Rapid Link 4.0

RASP 4.0

Firmware Update – RASP 4.0
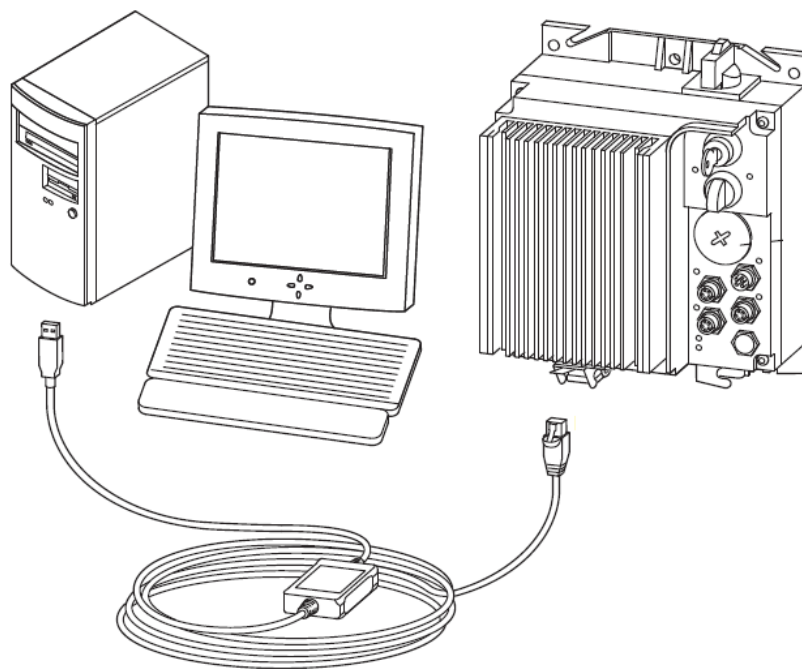
	1 – Fundamental – No previous experience necessary
Level 2	2 – Basic – Basic knowledge recommended
	3 – Advanced – Reasonable knowledge required
	4 – Expert – Good experience recommended

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Break-Down Service

Please call your local representative:

Eaton.com/us/en-us/services.html

Eaton.com/us/en-us/support.html

Hotline After Sales Service:

+49 (0) 1805 223822 (de, en)

AfterSalesEGBonn@eaton.com

Original Application Note is the English version of this document.

All non-English language versions of this document are translations of the original application note.

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Content

Danger! - Dangerous electrical voltage!

- Disconnect the power supply of the device.
- Ensure that devices cannot be accidentally restarted.
- Verify isolation from the supply.
- Cover or enclose any adjacent live components.
- Follow the engineering instructions (AWA/IL) for the device concerned.
- Only suitably qualified personnel in accordance with EN 50110-1/-2 (VDE 0105 Part 100) may work on this device/system.
- Before installation and before touching the device ensure that you are free of electrostatic charge.
- The functional earth (FE, PES) must be connected to the protective earth (PE) or the potential equalization. The system installer is responsible for implementing this connection.
- Connecting cables and signal lines should be installed so that inductive or capacitive interference does not impair the automatic control functions.
- Suitable safety hardware and software measures should be implemented for the I/O interface so that an open circuit on the signal side does not result in undefined states.
- Deviations of the mains voltage from the rated value must not exceed the tolerance limits given in the specification, otherwise this may cause malfunction and/or dangerous operation.
- Emergency stop devices complying with IEC/EN 60204-1 must be effective in all operating modes. Unlatching of the emergency-stop devices must not cause a restart.
- Devices that are designed for mounting in housings or control cabinets must only be operated and controlled after they have been properly installed and with the housing closed.
- Wherever faults may cause injury or material damage, external measures must be implemented to ensure a safe operating state in the event of a fault or malfunction (e.g. by means of separate limit switches, mechanical interlocks etc.).
- The used device may have hot surfaces during and immediately after operation.
- Removal of the required covers, improper installation or incorrect operation of motor or device may destroy the device and may lead to serious injury or damage.
- The applicable national safety regulations and accident prevention recommendations must be applied to all work carried on live device.
- The electrical installation must be carried out in accordance with the relevant electrical regulations (e. g. with regard to cable cross sections, fuses, PE).
- Transport, installation, commissioning and maintenance work must be carried out only by qualified personnel (IEC 60364, HD 384 and national occupational safety regulations).
- Installations containing device must be provided with additional monitoring and protective devices in accordance with the applicable safety regulations. Modifications to the device using the operating software are permitted.
- All covers and doors must be kept closed during operation.
- To reduce the hazards for people or equipment, the user must include in the machine design measures that restrict the consequences of a malfunction or failure of the device (increased motor speed or sudden standstill of motor). These measures include: – Other independent devices for monitoring safety related variables (speed, travel, end positions etc.).
  – Electrical or non-electrical system-wide measures (electrical or mechanical interlocks).
  – Never touch live parts or cable connections of the device after it has been disconnected from the power supply. Due to the charge in the capacitors, these parts may still be alive after disconnection. Consider appropriate warning signs.

Disclaimer

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1   General

Rapid Link 4.0 is a modern, efficient drive which is suitable for both simple and complex tasks in all material handling systems, but specially in horizontal conveying systems. The Rapid Link 4.0 System can be fitted into a power and data bus, it allows electrical drives to be installed and taken into operation much more quickly and cost-efficiently than with conventional methods. Thanks to a power bus and a data bus that are plugged into every Rapid Link 4.0 module, the system is quick and easy to install.

2   Purpose of Use

The purpose of this application note is to demonstrate how to update Rapid Link 4.0 range RASP firmware using the **MaxLoader** Software.

→	**NOTICE** Read Manual carefully and look at the equipment to become familiar with the device before trying to install or operate. Make sure to disconnect all sensors before using Firmware Upgrade Tool. Make sure that only one RASP is connected to the computer via a USB cable. Do not turn off the RASP or disconnect the USB cable until the update is complete. Doing so may cause an error. If the power is turned off during the update, the update will not end normally. After firmware update RASP must be power cycled (Power OFF and ON). Otherwise, the RASP will not operate properly.

3   Configuring parameters with a PC and the MaxConnect program

Before update process the parameters of RASP must be uploaded to the computer. The optionally available **XMX-CBL-3M4-USB** communication cable is needed in order to connect the unit to the PC. This cable features a galvanically isolated interface converter that makes it possible to connect the RASP unit's RJ45 connector to a USB port on a computer.
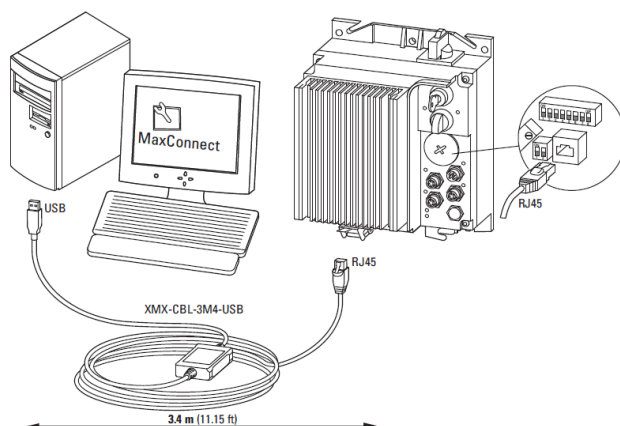
4   Software Prerequisites

1. Install Eaton MaxConnect and MaxLoader.
    a. Which be found under the software tab at <u>eaton.com</u> or at following link. MaxLoader software will be provided by local Eaton partner. The required installation steps are skipped in this document.
2. Firmware File e.g.: MMCH9002_V108_02
    a. For the latest firmware file contact your EATON local partner.

5   Firmware Upgrade

Following procedure is used to update the RASP firmware:

1. Connect the computer and the RASP by using a USB cable **XMX-CBL-3M4-USB**. The driver for the USB cable XMX-CBL-3M4-USB must be installed. Driver can be found at following link.
2. Upload parameters to the computer and save the parameter file. Changing the firmware version will restore settings of RASP to factory default. Save Parameters BEFORE changing firmware. Refer to Manual MN03406003Z-EN how to upload parameters of RASP.
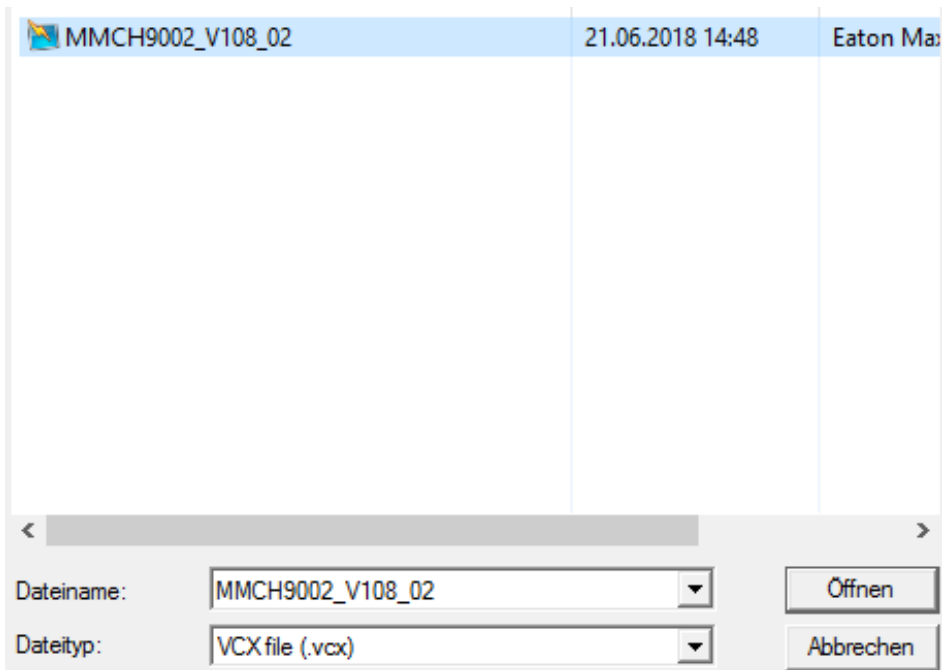3. Turn Key-switch to '0'.
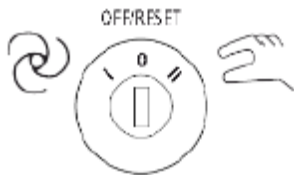
4. Disconnect sensors and AS-I cable.
5. Remove Motor cable.
6. Main Power must be applied.
7. Save Firmware File e.g.: MMCH9002_V108_02 on the computer.
8. Follow steps below for the Update:
    a. Open the Eaton MaxLoader tool.
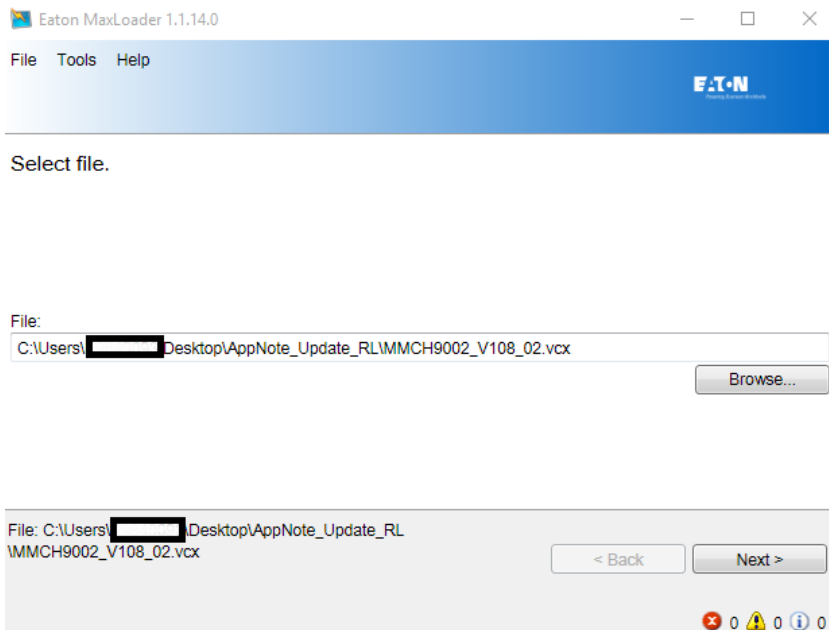
b. Open the Firmware File by clicking **Browse**.
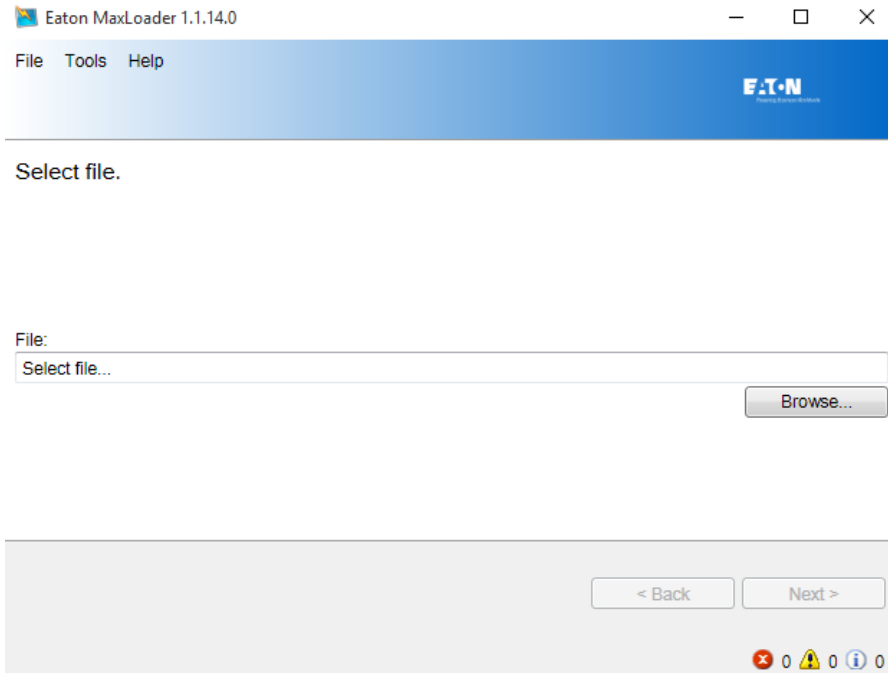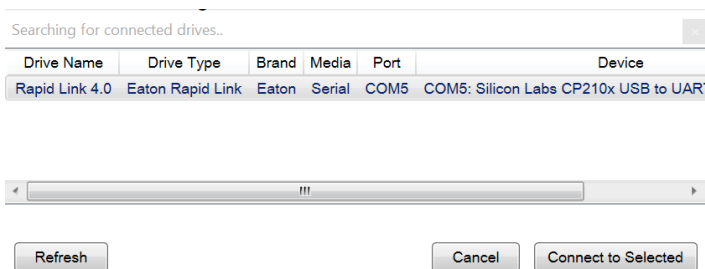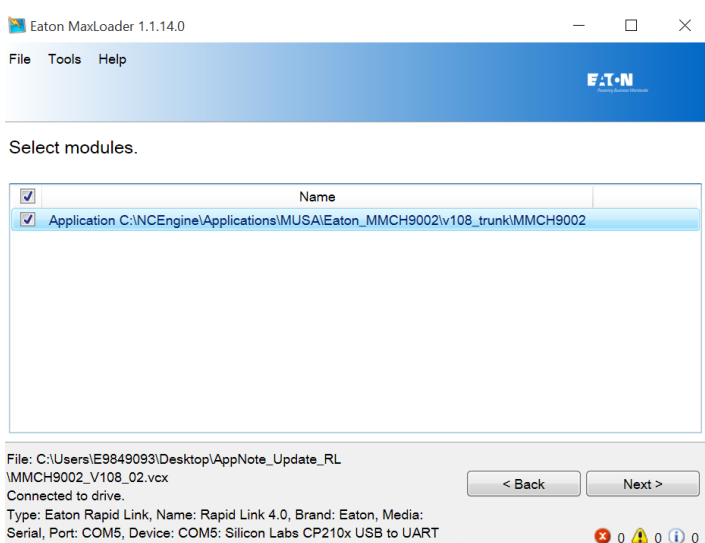

c. Select that file and click Open.

d. d. Click Next.

e. Select Rapid Link which is found and klick Connect to Selected.

f. Click Next.

g. Klick next.

Eaton MaxLoader 1.1.14.0

File   Tools   Help

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⚠️

Device will reset itself after software update is completed!
Update cannot be started if drive is in run mode.

☐ Don't show this warning any more

File: C:\Users\E9849093\Desktop\AppNote_Update_RL
\MMCH9002_V108_02.vcx
Connected to drive.
Type: Eaton Rapid Link, Name: Rapid Link 4.0, Brand: Eaton, Media:
Serial, Port: COM5, Device: COM5: Silicon Labs CP210x USB to UART

[< Back]   [Next >]

❌ 0 ⚠️ 0 ℹ️ 0

h.   Klick Yes.

Operation successful.   ✕

ℹ️   Files loaded. Close application?

[Yes]   [No]

　　　i.   Power OFF RASP wait 1 Minute then Power ON. Update Procedure is completed!
9.   Connect Sensors and Motor cable.
10. Download Parameters to RASP!
11. Check drive Firmware by using MaxConnect software (System Monitoring values).

Menu	Index	ID	Value	VariableText	Min	Max	Unit	Default
▲ Application Menu	**System Monitoring values** (13)							
Application Monitoring Values								
▲ Application Parameters	S 1.1	2314	114	API SW ID	N/A	N/A		0
1. Parameter Selection	S 1.2	835	5	API SW Version	N/A	N/A		0
6. Drive Control	S 1.3	2315	113	Power SW ID	N/A	N/A		0
7. Motor	S 1.4	834	2	Power SW Version	N/A	N/A		0
8. Protective Functions	S 1.5	837	9002	Application ID	N/A	N/A		0
10. Fixed Frequency	S 1.6	838	1,08	Application, revision	N/A	N/A		0,00
11. V/Hz Characteristic	S 1.7	839	91	System load	N/A	N/A	%	0
12. Braking	S 3.1	827	0,000	MWh counter	N/A	N/A	MW	0,000
▲ System Menu	S 3.2	828	42	Operating days	N/A	N/A		0
System Monitoring values	S 3.3	829	12	Operating hours	N/A	N/A	h	0
System Parameters	S 3.4	840	0	RUN counter, days	N/A	N/A		0
▲ Fieldbus Menu	S 3.5	841	13	RUN counter, hours	N/A	N/A	h	0
Fieldbus Monitoring Values	S 3.6	842	13	FLT counter	N/A	N/A		0
Fieldbus Parameters								

6   References

Documentation

	RAMO5	LINK
Manual Rapid Link 4.0…	MN03406003Z-EN	Link
Instruction Leaflet RASP…	IL03406020Z	Link
Download Center Software		Link

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