Unity Loader V8.1 Readme

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1 MAIN FEATURES

Unity Loader is a utility to exchange data with the Modicon M340, Modicon M580, Modicon MC80, Momentum Unity, Premium TSX PLC and Quantum TSX PLC platforms:

- Firmware download in Modicon M340, Modicon M580, Modicon MC80 and Momentum Unity PLCs.
- Firmware download in Modicon X80 and eX80 modules that embed a firmware.
- Download / upload of project information:
  - o Program
  - o Variables
  - o User files on the memory cartridge
- USB, UNITELWAY and MODBUS driver to communicate between the computer and the controller.
- Reliance driver to read and write user files on the Modicon M340 memory cartridge directly from the computer with a card reader.
- The documentation is provided as online help inside the software and installed as PDF on the computer.

2 SYSTEM REQUIREMENTS

The Unity Loader software requires one of the following operating systems:
- Microsoft Windows 7 Professional 32-Bit / 64-Bit
- Microsoft Windows 8 Pro 32-Bit / 64-Bit
- Microsoft Windows Server 2008 R2 Standard 64-Bit

System with Microsoft Windows 7 Professional 32-Bit / 64-Bit

  System: Minimum Pentium Processor 1 GHz, recommended 3 GHz or higher.

  RAM memory: Minimum 1 GB (32-Bit) or 2 GB (64-Bit), recommended 3 GB or more.

  Hard disk: 100 MB for the software installation.

  Remark: On Windows 7 Professional, installation of Service Pack 1 is recommended.

System with Microsoft Windows 8 Pro 32-Bit / 64-Bit

  System: Minimum Pentium Processor 1 GHz, recommended 3 GHz or higher.

  RAM memory: Minimum 1 GB (32-Bit) or 2 GB (64-Bit), recommended 3 GB or more.

  Hard disk: 100 MB for the software installation.

  Remark: Due to changes in the Windows 8.1 communication layer this version is **not** recommended.

System with Microsoft Windows Server 2008 R2 Standard 64-Bit

  System: Minimum Pentium Processor 1.4 GHz, recommended 3 GHz or higher.

  RAM memory: Minimum 512 MB, recommended 3 GB or more.

  Hard disk: 100 MB for the software installation.

  Remark: On Windows Server 2008 R2 Standard, installation of Service Pack 1 is recommended.

Drive (optional): DVD-ROM drive to install the software.

Display: SVGA (1024 x 768 pixel or more) with high color (24-Bit).

Pointing device: Mouse or compatible pointing device.

Internet access (optional): Registration of the Unity Loader software requires Internet access.

Remark: When Chinese is used as Unity Loader Setup or Runtime Language on a non-Chinese Windows it is recommended to select "Chinese (Simplified)" as language for non-Unicode programs in the "Region and Language" settings.

3 SETUP PROCEDURE

3.1 Recommendations before installation

- Check that you have Administrator rights.
- Check that the latest available Service Packs and Security Patches for Windows are installed.
- Close all other applications running.
- During the installation phase, it is recommended to disable all Antivirus services.

3.2 Unity Loader Setup procedure

If you have:
- the packaged distribution of Unity Loader, the installation software is on the installation media in your package.
  To start the installation, enter D:\setup.exe, where D: is the drive letter for your CD/DVD drive.
- the electronic distribution, the installation software is included in the file you downloaded.
  Browse to the directory where you saved the downloaded file and either decompress the file or make a CD to start the installation.

When you start the installation, the Unity Loader Installation Wizard guides you through the rest of the installation.

3.3 Communication Drivers installation

USB driver is required to exchange data with Modicon M340, Modicon M580, Modicon MC80 or Momentum Unity through the USB console port. If the driver has not been installed previously, for example with Unity Pro, please proceed as follows:
1. Browse the content of your installation media.
2. Open the folder "**Communication Drivers**".
3. Run the executable file "**SchneiderPLCUSBDriverSuite.exe**".
4. Follow the instructions of installation.

UNITELWAY driver is required to exchange data with Premium TSX PLC platforms via a serial connection. If the driver has not been installed previously, for example with Unity Pro, please proceed as follows:
1. Browse the content of your installation media.
2. Open the folder "**Communication Drivers**".
3. Run the executable file "**SchneiderUnitelwayDriverSuite.exe**".
4. Follow the instructions of installation.

MODBUS driver is required to exchange data with Quantum TSX PLC platforms via a serial connection. If the driver has not been installed previously, for example with Unity Pro, please proceed as follows:
1. Browse the content of your installation media.
2. Open the folder "**Communication Drivers**".
3. Run the executable file "**SchneiderModbusDriverSuite.exe**".
4. Follow the instructions of installation.

3.4 Reliance Removable Media Driver installation

Memory cards use a file system dedicated to embedded firmware in order to backup data. A driver has to be installed to access to the files from a memory card reader connected to the computer.

To install the driver, please proceed as follows:
1. Browse the content of your installation media.
2. Open the folder "**Reliance Driver**".
3. Double click on the Windows Installer file (.msi).
4. Follow the instructions of installation.

To start the Reliance Removable Media Driver after completing the installation, do one of the following:
1. Reboot the computer
   or
2. From the command prompt, type '**NET START RELIANCE'**

NOTE: It is not possible to access the files on a memory card with a Linux PC or a MAC.

4 REGISTRATION

At first startup or every 21 days if you have not yet performed the registration a reminder will pop up. Registration is not mandatory to use the product but recommended to provide better services to our customers.

To register the product either click the "Yes" button in the reminder message or in the "About" tab of the Unity Loader window click the "Register now" button to open the "Registration" screen.
In the corresponding fields of the "Registration" screen enter the e-mail address of your Web User Account and click the "Activate" button to perform the registration.

If you do not have a Web User Account click on the "Software Licensing Web Portal" link in the "Registration" screen. In the "Software Licensing" section on the left part of the Software Licensing Web Portal click on "Create Your Account" and follow the steps to create a new Web User Account.

NOTE: If you are using Unity Loader V8.0 or later together with Unity Pro V7.0 on the same machine, you will have to install Hotfix "**V7.0_HF20051650_Compatibility One Licensing**" available for Unity Pro V7.0 to perform the registration of Unity Loader.

5 UNINSTALL

To uninstall Unity Loader, please proceed as follows:
1. Call the setup of Unity Loader
   or
2. Open the Windows Control Panel, select "Add or Remove Programs", and select "Unity Loader" in the list
   Click the "Remove" button

6 NEW FEATURES

Version V8.1 brings the following features:
- Support of firmware download for modules that only support FTP connection
  (e.g. BMEAHI0812 and BMEAHO0412 HART modules or PMESWT0100 Weighing module).
- To prevent potential equipment damage when downgrading the firmware of a device the
  corresponding downgrade message now refers to an Instruction Sheet that provides some advice.
- Firmware download capability for MC80 PLC platforms.

Version V8.0 brings the following features:
- Firmware download capability for M580 and Momentum Unity PLC platforms.
- Cyber Security protection with new application password and encryption algorithm:
  - Protect start/stop of PLC.
  - Protect transfer of project and project data.
  - Protect transfer of firmware.
- Cyber Security protection with new data storage password:
  - Protect transfer of project files.
- Modbus TCP offered as additional connection media for Quantum PLC platforms.
- Registration / Licensing:
  - Unity Loader now checks the registration data using the OneLicensing mechanism.
  - Due to changes in the licensing policy, the registration data from previous versions will not
    be retained.
  - Registration as free tool by Web and reminder every 21 days if product is not registered.
  - End User License Agreement (EULA) updated for OneLicensing and format changed from
    HTML to PDF (requires installation of PDF reader on the PC).

Version V2.3 brings the following features:
- Adaptation of Unity Loader User Interface for CRA 312xx:
  - These modules don't support a SD-card, but only have internal memory:
    - Checkbox "Save on Memory Card" renamed to "No Memory Card" and disabled.
    - Item "Memory Card" renamed to "Internal Memory"
  - It is not possible to start or stop these modules, as they do not contain an application.
  - For this reason, it is also not possible to download or upload applications or application-
    related data.
  - New messages displayed in case of firmware download.
- Registration / Licensing:
  - Registration is disabled in this version; Unity Loader runs without license check.
- UAC improvement for Windows Vista and Windows 7:
  - Save settings in HKCU (for Windows XP in HKLM)
  - Default path for log files now in TEMP folder

Version V2.2 brings the following features:
- Firmware download capability for CRA 312xx modules.
- Setup changed from Wise Installer to InstallShield.

Version V2.1 brings the following features:
- Additional possibility of download or upload projects and project data for all Quantum PLC platforms via the Modbus protocol. The Modbus protocol can be chosen at the "Connection" area of the Unity Loader.

Version V2.01-SP1 brings the following features:
- Additional possibility of download or upload projects and project data for all Premium PLC platforms via the Unitelway protocol. The Unitelway protocol can be chosen at the "Connection" area of the Unity Loader.

Version V2.0 brings the following features:
- Firmware download capability for all modules that embed a firmware (CPU, Ethernet, Analog, Motion)
- Update at once a CPU firmware and the project with a single memory card
  o A firmware update can be stored inside the memory card to be downloaded later in another hardware configuration.
- Automated and transparent use of Unity Loader
  o Third party software can execute Unity Loader services through a batch file.

7 CYBER SECURITY

In Unity Pro V8.0 or later it is possible now to protect access to the application and application data on the PLC with a user-defined password. When activating the protection in Unity Pro, Unity Loader will query for one or both passwords before executing the concerned operations.

The application password protects the following operations in Unity Loader:
- Start/stop of PLC
- Transfer of project and project data in "Project" tab
- Transfer of firmware in "Firmware" tab

The data storage password protects the following operations in Unity Loader:
- Transfer of project files in "Project" tab

NOTE: With introduction of the Cyber Security protection in this release, it is not possible to access the location for "User Web Files" on the PLC anymore. Thus for legacy platforms "User Web Files" are no longer included as part of the project files (*.CAR).
Furthermore due to limitations on the platform side for M580 and Momentum Unity PLCs the transfer of project files (*.CAR) is not available.

NOTE: If you once entered the requested password correctly as long as you are connected to the PLC Unity Loader normally will not query for this password again.

NOTE: While connected to the PLC with Unity Loader it might happen that the password entered in Unity Loader before could have changed (e.g. parallel connection with Unity Pro to the same PLC). In this case, you have to enter the new password in Unity Loader for the next operation.

NOTE: If you download a protected STU / STA to the PLC in case you do not know the associated application password, you will have to use the Unity Pro password recovery mechanism to operate the PLC again.

8 READ ME LAST MINUTE INFORMATION

When creating an application in Unity Pro V8.0 or later for the M580 platform please enable FTP before you build and download the application, otherwise Unity Loader will not be able to connect to the PLC.

Cyber Security protection with application password or data storage password is not supported for UlUmas.exe and UlFtp.exe command line interfaces in this version. Thus scripting through command line interfaces can only be used if the PLC is not protected by password.

For upgrading a firmware of a Modicon M340 PLC via an Ethernet connection, please assure that no other Ethernet connection is established in parallel at the PC. This could disturb the Ethernet connection of the Modicon M340 PLC during the Firmware upgrade and could result in an unsuccessful transfer.

Upgrading the firmware of any module (except AHI / AHO, SCAIME, NOE or CRA) has to be done through the CPU connection.

> Upgrading the NOE communication module has to be done through the connection port of the NOE module itself. It is not possible to download the firmware through the CPU.

> Upgrading the CRA module could be done either through a connection to the service port of the corresponding CRP using the IP address of the CRA or a connection to the service port of the CRA module itself.

After upgrading a module with firmware, the firmware version displayed in Unity Loader is not always refreshed immediately. Some modules show the correct version immediately, for other modules a reset of the PLC is required.

Today it is not possible to download an application or project data to a Quantum PLC with no valid application. If the Quantum PLC owns no valid application, like after an OS exchange, a valid application has to be downloaded first via Unity Pro, before a communication with the Unity Loader is possible.

In case you get the message "**Transfer error: Not enough free space available on target device**" during firmware download to PLC:
> The firmware download process needs free space on the memory card to store the firmware, until the upgrade was successful. If there is not enough free space on the memory card, this message appears. Please free some space on the memory card by deleting files.

> This can be done using the reliance file system driver (see section 2.4) and a memory card reader connected to your PC. The memory card then appears as a Windows drive, on which you can work.

In case, you get the message: "**Warning: File .... could not be transferred. FTP server rejects file name. One or more files have not been transferred**" during firmware download to PLC:
> The firmware download process could not write the specified file to the memory card. The firmware upgrade process is aborted in this case, since the firmware files have to be consistent for a successful upgrade. This can happen, if the file to be written is read-only on the memory card. Please check the file attributes on the memory card in this case and remove the read-only flag, if it is set.

> This can be done using the reliance file system driver (see section 2.4) and a memory card reader connected to your PC. The memory card then appears as a Windows drive, on which you can work.