FORD LDM Localization - 功能 #2594

功能 # 2519 (已关闭): Ford_SYSR: System Requirement

Ford_SYSR：FS_REQ0073_V1 Node Lighting Module Configuration Mechanics

2024-10-24 19:55 - 玉洁 金

状态:	已关闭	**开始日期:**	2024-10-29
优先级:	普通	**计划完成日期:**	2024-11-07
指派给:	槐 杨	**% 完成:**	100%
类别:		**预期时间:**	0.00 小时
目标版本:	H003_SW0007169.A001.8	**耗时:**	5.00 小时

描述

Configuring a LIN Node is not a download. It uses a functional message to transfer data one time to the LIN node. The LIN node must retain this configuration information in EEPROM (or equivalent). To support a relatively large amount of configuration info (inclination/intrusion sensor) a multiplex message is used.

DLPL_LIN_19_001 – Configuration Data

Configuration information is limited to data that is downloaded when the LIN node is first installed and never changes. If the information can change, it is deemed to be personalization information and must be transmitted to the node using one or more normal (non-configuration) LINxx schedule tables. To avoid limiting the amount of configuration information to what can fit into one LIN frame, we have chosen to use a multiplex type transmit style. The LIN controller will transmit an index byte (ConfigIndex) plus seven data bytes (ConfigData). The controller will always start with ConfigIndex = 0 and then increment the Config Index every time it transmits the next set of ConfigData. When all the data has been transmitted, the LIN controller will then go back and start transmitting from zero again. This is a simple algorithm in the LIN controller and allows different nodes to have differing amounts of ConfigData.

A LIN Node will "know" that it has completely received all the ConfigData when it sees ConfigIndex = 0 a second time. At this point, the LIN Node will need to write out the config data to EEPROM. Once the write is completed the LIN Node will lower the "I'm not configured" error flag (APINFO4 = 1).
DLPL_LIN_19_002 – Configuration Data Mapping

The table below explicitly lists how the multiplexed Config information signals are uniquely mapped in the LIN Node.

ConfigIndex Valuenumbe	ConfigData Byte	LIN Node Config Data
0	Data0	LINConfig[0]
0	Data1	LINConfig[1]
0	Data2	LINConfig[2]
0	Data3	LINConfig[3]
0	Data4	LINConfig[4]
0	Data5	LINConfig[5]
0	Data6	LINConfig[6]
1	Data0	LINConfig[7]
1	Data1	LINConfig[8]
1	Data2	LINConfig[9]
1	Data3	LINCon

		fig[10]
1	Data4	LINConfig[11]
1	Data5	LINConfig[12]
1	Data6	LINConfig[13]
2	Data0	LINConfig[14]
2	Data1	LINConfig[15]
2	Data2	LINConfig[16]
2	Data3	LINConfig[17]
2	Data4	LINConfig[18]
2	Data5	LINConfig[19]
2	Data6	LINConfig[20]
3	Data0	LINConfig[21]
3	Data1	LINConfig[22]
3	Data2	LINConfig[23]
3	Data3	LINConfig[24]
3	Data4	LINConfig[25]
3	Data5	LINConfig[26]
3	Data6	LINConfig[27]

Table 38: Multiplexed ConfigIndex/ConfigData Mapping to Unique Internal LIN Node Config Data

The LDM supplier is responsible for providing full multiplexing information showing the location of each parameter within the LIN configuration frames.

Rule Num	Rule
DLPL_LIN_19_003	All LIN nodes shall store any configuration data in EEPROM/NVM. Configuration data will not be continuously transmitted during normal operation.
DLPL_LIN_19_004	A node shall infer that Configuration Mode has started when it first receives any of these signals:ConfigIndex signalConfigData signalPartNumIndex signalPartNumData signal (Note: Configuration information is repeatedly transmitted until all nodes on a subnet report "Configured" or 4 seconds elapse (whichever is sooner).)
DLPL_LIN_19_005	Once a node detects that the subnet as switched to Configuration Mode

	then it shall immediately start reporting "Not Configured" until the next requirement is met. The LIN Node must transmit the "Not Configured" status at least one time (even if the node does not support configuration information).
DLPL_LIN_19_006	The node shall only indicate that it is configured after:All config information has been receivedAll config information is saved in NVM/EEPROM
DLPL_LIN_19_007	Note 1: The node can detect that it has received all ConfigData when the ConfigIndex is zero the second time. Note 2: Even after a node has been completely configured, the node may continue to receive the configuration information repeatedly. This allows other LIN nodes with more configuration information to receive their config data. It also allows the LIN Controller to collect all LIN Node part numbers (see next section).

Table 39: Ford Configuration and Part Number Retrieval Requirements

子任务:

功能 # 2830: Ford_SWER_0073_0001：LDM Data Configuration definition	**已关闭**
功能 # 2831: Ford_SWER_0073_0002：LDM Configuration LIN message ID	**已关闭**
功能 # 2833: Ford_SWER_0073_0004：LDM Configuration data storage ...	**已关闭**
功能 # 2836: Ford_SWER_0073_0004：LDM Configuration data transimi...	**已关闭**
功能 # 2840: Ford_SWER_0073_0005：LDM Configuration tirgger method	**已关闭**
功能 # 2843: Ford_SWER_0073_0006：LDM personalization configurati...	**已关闭**
功能 # 2844: Ford_SWER_0073_0007: LDM Data Configuration LIN fr...	**已关闭**
功能 # 2847: Ford_SWER_0073_0008: LDM data configuration interac...	**已关闭**
功能 # 2850: Ford_SWER_0073_0009: LDM Data Configuration LIN dat...	**已关闭**
功能 # 2853: Ford_SWER_0073_0010: LDM Data Configuration detaile...	**已关闭**
功能 # 2859: Ford_SWER_0073_0011: LDM Data Configuration Start a...	**已关闭**
功能 # 2861: Ford_SWER_0073_0012: LDM Data Configuration should ...	**已关闭**
功能 # 2864: fORD_SWER_0073_0013: LDM Data Configuration Respond...	**已关闭**

历史记录

#1 - 2024-10-25 10:42 - 涛 陆

完成

#2 - 2024-10-29 13:37 - 斌 徐

- 描述 已更新。

#3 - 2024-11-22 09:37 - 斌 徐

- 状态 从 新建 变更为 已关闭