

# Software Documentation

## Sequence Programmer RS485

### 190157

Version: 30.09.2022 TDU



### General

The *Sequence Programmer RS485* is used to program a KannMOTION Device (KMD) with controller K17e (RS485) with sequences which are created beforehand with the *KannMOTION Manager*.

The *Sequence Programmer RS485* can be used with the GUI or over command line.

### Programs/Installation

Sequence Programmer RS485




<https://kannmotion.li/download/sequenceprogrammer/SequenceProgrammerRS485.zip>

For more information and applications, please visit <https://www.kannmotion.com/downloads/>

### History

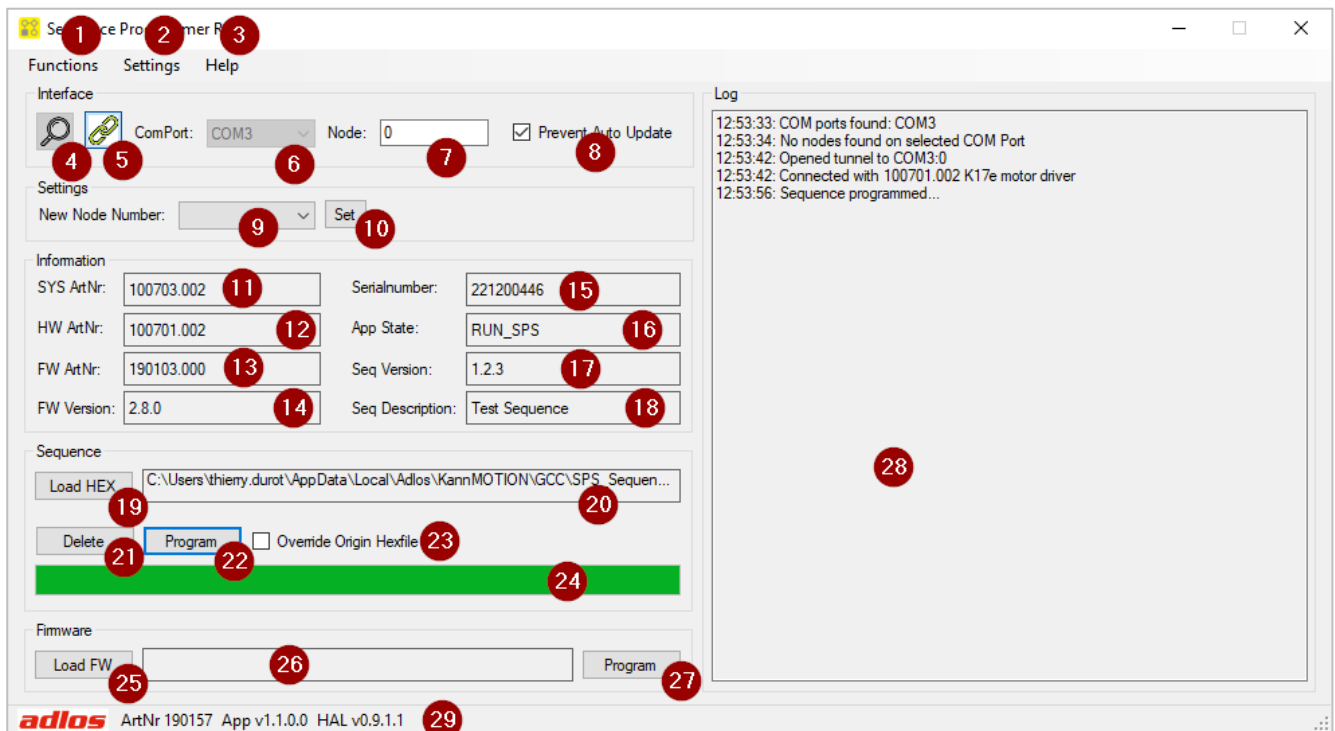
Version	Date	Description
A	30.05.2022	1. Version
B	30.09.2022	Added "Override Origin Hexfile" options for programming sequence
C	22.05.2023	Fixed path, where SequenceInfo.txt is saved, when called over command line.

### Information

	App works only with K17e devices and the Adlos RS485 converter.
	Do not connect multiple devices with the same node addresses or factory setting on the same bus.
	This application works with the same COM XMLs as the KannMOTION Manager. Means, if KMM updates the COM XML, they will be updated for this application too.

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### How to use with GUI



1. Functions
  - a. Search Devices (as (4))
  - b. Clear Log
2. Settings
  - a. Node Selection (Either selection or single input for nodes on (7))
    - i. Selection
    - ii. Single Input
    - iii. Override Origin Hexfile
  - b. Prevent Download (as (8))
3. Help
  - a. Software Documentation
  - b. KannMOTION Website
4. Search RS485 COM ports
5. Connect device defined in (6) and (7)
6. Select preferred COM port
7. Select or input preferred node number
8. Check to prevent auto update of COM XMLs
9. Select new node number
10. Set the new node number
11. Displays the system article number (Drive)
12. Displays the hardware article number (Controller)
13. Displays the firmware article number
14. Displays the firmware version
15. Displays the serial number

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16. Displays app state of devices
17. Displays sequence version if one is programmed
18. Displays sequence description if one is programmed
19. Load path of hex file of sequence
20. Path to hex file
21. Delete sequence from device
22. Program hex file of sequence to device
23. Either override origin hexfile when programming or not.  
Should NOT be set for production programming! Checked for developing.
24. Progress bar
25. Load path of kfw file of firmware
26. Path to kfw file of firmware
27. Program kfw file to device
28. Log messages, right click to clear log
29. Information about the application

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### How to use with command line

Alternatively, the program can be called over the command line or from another application. For this there are several possibilities to call the application and get the **Return Code**:

1. Calling application over Batch-File **SequenceProgrammerRS485.bat**, ReturnCode is returned when finished
2. Calling **SequenceProgrammerRS485.exe** from another app, you can get the ReturnCode with calling *process.ExitCode* (or similar) after the application has closed/finished

	<b>Param 2 (Prevent Update)</b> tells if the device information XML should be loaded/updated. <b>0:</b> Device information XML are loaded/updated <b>1:</b> Device information XML are NOT loaded/updated Needs to be <b>0</b> (NOT prevent update) if a device wants to be connected for the first time.
	The Batch-File must be in the application folder, because it depends on the applications EXE-File which is in the same folder!
	Node number must be between 1 and 32 or 0 for drives with factory setting.


### Delete a sequence

Call	Param 1 <i>Command</i>	Param 2 <i>Prevent Update</i>	Param 3 <i>Port</i>	Param 4 <i>Node Nr</i>	Param 5 <i>HEX-file path</i>
SequenceProgrammerRS485.exe/bat	0	0	COMx	x	-

Example:

```
SequenceProgrammerRS485.exe 0 0 COM7 3
```

### Program a sequence

	<b>Command 1:</b> programs the sequence from hex file as is. <b>Use this for production!</b> <b>Command 5:</b> calculates checksum, programs the sequence, and then overrides the origin hexfile with programmed data. Used for developing.
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Call	Param 1 <i>Command</i>	Param 2 <i>Prevent Update</i>	Param 3 <i>Port</i>	Param 4 <i>Node Nr</i>	Param 5 <i>HEX-file path</i>
SequenceProgrammerRS485.exe/bat	1	0	COMx	x	C:\path\to\file.hex
SequenceProgrammerRS485.exe/bat	5	0	COMx	x	C:\path\to\file.hex

Example:

```
SequenceProgrammerRS485.exe 1 0 COM7 3
"C:\Users\MyUser\AppData\Local\Adlos\KannMOTION\GCC\SPS_Sequence.hex"
```

```
SequenceProgrammerRS485.exe 5 0 COM7 3
"C:\Users\MyUser\AppData\Local\Adlos\KannMOTION\GCC\SPS_Sequence.hex"
```

### Read version and description of a sequence

Call	Param 1 <i>Command</i>	Param 2 <i>Prevent Update</i>	Param 3 <i>Port</i>	Param 4 <i>Node Nr</i>	Param 5 <i>HEX-file path</i>
SequenceProgrammerRS485.exe/bat	2	0	COMx	x	-

Example:


```
SequenceProgrammerRS485.exe 2 0 COM7 3
```

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If there is a sequence on the KM-Device, with this call the version and description of the sequence is readout and written into a file, which can be found under the following file path.

`C:\Users\<user>\Documents\adlos\SequenceProgrammerRS485\SequenceInfo.txt`

In there the first line is the version, second line the description.

	If there is no sequence available on the KM-Device, the program ends with return code -2 (file not found).
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### Change node number

Call	Param 1 <i>Command</i>	Param 2 <i>Prevent Update</i>	Param 3 <i>Port</i>	Param 4 <i>Node Nr</i>	Param 5 <i>New Node Nr</i>
SequenceProgrammerRS485.exe/bat	3	0	COMx	x	x

Example:

`SequenceProgrammerRS485.exe 3 0 COM7 3 2`

With this example command, the device on COM7 with node nr 3 will get changed to node nr 2.

	Make sure that new node number is not already in use by connected devices on same bus. Node number must be between 1 and 32.
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### Update Firmware

Call	Param 1 <i>Command</i>	Param 2 <i>Prevent Update</i>	Param 3 <i>Port</i>	Param 4 <i>Node Nr</i>	Param 5 <i>KFW file path</i>
SequenceProgrammerRS485.exe/bat	4	0	COMx	x	C:\path\to\fw.kfw

Example:

`SequenceProgrammerRS485.exe 4 0 COM7 3 "C:\path\to\fw.kfw"`

Update the firmware with given kfw file.

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### Return Codes

After the program is finished, a code is returned. Following codes are available:

Error Code	Description	Comment
0	No error	
-1	Unknown error	
-2	File not found	Maybe COM Xml file missing, due to <i>Prevent Download</i>
-5	Unreachable port	COM port or node not found
-6	Invalid arguments	One or multiple parameters are incorrect
-7	Communication error	Communication Timeout Exception happened
-8	No access to COM-port	No connection with device could be established
-9	Corrupted/Invalid file	Maybe wrong file format
-20	Programming failed	
-21	Deleting failed	
-22	Verifying failed	