Translation
ORIGINAL MANUAL

ATEMAG Control 4.0 USB Collector

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1 General

1.1 About the operation manual

1.1.1 Release

Status of the manual: 18.10.2022
Revision index: 02

1.1.2 Requirements

We require that the operator is trained in the safe operation of the AC4.0 USB collector and has read and understood this operating instruction.

1.1.3 Availability

Always keep the manual available to all persons who work with or on the AC4.0 USB collector.

1.2 Used description in this operating manual

1.2.1 Procedure of action

Procedures of action are marked as triangles in sequence of execution. The results of procedure are marked with a check mark. Example:

▶ Loosen cylindrical screw M5 (2).
✓ Arrestor bolt slides into the driving groove of the machine.

1.2.2 Illustration of safety indications

Safety instructions are always presented as follows with a signal word and sometimes also with a danger-specific symbol (see Chapter 1.2.3):

⚠ DANGER!

Direct danger!
Ignoring this indication severe injuries or death is the consequence!

⚠ WARNING!

Possibly danger situations!
Ignoring this indication result in severe injuries or death!

⚠ ATTENTION!

Possibly danger situation!
Ignoring this indication cause medium or light injuries!

CAUTION!

Possibly danger situation!
Ignoring this indication cause damage to property or pollution!

1.2.3 Applied symbols

The following symbols are used in this manual:

Warning signs

	Environmentally hazardous substance!
	Magnets can affect the function of pacemakers and implanted defibrillators!
	Corrosive substances!

Tab 1: *Warning signs*

1.2.4 Indication

	Indication Describes general information and recommendation.

1.3 Guarantee and liability

Basically, the „General conditions of sale and delivery“ apply to ATEMAG.

1.3.1 Wireless functionality disclaimer

The AC4.0 USB collector is a wireless device that operates in the 2.4 GHz radio spectrum. The wireless functionality in the AC4.0 USB collector is used to send and receive information to and from AC4.0 modules for configuration and offline data analysis. The wireless functionality should never be used in conjunction with security mechanisms. The wireless data link should not be used in safety control circuits or loops as this would exceed its intended purpose.

1.4 Information about manufacturer

Address	ATEMAG **A**ggregate**Te**chnologie und **M**anufaktur **AG** Mühlenmatten 2 D-77716 Hofstetten, Germany
Phone	+49 (0) 78 32/ 99 97 - 0
Fax	+49 (0) 78 32/ 99 97 - 12
E-Mail	info@atemag.de
Internet	www.atemag.de

Tab 2: *Information about manufacturer*

1.5 Product observation

Informing the manufacturer on accidents, potential hazards on the chip unit and obscurities in this manual.

1.6 Content of delivery

The content of delivery of the AC4.0 USB collector includes: AC4.0 USB collector module, operating manual.

2 General Safety Instruction

2.1 Appropriate Application

The AC4.0 USB collector must be used within the specific performance limits and in industrial environments. Following the manual and compliance with the maintenance and repair requirements are a prerequisite for the appropriate use of the AC4.0 USB collector. Any other use of the AC4.0 USB collector is not appropriate. The manufacturer is not liable for any damages resulting of inappropriate application.

2.2 Remaining risk

In normal operation, no remaining risks arise from the AC4.0 USB collector. Against risks that may arise during maintenance and repair, is warned in the respective chapters.

2.3 Personnel requirements

Only authorized persons are allowed to work on the AC4.0 USB collector! They must be familiar with the safety devices and regulations before starting work.
Authorized personnel is:

Operation	Qualification
Normal operation	Authorized personnel
Service	Trained personnel of the operator or manufacturer
Maintenance	Trained personnel of the manufacturer

Tab 3: *Personnel requirements*

3 Explanation of the AC4.0 USB collector

3.1 Main components of the AC4.0 USB collector

Abb 1. *Main components and labeling of the AC4.0 USB collector*

Pos.	Component/control element	Function
1	Status LED	Display of the operating mode of the collector

Tab 4: *Main components of the AC4.0 USB collector*

4 Set up collector

The following steps will guide you through connecting your AC4.0 USB collector to the Cloud.
For the installation of the USB collector at least a windows 10 operating system is required.

4.1 Activate setup mode

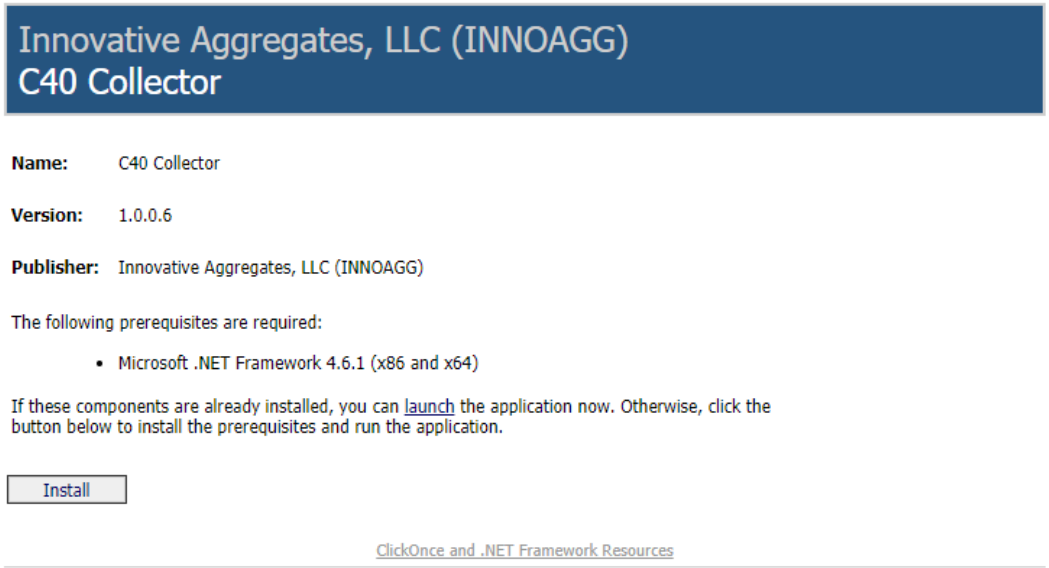
The setup mode is activated by holding down the "MODE" button with a paperclip or other small object for more than 3 seconds. If the AC4.0 collector has never been connected to a network, it automatically switches to setup mode at power-up. The setup mode is active when the status LED is flashing BLUE.

4.2 Download and Install PC collector App

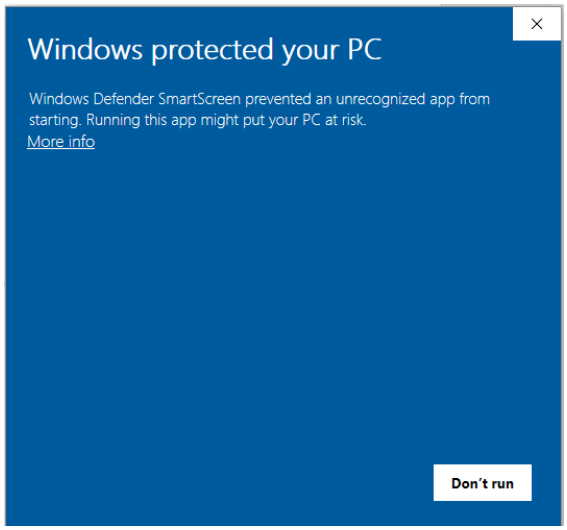
The AC4.0 collector is set up once using the link provided below. Any subsequent updates will automaticlally be installed whn you open the app on the PC.

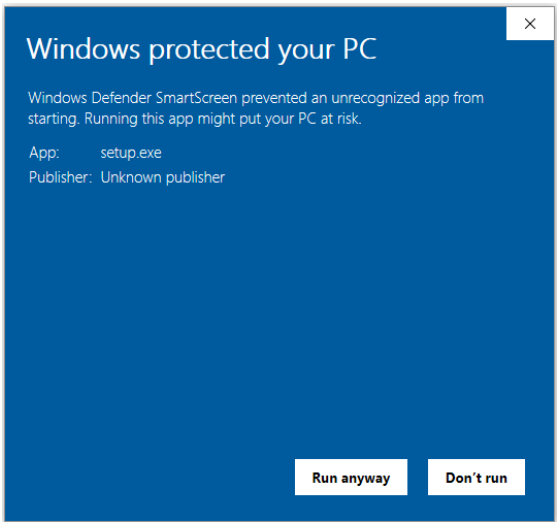
https://innoagg-apps.s3.amazonaws.com/c40_collector/publish.htm

In your browser you should see the following landing page. Follow the instructions on this page:

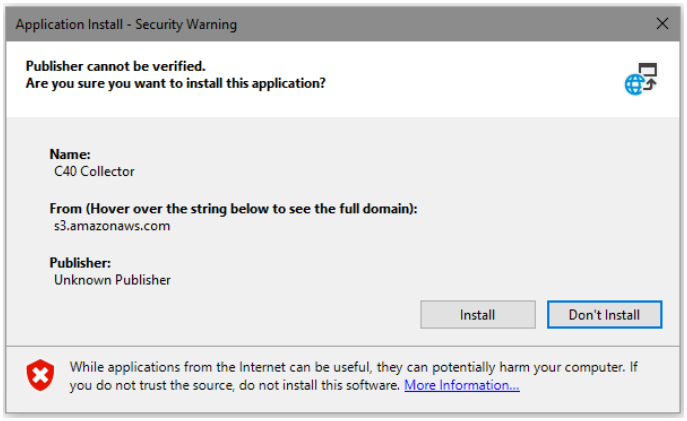


During installation you may see the following or similar screen from virus protection. You must press the “More Info” link in order to allow the app to be installed. Click the “Run Anyway” button.

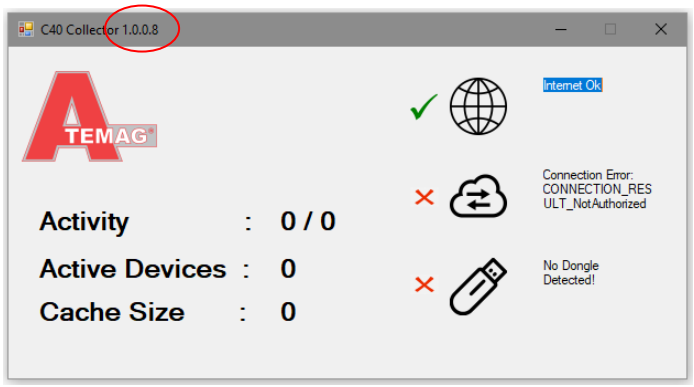




- Press link „More info”.
- Klick the „Run anyway” button.
- Klick on the „Install“ button in the installation confirmation of the app.



- The App opens automatically. The version number is indicated in the title bar of the app.



4.3 Appropriation the App

On the righthand side of the app window there are 3 connection indications. Internet, Cloud and Dongle. A green “check” indicates success and a red “x” indicates failure. All 3 indications must succeed for the system to operate normally

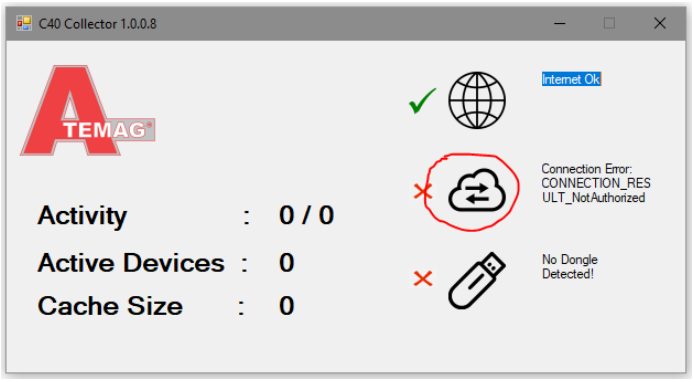
4.3.1 Internet

The Internet indication is based on the PC’s connection to the Internet. If you do not have a successful internet connection, you must contact your network administrator and determine why the PC is not connected to the Internet.

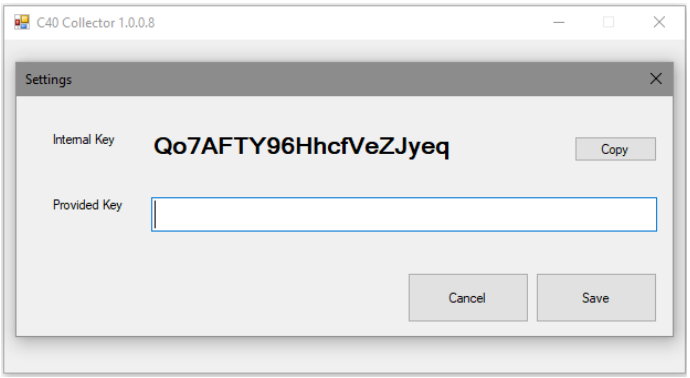
4.3.2 Cloud

The Cloud indication is based on the app’s ability to connect to ATEMAG’s Cloud server. For this to be successful your installation of the app must be registered with ATEMAG. The registration can either be done by providing ATEMAG with a key code from the app, or ATEMAG can provide you with a key that can be entered into the app. In either case you must open the KEY window.

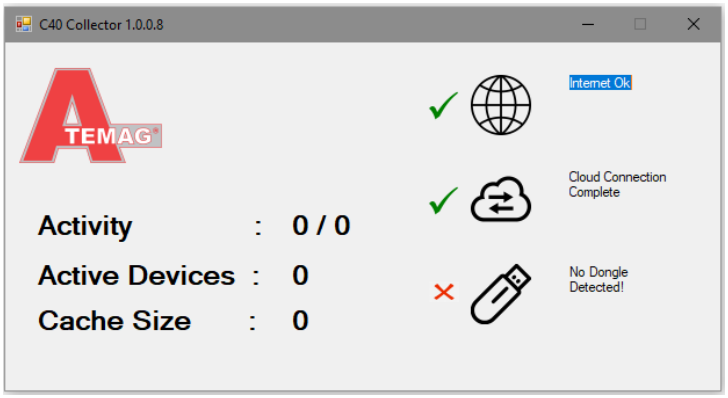
▶ To open the KEY window, double-click the cloud icon:



The following screen will open and display the Internal and Provided Keys. If ATEMAG requests your Internal key to register your PC then simply click the “Copy” button and paste that key into an email. Otherwise, ATEMAG may provide you with a key. In that case simply paste that key into the Provided key box. Click “Save” when complete.



Once saved the Collector app should connect successfully to the Cloud. The screen should look like this:



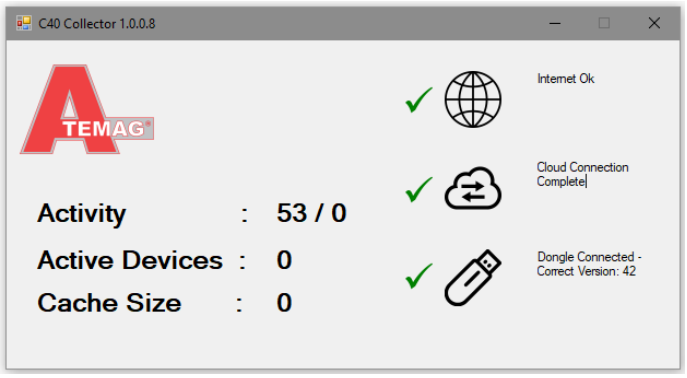
If the connection is not successful, then copy the message shown to the right of the cloud icon and send that to ATEMAG to determine what the problem is. If the connection is successful, then you can move to the next step.

4.3.3 Dongle

Dongle indication is based on the status of the dongle connected to the PC's USB port. If the dongle is not inserted it will indicate that. If the version of the dongle is not compatible with the Collector app, that will also be indicated. Go to the next step in order to verify the dongle is operating normally.

4.4 Insert the USB Dongle

Insert the provided dongle into one of the PC's USB ports. The dongle requires a USB 2.0 compliant port. If the dongle is recognized by the app you should see that feedback on the app screen. Otherwise note the error message and contact ATEMAG.



With all indications are successful then data from C40 modules will be captured by the dongle and Collector app and sent to the Cloud. This activity can be seen by the statistics on the left side of the window. To ensure the Collector app and dongle are functioning you should see Active Devices increment for every active device in proximity to the dongle. If you are not seeing any activity, then contact ATEMAG for further troubleshooting.

4.5 Module operation

4.5.1 LED display

The LED indicator flashes in different colours and patterns to indicate the current status. Use the table below to tailor the LED behaviour to a specific condition.

Possible LED displays:

Light pattern	Condition	Meaning
Solid red	Starting up	Switching on for the first time or after a reset state
Flickering blue	BLE activity	Valid BLE packets are detected
Solid green	Connection to C40 module	LED lights during connection to a C40 module
Breathing blue	Update mode	Dongle is in a mode to receive an update
Flashing blue	Updating	Dongel is receiving an update file

Tab 5: *LED displays*

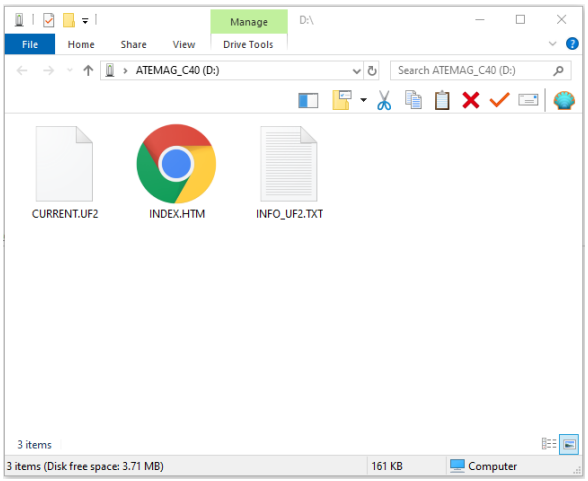
5 Maintenance

5.1 Software update

From time to time, the software may need to be updated in the AC4.0 USBcollector. This ensures that it has the latest improvements and is using its full potential. The update can be done via a USB connection or via the Cloud when the collector is connected to the Internet.

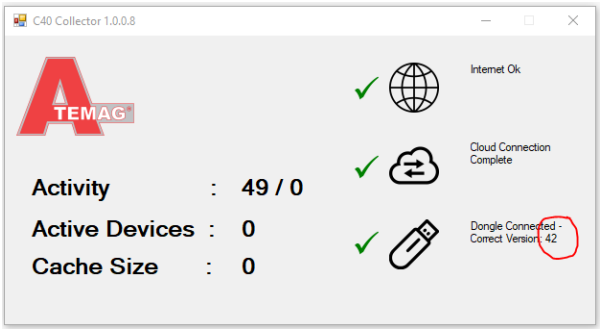
Version1:

- ▶ Insert the dongle into the PC's USB port.
- ▶ Place a paper-clip or other small object into the LED indication hole on the dongle. Hold the button down for ~2 seconds.
- ▶ The module will enter setup mode and be recognized by the PC as a disk drive. The contents of the drive should look like:



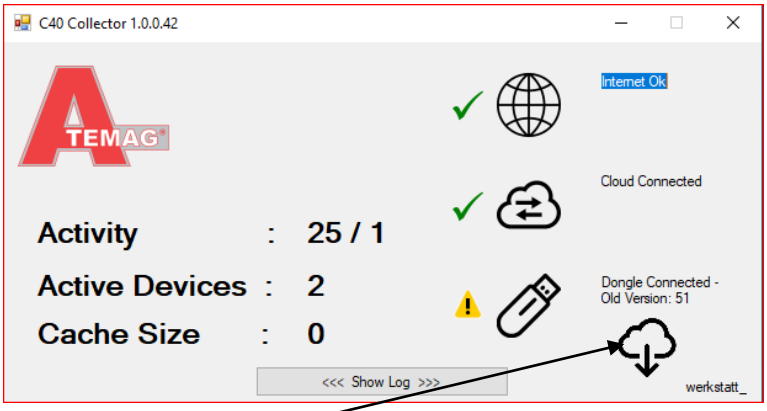
- ▶ Next, drag and drop the provided update file into the dongle's root folder. This file always has a "uf2" file extension. If the update is successful, the dongle will automatically reset. The resulting version is visible in the Collector app.

✓ Software is updated

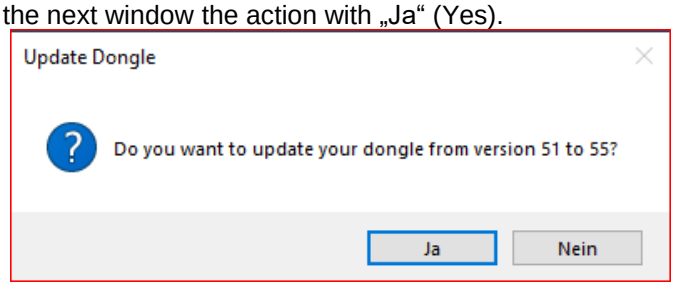


Version 2:

- Insert the dongle into the PC's USB port.
- Open the collector app: https://innoagg-apps.s3.amazonaws.com/c40_collector/publish.htm



- Klick on the „Cloud"-symbol for starting the download.
- Confirm in the next window the action with „Ja" (Yes).



- The process can take a few seconds.
- Die new installed version is visible in the Collector app

✓ Software is

6 Communication

Bluetooth SMART	The collector uses Bluetooth® Low Energy (Bluetooth® Smart) as a means of communication. The Bluetooth® wireless performance of the AC4.0 module is <8dBm. Use this device only in environments where Bluetooth® transmission is allowed. Bluetooth® is a trademark of Bluetooth SIG, Inc.

7 Disposal

CAUTION!	
	Risk due to environmental pollutants! The battery chemicals are corrosive. The hazard to the environment depends on the materials used. ▶ Clean contaminated components before disposal in principal! ▶ Clarify proper disposal with waste management and if applicable with competent authorities!

Tab 6: *Disposal*

8 Extract from the EC declaration of conformity

The AC 4.0 collector fulfills the requirements of the following EC directives:

- Directive 2006/42/EC (Machinery Directive)
- Safety: EN 60950-1:2006 + A 11:2009 + A 1:2010 + A 12:2011 + A2:2013
- Electromagnetic compatibility (Art. 3(1)(a)):
  - EN 301 489-1 v.1.9.2
  - EN 301 489-17:V2.2.1
    EN 61000-4-3:2006
- Spectrum (Art. 3(2)):
  - EN 300 328 V1.9.1
    HF output power
    Spectral power density
    Occupied channel bandwidth
    Unwanted emissions/interference from the transmitter outside the frequency range
    Transmitter unwanted interference emissions in the interference range
    Interference emissions of the receiver

☞	The detailed EC declaration of conformity is included in the scope of delivery.

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