

505650 M-Flex Isolated CAN Bridge Module User Guide

CREATED:	G. SCHAUER	DATE:	02/25/20
CHECKED:	S. JOHNSON	DATE:	03/02/20
APPROVED:	S. JOHNSON	DATE:	03/03/20
ECN:	17321E	DATE:	06/20/23



Launch the 'ProgTool' application by double clicking the icon.



The 'Main' screen will appear and automatically detect compatible Kvaser dongle(s) connected to the PC USB port(s).



Figure 1: Main screen of Marlin CAN-USB Programmer



If multiple Kvaser dongle(s) are connected, you will need to select which one you want to use from the drop down menu as shown:

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	Program
-	Prog All
Kvaser Leaf Light v2, SN # 43513	
Kvaser Leaf Light HS, SN # 21074	a de la companya de la

Figure 2: Tool select drop down menu

Once selected, the Marlin CAN USB Programmer will auto-detect any modules connected to that specific Kvaser dongle. Consult the device outline drawing(013284O_) to ensure the dongle chosen is connected to CAN channel 1 of the desired device.

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1 Kvaser CAN Tool Discovered:		
1: Kvaser Leaf Light v2, SN # 83185		
Selected Kvaser Tool: Kvaser Leaf Light v2, #83185		
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Total 1 modules found.		
All mediate on CAN but word transited		
All modules on CAN bus were inspected.	entry C	ommunicat
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CAN Dongle Info		
vaser Leaf Light v2, #83185 @ 250 Kbps		

Figure 3: device being detected on the CAN bus. Shows CAN bus speed, source address and module information.



Note: If just a single Kvaser dongle is connected, the program tool will automatically connect to the dongle and any devices on the CAN bus.

Use the drop down menu from the main screen to navigate to and open XML file 014066S_.

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'Kvaser Leaf Light v2' dongle is connected ! Select Single 1 Kvaser CAN Tool Discovered: 1: Kvaser Leaf Light v2, SN # 83185 	
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Kvaser Leaf Light v2, #83185 @ 250 Kbps	

Figure 4: Choose "Single" from XML drop down menu

A new window will open giving access to the various configurable elements of the CAN Bridge. Type the hexadecimal source address(detected in Figure 3) of the device you are attempting to configure and click the "Read from EEPROM" button. This serves to confirm that you are successfully communicating with the device(as indicated by message in dialog window), and will also put the device into "Beacon" mode. Beacon mode turns both CAN LEDs to an amber color to give the user a visual indicator that the device is being configured. The device will remain in Beacon mode until a "Write to EEPROM" is done, OR until power to the device is cycled. The user can re-enter Beacon mode at any time by clicking the "Read from EEPROM" button.



	Attribute	Value	Comment	^	0
1	Source Address	153	Range = 153-164 (Default is 153)		Open XML
2	Arbitration Flag	0	0=WILL arbitrate with equal J1939 M	NAME,	
3	CAN1 Filter Type	0	0=AllPass, 1=BlockID, 2=BlockPGN, 3	-Block	Save As
4	CAN1 Baud Rate	7	1=1Mbps, 3=500kbps, 7=250kbps		
5	CAN1 Filter 1	0			HWID
6	CAN1 Filter 2	0			0323
7	CAN1 Filter 3	0			CFID
8	CAN1 Filter 4	0			0000
9	CAN1 Filter 5	0			
10	CAN1 Filter 6	0			Source
11	CAN1 Filter 7	0	TYPE SOURCE ADRESS TO MATCH	I DEVICE	Address
12	CAN1 Filter 8	0	YOU ARE COMMUNICATING WIT	н. —>	▶ 0x 99
13	CAN1 Filter 9	0			Read from
14	CAN1 Filter 10	0 TI	HEN YOU CAN READ FROM EEPROM	то 🥿	EEPROM
15	CAN1 Filter 11	0 V	ERIFY CURRENT CONFIGURATION	-	
				>	Write to EEPROM
e 'C:\P ading :	rojects\505650\14066SA.xml' file is o attributes from '99' controller to the	xMLForm 1			□ HEX

Figure 5: XML spreadsheet opened in separate window. Note the scroll bars. The "Comment" field is cut off by the default size of the window, but contains details regarding acceptable values for the corresponding attribute. There are 40 filters for CAN channel 1, and all attributes are repeated for CAN channel 2 at the bottom of the spreadsheet.

The XML gives the user control over the filter type, baud rate, and specific filter parameters to be set for CAN channel 1 and CAN channel 2.

There are seven filter types that can be applied to either CAN channel: Pass All(no filter), Block J1939 ID, Block J1939 PGN, Block J1939 Source Address, Pass J1939 ID, Pass J1939 PGN, and Pass J1939 Source Address. Baud rates of 250K, 500K, and 1M baud are supported and can also be selected. After selecting a filter type and baud rate, the user can enter the applicable data in up to 40 filter fields per channel.

The default source address of the CAN bridge module is 0x99, but if more than one CAN bridge is present, J1939 arbitration will take place. If the user prefers, they can manually select a device source address to avoid J1939 arbitration. The valid range of source addresses is 153(0x99) to 164(0xA4), where 153(0x99) is the default. *It is recommended to lock the device source address(es) by setting the "Arbitration Flag"=1 once source addresses have been set(either by arbitration or manually).



Please note: The XML spreadsheet supports both, the standard and extended CAN frame format. Please refer to Figure 6/7 below for a quick reference on Standard/Extended ID format. Refer to specification drawing 014066S_ for further details on filter composition.

Data can be entered in either decimal or hexadecimal format, but can only be written to the device in the decimal format. There is a convenient check box to quickly convert between the two formats.



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	Attribute	Value	Comment	Open XML
1	Source Address	0x99	Range = 153-164 (Default is 153)	
2	Arbitration Flag	0x1	0=WILL arbitrate with equal J1939 NAME,	Enviro de
3	CAN1 Filter Type	0x4	0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block	Save As
4	CANI Baud Rate	UX/	1=1MDps, 3=300kDps, 7=230kDps	HAVID
5	CAN1 Filter 1	0x18FF0082	EXTENDED ID	0222
6	CANT Filter 2	0x0		0323
/	CAN1 Filter 3	0x80000700	STANDARD ID. THE LEADING	CFID
8	CANI Filter 4	0x0	0x8000 IS REQUIRED FOR	0000
9	CAN1 Filter 5	0x0	ALL STANDARD ID FILTERS	Fourse
10	CANI Filter 6	0x0		Address
11	CAN1 Filter 7	0x0		0x 99
12	CANI Filter 8	0x0		
13	CANT Filter 4	0x0		Read from
14	CANT FILLER 10	UXU OXU		EEPROM
15	CAN1 Filter 11	0x0		Write to
1 \Proje	ects\505650\140665A.xml	. Mar		- D Xml File Pat
1 \Proje	ects\505650\14066SA.xml Attribute	Value	Comment	- D Xml File Pat
1 \Proje	Attribute Source Address	Value 153	Comment Range = 153-164 (Default Is 153)	- D Xml File Pat
1 \Proje	Attribute Source Address Arbitration Flag	Value 153 0	Comment Range = 153-164 (Default Is 153) 0=WILL arbitrate with equal J1939 NAWE,	- D Xml File Pat
1 \Proje 1 2 3	Attribute Source Address Arbitration Flag CAN1 Filter Type	Value 153 0 0	Comment Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=11Hers, 2=500Hers, 7=350Hers,	Xml File Pat Open XML Save As
1 \Proje	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Bald Rate	Value 153 0 0 7 7	Comment Range = 153-164 (Default Is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps	- C Xml File Pat Open XML Save As
1 \Proje	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Blud Rate CAN1 Filter 1 CAN1 Filter 1 CAN1 Filter 2	Value 153 0 0 7 419364994 0	Comment ^ Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps	- C Xml File Pat Open XML Save As HWID 0323
1 \Proje 1 2 3 4 5 6 7	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Blud Rate CAN1 Filter 1 CAN1 Filter 2 CAN1 Filter 2 CAN1 Filter 3	Value 153 0 0 7 419364994 0 2147485440	Comment ^ Range = 153-164 (Default is 153) 0 0=WILL arbitrate with equal J1939 NAWE, 0 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps	- C Xml File Pat Open XML Save As HWID 0323
1 \Proje 1 2 3 4 5 6 7 8	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Baud Rate CAN1 Filter 1 CAN1 Filter 2 CAN1 Filter 3 CAN1 Filter 4	Value 153 0 7 419364994 0 2147485440	Comment Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps	- C Xml File Pat Open XML Save As HWID 0323 CFID
1 \Proje 1 2 3 4 5 6 7 8	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Baud Rate CAN1 Filter 1 CAN1 Filter 1 CAN1 Filter 2 CAN1 Filter 3 CAN1 Filter 4 CAN1 Filter 4	Value 153 0 0 7 419364994 0 2147485440 0 0	Comment Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps	- C Xml File Pat Open XML Save As HWID 0323 CFID 0000
1 \Proje 1 2 3 4 5 6 7 8 9 10	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Baud Rate CAN1 Filter 1 CAN1 Filter 1 CAN1 Filter 2 CAN1 Filter 3 CAN1 Filter 4 CAN1 Filter 5 CAN1 Filter 5 CAN1 Filter 5	Value 153 0 7 419364994 0 2147485440 0 0 0	Comment Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps	- C Xml File Pat Open XML Save As HWID 0323 CFID 0000 Source
1 1 2 3 4 5 6 7 8 9 10 11	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Baud Rate CAN1 Filter 1 CAN1 Filter 1 CAN1 Filter 2 CAN1 Filter 3 CAN1 Filter 3 CAN1 Filter 4 CAN1 Filter 5 CAN1 Filter 5 CAN1 Filter 7	Value 153 0 7 419364994 0 2147485440 0 0 0 0	Comment Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps	- CPU Save As Save As HWID 0323 CFID 0000 Source Address
1 1 2 3 4 5 6 7 8 9 10 11	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Baud Rate CAN1 Filter 1 CAN1 Filter 1 CAN1 Filter 2 CAN1 Filter 3 CAN1 Filter 3 CAN1 Filter 4 CAN1 Filter 5 CAN1 Filter 6 CAN1 Filter 7 CAN1 Filter 7 CAN1 Filter 8	Value 153 0 7 419364994 0 2147485440 0	Comment Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps	Xml File Pat Open XML Save As HWID 0323 CFID 0000 Source Address 0x 99
1 \\Proje 1 2 3 4 5 6 7 8 9 10 11 11 12 13	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Baud Rate CAN1 Filter 1 CAN1 Filter 1 CAN1 Filter 2 CAN1 Filter 3 CAN1 Filter 3 CAN1 Filter 5 CAN1 Filter 5 CAN1 Filter 6 CAN1 Filter 7 CAN1 Filter 7 CAN1 Filter 7 CAN1 Filter 7 CAN1 Filter 7	Value 153 0 7 419364994 0 2147485440 0	Comment Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps	- CPU Save As Save As HWID 0323 CFID 0000 Source Address 0x 99
1 \Proje 3 4 5 6 7 8 9 10 11 12 13 14	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Baud Rate CAN1 Filter 1 CAN1 Filter 1 CAN1 Filter 2 CAN1 Filter 3 CAN1 Filter 3 CAN1 Filter 4 CAN1 Filter 5 CAN1 Filter 5 CAN1 Filter 7 CAN1 Filter 7 CAN1 Filter 8 CAN1 Filter 9 CAN1 Filter 9 CAN1 Filter 10	Value 153 0 7 419364994 0 2147485440 0	Comment Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps	- Open XML Save As HWID 0323 CFID 0000 Source Address 0x 99 Read from
1 \Proje 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 14 15 10 10 10 10 10 10 10 10 10 10	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Baud Rate CAN1 Filter 1 CAN1 Filter 1 CAN1 Filter 2 CAN1 Filter 3 CAN1 Filter 3 CAN1 Filter 4 CAN1 Filter 5 CAN1 Filter 5 CAN1 Filter 7 CAN1 Filter 7 CAN1 Filter 9 CAN1 Filter 9 CAN1 Filter 11	Value 153 0 7 419364994 0 2147485440 0	Comment Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps DECIMAL SELECTED, NOTE THE	- CPU Content of the second se
1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 12 13 14 15 12 13 14 15 15 15 15 15 15 15 15 15 15	Attribute Source Address Arbitration Flag CAN1 Filter Type CAN1 Baud Rate CAN1 Filter 1 CAN1 Filter 1 CAN1 Filter 2 CAN1 Filter 3 CAN1 Filter 3 CAN1 Filter 4 CAN1 Filter 5 CAN1 Filter 5 CAN1 Filter 5 CAN1 Filter 7 CAN1 Filter 7 CAN1 Filter 9 CAN1 Filter 9 CAN1 Filter 10 CAN1 Filter 11	Value 153 0 7 419364994 0 2147485440 0	Comment Range = 153-164 (Default is 153) 0=WILL arbitrate with equal J1939 NAWE, 0=AllPass, 1=BlockID, 2=BlockPGN, 3=Block 1=1Mbps, 3=500kbps, 7=250kbps DECIMAL SELECTED. NOTE THE DEECIMAL SELECTED. NOTE THE DEECIMAL SELECTED. NOTE THE	- CPU Control
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Figure 6/7: Data entered is converted between hexadecimal and decimal simply by checking/unchecking the "HEX" box.



When all attributes are set according to user requirements, and the format is converted to decimal, click the "Write to EEPROM" button to configure device.

The window below will pop-up to confirm your selection. Click "OK" to write attributes to the device or "Cancel" to cancel your selection.



Figure 8: Pop-up window to confirm the user's desire to overwrite the device EEPROM data.

If the dialog box indicates trouble reading/writing from/to the various EEPROM locations, check that the source address is correct, and once again verify the Kvaser dongle is connected to CAN channel 1.



Figure 9: Dialog messages indicating a problem communicating to the selected device.

The dialog box will give positive feedback when the user has successfully configured the device EEPROM.



Figure 10: Dialog message indicating a successful write to the device EEPROM.

If you have any additional comments, questions, or concerns, please contact Marlin Technologies Inc customer service by calling 920-485-4463.