rate. When the flag is set to 1, the LDC tool will calculate the baud rate register values using the oversampling mode. Otherwise the Low-Frequency Baud Rate register values are generated. Please refer to the data and errata sheet of your Texas Instruments product for correct settings.

##### 3.6.1.3 Enable AutoBaud Function

This adjustment enables the auto baud function for the slave node. The values “set positive range” and “set negative range” define the lock-in range for the auto baud function. For details please see the Texas Instruments data / errata sheet for correct settings.

Formatiert: Nummerierung und Aufzählungszeichen

Formatiert: Nummerierung und Aufzählungszeichen

Formatiert: Nummerierung und Aufzählungszeichen

Formatiert: Englisch (Großbritannien)

Formatiert: Englisch (Großbritannien)

Feldfunktion geändert

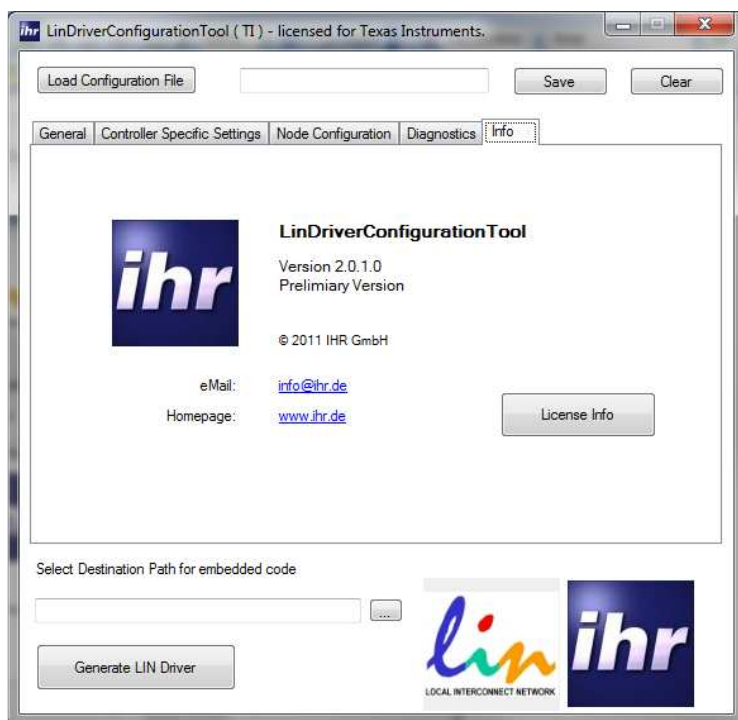
### 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen

#### Tab “Info”

The tab Info informs about the software version and license information.



**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

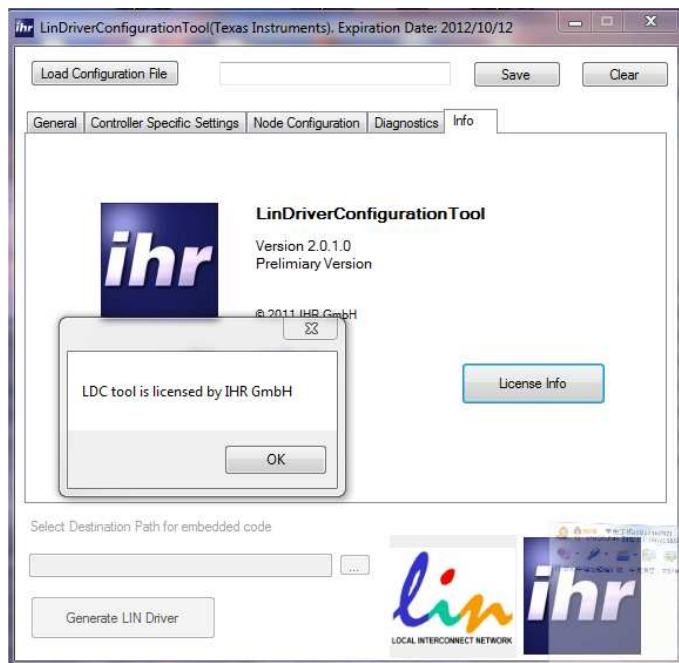
**Feldfunktion geändert**

### 3 Configuration of the LDC-Tool



#### 3.6.2 License Info

Users can check the software information via "License info" button. If a valid license is installed, the software will show that the LDC tool is licensed by IHR GmbH".

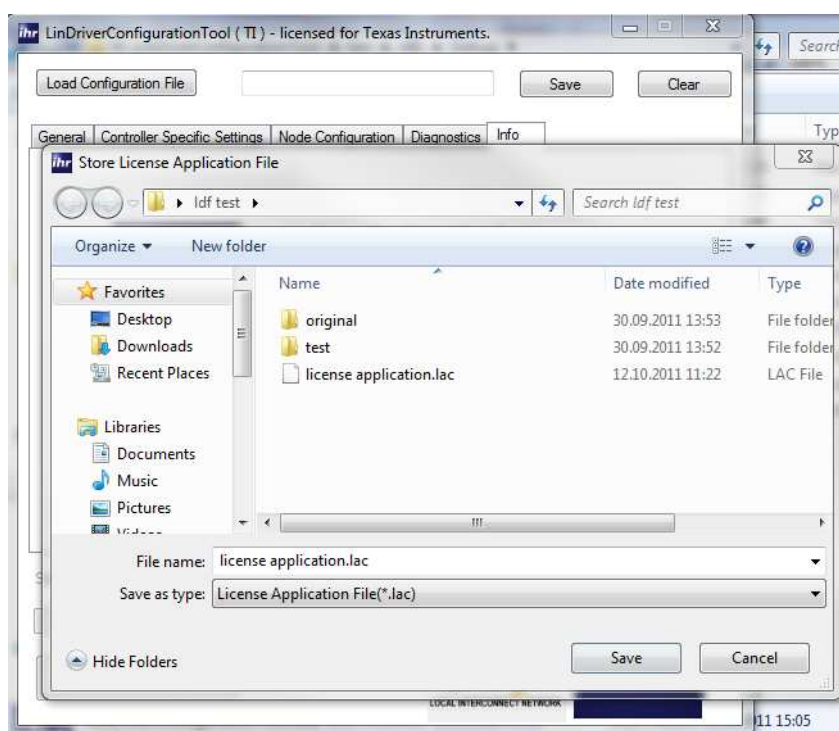


Otherwise, the message will show the software is a demo version. When the user press "yes" button in the message box, a license application file with extension .lac will be generated. The application file contains the hardware information of the user's computer. Email this file to [info@ihr.de](mailto:info@ihr.de) so as to enable a full version LDC tool.

### 3 Configuration of the LDC-Tool



**Formatiert:** Nummerierung und Aufzählungszeichen



**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**



## 4 LIN Conformance



**Formatiert:** Nummerierung und Aufzählungszeichen

## 4 LIN Conformance

**Formatiert:** Nummerierung und Aufzählungszeichen

### *The LIN driver is Pre-tested:*

- The communication is running in general.  
A conformance test report always states the tested components only! Usually the report indicates the HW and SW release, so the report is valid for this configuration only!
- The application can have an influence on the LIN communication so the LIN driver needs to be tested together with the application.
- Some adjustments in the driver configuration can effect the LIN communication: E.g. controller specific settings (e.g. positive or negative baud rate range).

Note: The DEMO Version of the LDC-Tool does not generate LIN conform code, since the mandatory Node Configuration services are not supported.

**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**



**Formatiert:** Nummerierung und Aufzählungszeichen

## 5 Limitation of the Demo Release

## 5 Limitation of the Demo Release

**Formatiert:** Nummerierung und Aufzählungszeichen

Limitations of the Demo Version of the LDC-Tool

The free Demo Version has limited content:

- The node number in the LIN network is limited to 2, which means one master and one slave.
- The master schedule tables are limited to 2.
- The LIN version is limited to LIN 2.0 or LIN 2.1.
- The signal types are limited to byte array or bool only.
- The frame types are limited to unconditional frame, so event triggered frame and sporadic frame are not allowed.
- No Node Configuration Services (no optional and no Mandatory Services) available.
- No Diagnosis Services available.

Limited Warranty

**ihr** warrants that the SOFTWARE will perform substantially in accordance with the accompanying Product Manual(s) for a period of 1 year from the date of receipt.

**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**



Formatiert: Nummerierung und Aufzählungszeichen

## 6 Guarantee Contracts

Formatiert: Nummerierung und Aufzählungszeichen

## 6 Guarantee Contracts

### 6.1 Limited Warranty

**ihr** warrants that the SOFTWARE will perform substantially in accordance with the accompanying Product Manual(s) for a period of 1 year from the date of receipt. **ihr** warrants that the delivered product will be free from defects in materials and workmanship under normal use and service for a period of 1 year from the date of receipt. Any implied warranties on the SOFTWARE we limited to 1 year, the same to the Hardware. This warranty is given by **ihr** as producer of the PRODUCT; possible legal warranty or liability claims against the dealer, whom you have acquired your SOFTWARE or HARDWARE product from, shall neither replaced by nor limited through this warranty.

Formatiert: Nummerierung und Aufzählungszeichen

### 6.2 Customer Remedies

**ihr** 's entire liability and your exclusive remedy shall be, at **ihr** 's option, either (a) return of the price paid or (b) repair or replacement of the SOFTWARE or HARDWARE that does not meet **ihr** 's Limited Warranty and which is returned to **ihr** with a copy of your receipt. This Limited Warranty is void if failure of the SOFTWARE or HARDWARE has resulted from accident, abuse, or misapplication. Any replacement SOFTWARE will be warranted by **ihr** only for the remainder of the original warranty period or 30 days, whichever is longer. Any replacement HARDWARE will be warranted for the remainder of the original warranty period or 12 months, whichever is longer

Formatiert: Nummerierung und Aufzählungszeichen

### 6.3 No other Warranties

**ihr** disclaims all other warranties or liabilities with respect to the SOFTWARE, the HARDWARE, the accompanying Product Manual(s) and other written materials and any other accessories.

Formatiert: Nummerierung und Aufzählungszeichen

### 6.4 No Liability for Consequential Damages

**ihr** does not warrant the software and hardware for a specific application, nor does **ihr** accept any consequential damages due to the use of the hardware or software. **ihr** and its suppliers shall not be liable for any other damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information or data, property loss or other financial loss), arising out of the use of or the inability to use **ihr** product, even if **ihr** has been advised of the possibility of such damages. In any case, **ihr** 's entire liability shall be limited to the amount actually paid by you for the product.

Formatiert: Nummerierung und Aufzählungszeichen

### 6.5 License and Purchase Agreement

Dear Customer,

If you acquired your **ihr** product in the UNITED STATES or in CANADA, the following license and purchase agreement applies to you:

This is a legally binding agreement between you, the end user and **ihr** GmbH in Bühl Germany (**ihr**).

By opening the sealed disk package and taking possession of the hardware, you are agreeing to be bound by the terms of this Agreement. If you do not agree to the terms of this Agreement, promptly return the unopened and unused disk package and hardware with the accompanying

Formatiert: Englisch (Großbritannien)

Formatiert: Englisch (Großbritannien)

Feldfunktion geändert



Formatiert: Nummerierung und Aufzählungszeichen

## 6 Guarantee Contracts

items (including all written materials and other accessories) to the place of purchase for a full refund.

Formatiert: Nummerierung und Aufzählungszeichen

### 6.6 Grant of Software License

This **ihr** License Agreement (License) permits you to use one copy of the **ihr** software product acquired with this License ("SOFTWARE") on any single computer, provided the SOFTWARE is in use on only one computer at any time. If you have multiple Licenses for the SOFTWARE, then at any time, you may have as many copies of the SOFTWARE in use as you have Licenses. The SOFTWARE is "in use" on a computer when it is loaded into the temporary memory (i.e. RAM) or installed into the permanent memory (e.g. hard disk or other storage device) of that computer, except that a copy installed on a network server for the sole Purpose of distribution to other computers is not "in use". If the anticipated number of users of the SOFTWARE will exceed the number of applicable Licenses, then you must have a reasonable mechanism or process in place to assure that the number of persons using the SOFTWARE concurrently does not exceed the number of Licenses. If the SOFTWARE is permanently installed on the hard disk or other storage device of a computer (other than a network server) and one person uses that computer more than 80% of the time it is in use, then that person may also use the SOFTWARE on a portable or home computer.

Formatiert: Nummerierung und Aufzählungszeichen

### 6.7 Copyright

The SOFTWARE is owned by **ihr** or its suppliers and is protected against copying by copyright laws, international treaty provisions and other national laws. If the SOFTWARE is not copy-protected you may either (a) make one copy of the SOFTWARE solely for backup or archival Purposes, or (b) transfer the SOFTWARE to a single hard disk provided you keep the original solely for backup or archival purposes. You may not copy the Product Manual(s) or written materials accompanying the SOFTWARE or HARDWARE.

Formatiert: Nummerierung und Aufzählungszeichen

### 6.8 Other Restrictions

You may not rent or lease the SOFTWARE or HARDWARE, but you may transfer your rights under this **ihr** License and Purchase Agreement on a permanent basis provided you transfer all copies of the SOFTWARE and all written materials, and the recipient agrees to the terms of this Agreement. You may not reverse engineer, decompile or disassemble the SOFTWARE. Any transfer must include the most recent update and all prior versions.

Formatiert: Nummerierung und Aufzählungszeichen

### 6.9 Hardware

**ihr** warrants that the hardware will be delivered free from defect and in working condition. **ihr** does not assume liability for nor warrant damage to the hardware after delivery. **ihr** also does not warrant total applicability for specific applications or customer environments.

Should you have any questions concerning this Agreement, or if you desire to contact **ihr** for any reason, please use the address information enclosed with this product or write to: **ihr** GmbH Germany, Airport Boulevard B219, D-77836 Rheinmuenster, Germany.

Formatiert: Englisch (Großbritannien)

Formatiert: Englisch (Großbritannien)

Feldfunktion geändert

## 7 Glossary



**Formatiert:** Nummerierung und Aufzählungszeichen

## 7 Glossary

**Formatiert:** Nummerierung und Aufzählungszeichen

API = Application Programming Interface  
ASIC = Application Specific Integrated Circuit  
DUT = Device under Test  
ECU = Electronic Control Unit  
ETF = Event Triggered Frame  
ID = Identifier (6 Bit without Parity Bits)  
LIN = Local Interconnect Network  
LDF = LIN Description File  
NAD = Node Address  
NCF = Node Capability File  
OTP = On time Programmable  
PCI = Protocol Control Information  
PID = Protected Identifier (6 Bits identifier + 2 Parity Bits)  
SBC = System Basis Chip  
SCI = Serial Communication Interface  
SOC = System on Chip  
UART = Universal Asynchronous Receiver/Transmitter

**Formatiert:** Englisch (Großbritannien)

**Formatiert:** Englisch (Großbritannien)

**Feldfunktion geändert**

## 8 Technical Data

---

## 8 Technical Data

Supported (LIN) Standards:

- LIN 2.0
- LIN 2.1

Supported Microcontroller:

- MSP430 F2xx

Supported compilers:

- Code Composer Studio 4.2.4

# LDC - LIN Driver and Configuration Tool

**IHR** GmbH

Airport Boulevard B210

D-77836 Rheinmuenster

Tel. +49 7229 18475 - 0

Fax.+49 7229 18475 - 50

Email [support@ihr.de](mailto:support@ihr.de)

Web [www.ihr.de](http://www.ihr.de)