User Manual – ASTER SE for V3 GB, ASTER for V3 GB

General Information

ASTER V3 set raises the price-performance ratio boasting new functions programmable via trigger. Now, out-of-the-box, you can set sensitivity from ludicrous **touch** through **hair** to full movement. **Improved programming via trigger** gives you **new settings** like automatic **pre-cocking**, trigger sensitivity adjustment, **active brake** settings with top-class adaptive mode and new **SAFE-SEMI-BINARY** selector mode. Calibration, DTC codes – all available just via trigger and selector movement. Additionally, you get **brushless motor support** and new **noise-resistant trigger detection** algorithm. ASTER's smart fuse protects your AEG's battery, motor and the controller, even in case of reverse battery connection. This feature, along with the optical sensors, makes ASTER one of the most durable ETU on the market.

Improvements

Available out-of-the-box without connecting to GCS	ASTER V3	ASTER V3 SE
Essential Programming via Trigger	✅	✅ expanded
Pre-cocking	❌	✅ LOW / MID / HIGH
Hair-trigger	✅	✅
Profiles	✅	✅
Trigger Sensitivity Adjustment	❌	✅
Brushless Motor Compatibility	❌	✅ extended up to 11.1 V batteries
Active Brake adjustment	✅ Adaptive / OFF	✅ Adaptive / 100% / 60% / OFF
Safety lever compatibility	✅	✅
Protection against Battery Reverse Polarity	✅	✅

USB-Link & Blu-Link Ready	✅	✅
Ultra Low-Voltage Ready (3.75 V)	✅	✅
Sensor Diagnostic Mode	✅	✅
LED & Vibration Signals	✅	✅

> ⊘ **Info**
> Any ASTER V3 updated to the latest firmware has the same functionalities as ASTER SX V3.

ASTER SE V3

ASTER SE V3 succeeds ASTER V3 bringing in these improvements:

- new, expanded options available to configure via trigger
- out-of-the-box LOW/MID/HIGH levels of pre-cocking configurable via trigger
- built-in Active Brake adjustment via trigger out of the box
- trigger sensitivity adjustment via trigger
- revised sensor diagnostics mode
- brushless motor support
- improved cycle detection
- retained advantages of ASTER V3, such as protection against reverse polarity

> ⓘ Read the whole manual carefully before use. Keep for future reference.

> ⓘ Failing to read this information may void the guarantee!

> ⓘ When using the product, always follow basic safety rules to reduce the risk of injury from fire or electrical shock.

Device Structure

1. Printed Circuit Board (PCB)
2. Circuit power wires with DEANS-T connector
3. Motor power wire minus "-"
4. Motor power wire plus "+"
5. Sector gear position sensors
6. Trigger sensor
7. Fire selector sensor
8. Programming via Trigger LED

Kit Contents

- ASTER SE V3 / ASTER V3
- Selector plate stickers
- Installation Kit
- QuickStart Guide
- Programming via Trigger Guide

Safety Summary

Please read this to ensure safe and correct use. Retain this information for future reference. The information contained in this document is subject to update without notice.

For your safety, this product should be installed by a skilled person.

⚠ **Warning**
Situations that may cause injury to yourself or others.

⚠ **Caution**
Situations that may cause damage to your device or other equipment.

⊘ **Note**
Notes, usage tips or additional information.

⚠ **Warning**
This device is not a toy and may not be operated by people (including children) with limited physical or mental abilities, as well as by people with no earlier experience in operation of electronic equipment. They may use the device only under the supervision of people responsible for their safety.

⚠ **Warning**
Before starting the installation process, make sure that your AEG magazine is empty and there are no BBs inside.

⚠ **Warning**
This equipment is not suitable for use in locations where children are likely to be present.

⚠ **Warning**
Persons under 18 years of age ought not stay unattended near the device during the installation or servicing of a device installed in an ASG replica.

⚠ **Warning**
Persons under 18 years of age ought not stay unattended near the device installed in an ASG replica ready for use.

⚠ **Warning**
Persons under 18 years of age are not allowed to install or commission the device in an ASG replica.

⚠ **Warning**
Persons under 18 years of age are not allowed to service this device.

⚠ **Warning**
Do not store or carry flammable liquids, gases or explosive materials in the same compartment as the device, its parts or accessories.

⚠ **Warning**
Take caution to prevent short-circuiting the battery as the consequences may be very dangerous to the health of the user.
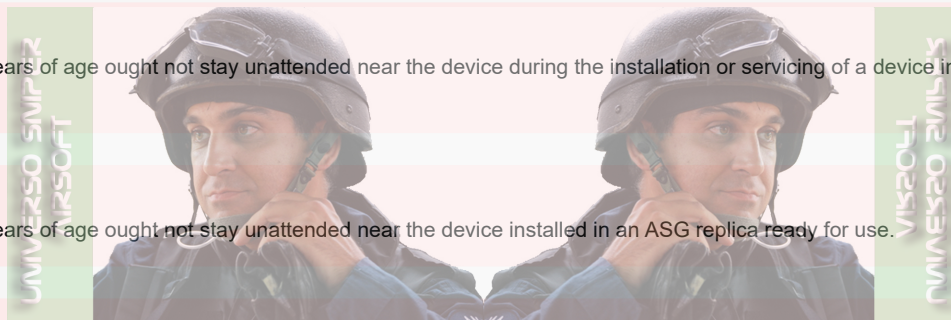
⚠ **Warning**
Excessive trigger sensitivity may cause unintentional discharge (firing).

⚠ **Warning**
When an airsoft replica is not in use, its battery must be disconnected and the hop-up chamber must be empty.

⚠ **Warning**
While handling an AEG replica with a connected battery, anyone within the range of the replica must wear personal protective equipment.

⚠ **Warning**

When not in SAFE mode, avoid using the device around strong electromagnetic fields, such as PMR transmitters exceeding European standards or when electrostatic discharges, e.g. lightning, occur in the atmosphere, which may cause malfunction of the device and unintentional discharge (firing).

⚠ **Warning**

When an airsoft gun is not in use, its magazine must be detached or kept empty with no BBs inside.

⚠ **Warning**

Incorrectly connecting positive and negative battery terminals will cause immediate damage to the device, which is not covered by warranty, and can lead to fire.

⚠ **Warning**

Pay attention to correctly connect positive and negative wires to the battery. Make sure you are connecting the positive terminal of the battery to the red wire of the device, and the negative terminal of the battery is connected to the black wire of the device. Incorrect power polarity may result in damage to the device and could even lead to fire or battery explosion.

⚠ **Caution**

Do not remove the device protective film or heat shrink tubes. Removing them will void the warranty.

⚠ **Caution**

For your own safety you ought to use an additional fuse between the battery and the device.

⚠ **Caution**

When operating under unusual conditions, perform maintenance outlined below for the climate similar to your area. Operating in extremely cold temperatures is not recommended. Do not expose ASTER II Bluetooth® to direct sunlight for long periods of time. Keep away from dust or sand, which can cause malfunctions and/or excessive wear. Keep ASTER II Bluetooth® out of snow, rain, and water. This will prevent electrical failure and fluid buildup inside the gearbox.

⊘ **Note**

The product Warranty Form is available here: http://www.gatee.eu/warranty.

⊘ **Note**

Bluetooth 4.0 or higher is required to connect to ASTER II Bluetooth® with a smartphone or other device.

Installation

Introductory Information

Caution

Regardless of your previous experience, follow all safety precautions to prevent any damage to your ASTER.

Caution

ASTER installation requires deep technical knowledge of gearbox internals. To avoid damage, we recommend it to be installed by a skilled person. If, however, you wish to proceed with ASTER installation on your own, you must read this full-length document. Incorrect installation may result in, among others, sensor damage, which is not covered by warranty.

Note

Excessive sector gear shimming may cause incorrect cycle detection. The gear cam must interrupt the sensor beam.
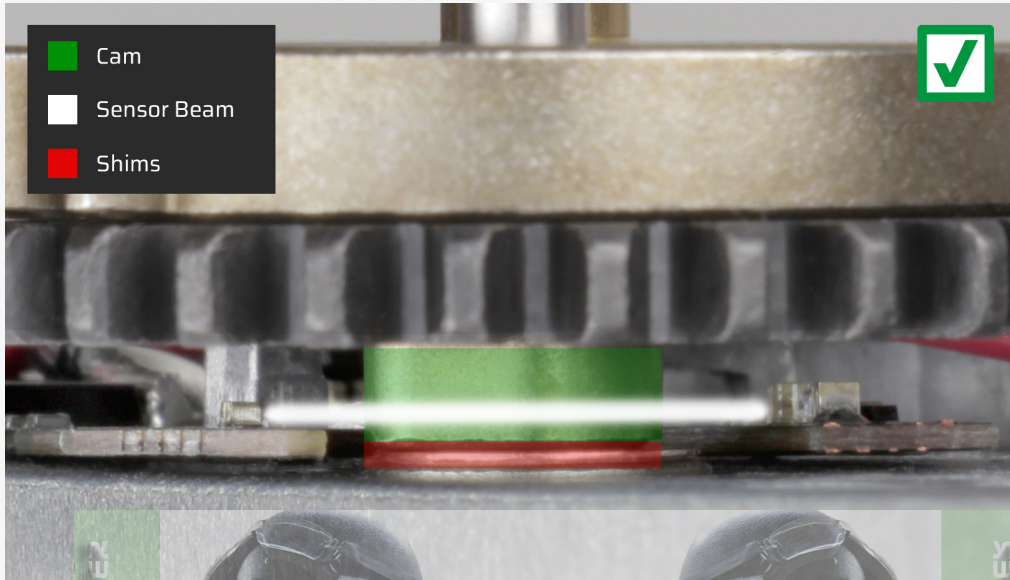
Note

In case you have any difficulties while installing or using this product:

- contact us via https://help.gatee.eu
- send us an email: support@gatee.eu
- join GATE Airsoft Community Discord Server

Caution

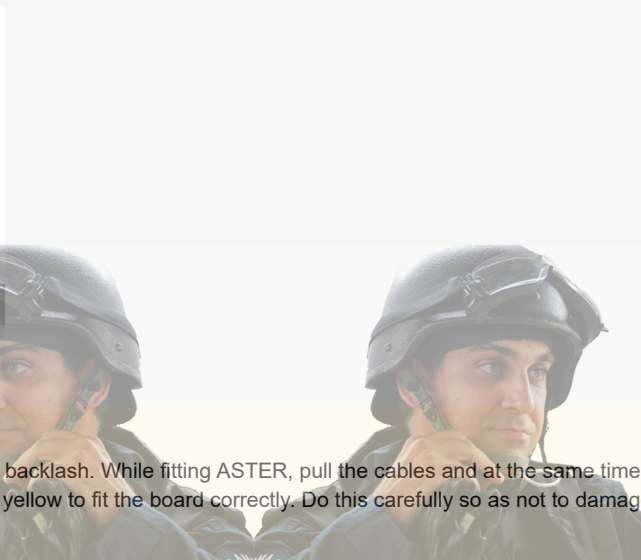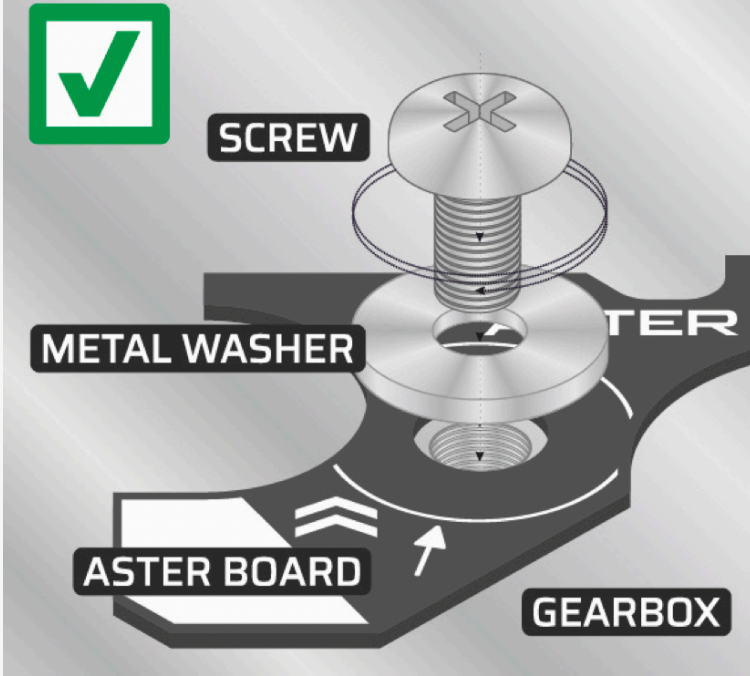The ASTER optoelectronic components marked in the photo below are very sensitive. Avoid their damage.

Caution

Do not remove the device protective film or heat shrink tubes. Removing them will void the warranty.

Caution

Use a metal washer with a diameter of max. 8 mm [0.31 inch] to avoid damaging ASTER.

1. SCREW

2. METAL WASHER

4. ASTER BOARD

5. GEARBOX

Caution

ASTER V3 fits CNC gearboxes with very low backlash. While fitting ASTER, pull the cables and at the same time push the board into the right place. Pay attention to the area marked yellow to fit the board correctly. Do this carefully so as not to damage the insulation of the wires.

Caution

If the PCB does not perfectly fit in your shell, make the necessary modifications to the gearbox shell, **not to the PCB**.
It is forbidden to make any modifications to the PCB shell such as drilling the screw hole, grinding the edges of the PCB, etc. Doing so may result in immediate damage to the circuit, which is not covered by the warranty.
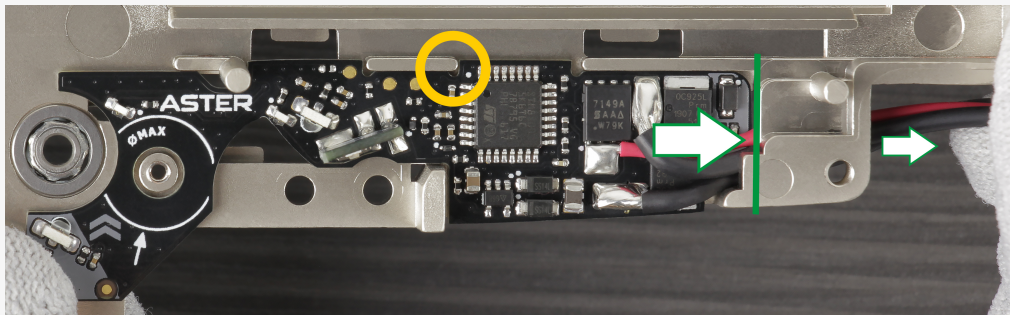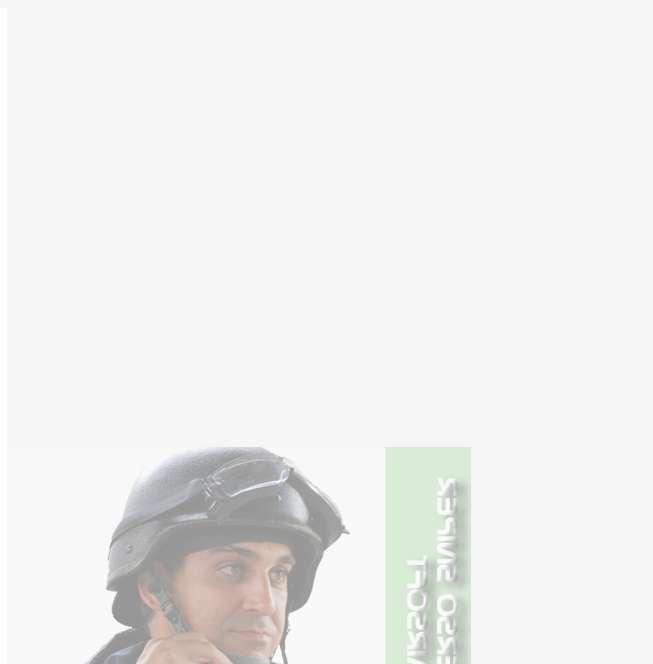

Note

Use the trigger sticker to make it visible for the trigger sensor.
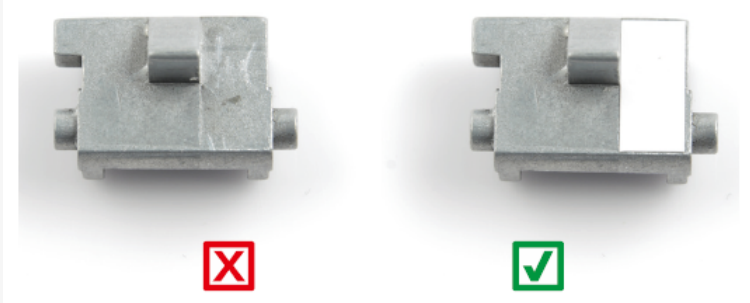
> ⊘ **Note**
>
> ASTER can detect trigger position very precisely. In order to increase sensitivity, you need to eliminate trigger backlash. The set contains 3 trigger anti-backlash stickers of various thicknesses. Try each one of them or a combination of more than one and choose the most appropriate one.

> ⊘ **Note**
>
> In AK type AEGs, eliminate as much backlash in the selector mechanism as possible. Tighten all screws and make sure you eliminate the micro moves indicated with arrows. You can do this using the additional stickers included in the INSTALLATION KIT.
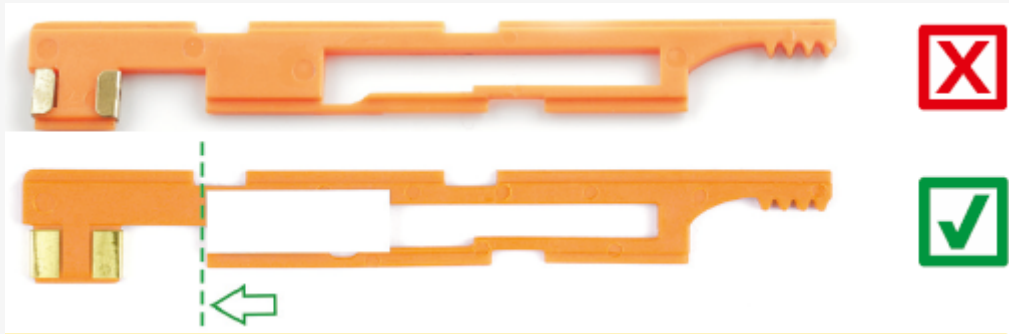

> ⊘ **Note**
>
> For AK and G36 selector types, it may be required to sand the inner edge of the selector plate. The distance between the edges must be 15 mm [0.59 in].

15 mm
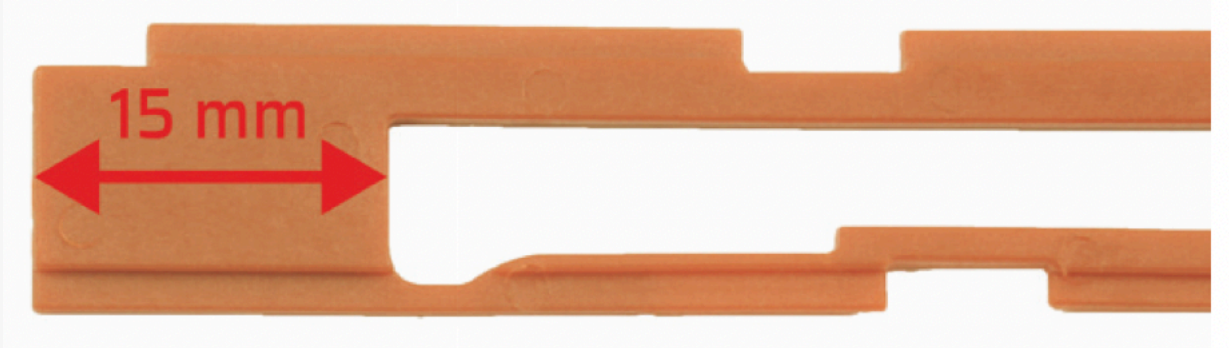
> **⊘ Note**
> The selector plate requires modification. Place the selector sticker according to the photos below. Its position is crucial.

> **⊙ Caution**
> In ASTER V3 the connectors must be straight according to the photo below. Bending and straightening the connectors back may cause them to break. If this should happen, spare terminals are included in the INSTALLATION KIT.
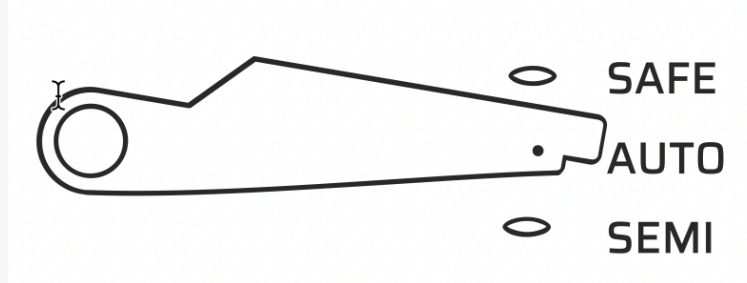
Calibration

> **⊘ Note**
> During calibration, remember to pull the trigger completely each time (until you feel resistance).

> **⊘ Note**
> AUG type AEGs can only be calibrated in the GCS app.

Once ASTER is installed in an AEG, the trigger and selector sensors must be calibrated according to the steps below:
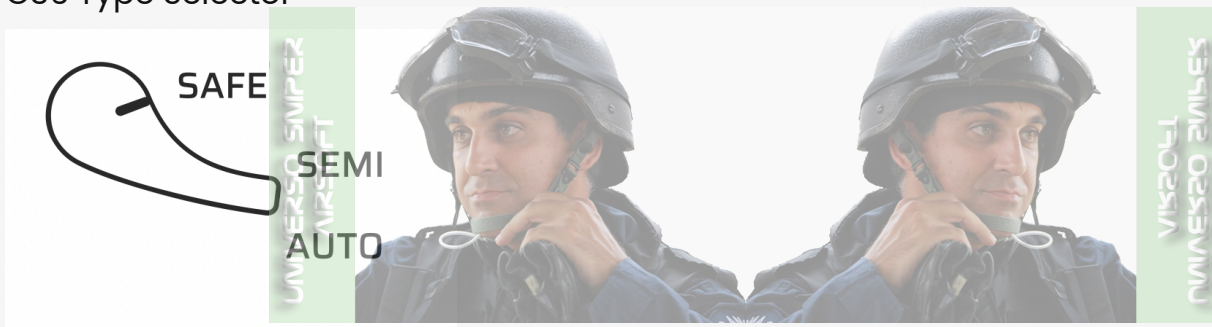
AK Type Selector

1. If your ASTER is brand new, go to step 2. If not, restore factory settings as described in **Restoring Factory Settings** below and then go to step 2.

2. To calibrate ASTER, plug in the battery. You will hear 3 low frequency vibrations indicating lack of calibration error.

3. Switch the selector to AUTO.

4. Pull the trigger once and wait for a confirmation vibration.

5. Switch the selector to SEMI.

6. Pull the trigger once and wait for a confirmation vibration.

7. Switch the selector to AUTO again.

8. Pull the trigger once and wait for a confirmation vibration.

9. Switch the selector to SAFE.

10. Wait for a confirmation vibration. Now ASTER is fully calibrated and ready to use.*

*If there is a problem during calibration, you will hear a short high and mid frequency vibration. Then, calibrate the selector again.

G36 Type Selector

1. If your ASTER is brand new, go to step 2. If not, restore factory settings as described in **Restoring Factory Settings** below and then go to step 2.

2. To calibrate ASTER, plug in the battery. You will hear 3 low frequency vibrations indicating lack of calibration error.

3. Switch the selector to SEMI.

4. Pull the trigger twice and wait for a confirmation vibration.

5. Switch the selector to AUTO.

6. Pull the trigger once and wait for a confirmation vibration.

7. Switch the selector to SEMI again.

8. Pull the trigger once and wait for a confirmation vibration.

9. Switch the selector to SAFE.

10. Wait for a confirmation vibration. Now ASTER is fully calibrated and ready to use.*

*If there is a problem during calibration, a short high and mid frequency vibration occurs. Then, calibrate the selector again.

> ⊘ **Note**
> You do not have to calibrate your unit each time, only restoring the factory settings will require recalibration.

Quick Access Menu

You can access **Pre-Cocking** or **Profiles** using a shortcut. After firing a shot, burst or while in SAFE (only if the safety lever has been removed)*, hold the trigger and switch the selector within the specified time (see table). Switch the selector in any order to change between the options indicated by motor vibrations.

By releasing the trigger, you exit the function confirming it. Bear in mind that **Programming via Trigger** is a different process. To find out more check the PROGRAMMING VIA TRIGGER CARD included or continue reading below.

*You can enter **Programming via Trigger** only when the selector on the replica is in SEMI position **and** AUTO mode is not assigned to this position.

	Function			
	available if preset in GCS			in SEMI or BURST mode preset in GCS in SEMI physical position only
	Pre-Cocking		**Profiles (EXPERT only)**	**Programming via Trigger**
To enter the function: hold the trigger	and switch the selector within 2 s		and switch the selector within 2-7 s	for > 7 s
Available options	Option	Low frequency vibration	Option	High frequency vibration	Check the PROGRAMMING VIA TRIGGER CARD included or continue reading below
	Off	1	Profile 1	1	
	On	2	Profile 2	2	
			Profile 3	3	

Pre-Cocking

> ⊘ **Note**
> In order for **Manual** mode to work correctly, it must first be adjusted with GCS.

ASTER SE V3

There is no longer any need to turn on the **Switch Mode via Selector** parameter for pre-cocking in GCS to be able to use this function. To turn on Pre-Cocking Mode, you only need to:

1. Fire a shot, burst or pull the trigger while in SAFE mode (only if the safety lever has been removed) and do not release the trigger.
2. Switch fire selector within 2 s. You will hear 1 low vibration.
3. Now each fire selector switch means the next option:
   - 1 low vibration – pre-cocking **Off**
   - 2 low vibrations – pre-cocking **Auto**
   - 3 low vibrations – pre-cocking **Manual**
4. Release the trigger to save the selected mode.

ASTER V3

In GCS go to **Trigger>Pre-Cocking>Switch Mode via Selector** and use the toggle button to activate this function.

1. Fire a shot, burst or pull the trigger while in SAFE mode (only if the safety lever has been removed) **and do not release the trigger**.
2. Switch the selector within 2 s. There is a single low frequency vibration.
3. Switch the selector in any order to change between the options indicated by vibrations:
   - 1 low frequency vibration – Pre-cocking Off
   - 2 low frequency vibrations – Pre-cocking On
4. Release the trigger to save the selected mode

Profile Selection

Profiles are sets of particular settings of configurable ASTER functions. In EXPERT firmware, you can choose one of the three profiles at a time. Go to **General>Profiles>Change Profile via Selector** in GCS to be able to use this function. If you want to change the active profile:

1. Fire a shot, burst or pull the trigger while in SAFE (only if the safety lever has been removed) **and do not release the trigger**.
2. Switch the selector within 2-7 s. There is a single high frequency vibration.
3. Switch the selector in any order to change between options, which are indicated by vibrations.
    a. 1 high frequency vibration – Profile 1
    b. 2 high frequency vibrations – Profile 2
    c. 3 high frequency vibrations – Profile 3
4. Release the trigger to save the selected profile

Programming via Trigger

This programming mode allows you to set the options of basic ASTER functions.

> ⊘ **Note**
>
> To run **Programming via Trigger**, your AEG must have a physical 3-stage selector.

Watch the video

Turning on Programming Mode

1. Switch the selector on your replica to SEMI or BURST.* If AUTO mode is selected in SEMI position, use the alternative method below.
2. Fire a shot or burst **and do not release the trigger**.
3. Hold the trigger for 7 seconds – until you hear a vibration and see dark blue light in the trigger hole

*Not possible if AUTO mode is selected in SEMI position

Alternative Method

1. Disconnect the battery
2. Switch the selector position to SEMI
3. Pull the trigger **and do not release it**
4. Connect the battery (ignore the warning vibrations)
5. Hold the trigger for 3 s – until you hear a vibration and see dark blue light in the trigger hole

You can easily change the menu level by switching the selector. Pull the trigger to quickly navigate the menu. Each time you pull the trigger, the LED color changes as well as the number of accompanying vibrations. The table presents functions and their options programmable via trigger as well as how they are indicated by LED and vibrations.

> ⊘ **Note**
>
> If you hold the trigger for 10 seconds, factory settings are restored, which is indicated by 2 vibrations.

Exit

Options

SAFE

AUTO

Save Option
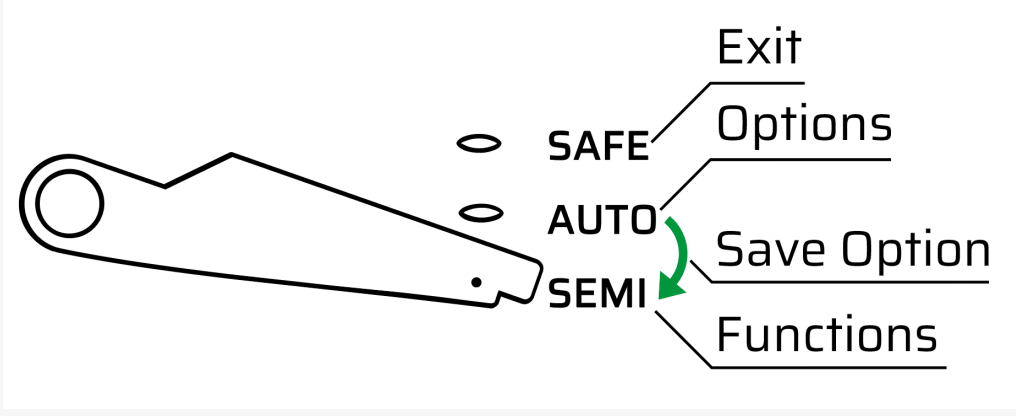
SEMI

Functions

> **Note**
> The number of vibrations and the LED color reflect the position of an option or function from the menu.

ASTER SE   [AR] [G36]

1. ACTIVATE PROGRAMMING MODE:

SEMI

SAFE   AUTO

→

⏱ 7s   BLUE LIGHT ON

2. SET TO SEMI
TO TOGGLE FUNCTIONS:

SEMI

3. SET TO AUTO
TO TOGGLE OPTIONS:

AUTO

& PULL TRIGGER ACCORDING TO TABLE ON REVERSE

4. SAVE SELECTED OPTION:

SEMI

AUTO

5. EXIT PROGRAMMING MODE:

SEMI

SAFE

Read more: **help.gatee.eu**

ASTER SE | GATE

PROGRAMMING VIA TRIGGER

SEMI POSITION			AUTO POSITION	
FUNCTION WITH CORRESPONDING NUMBER OF VIBRATIONS AND LED COLOR	**1**	Fire Mode	**OPTION WITH CORRESPONDING NUMBER OF VIBRATIONS AND LED COLOR**	**1** SAFE-SEMI-AUTO
				2 SAFE-SEMI-BINARY
				3 SAFE-SEMI-SEMI
				4 SAFE-SEMI-BURST
				5 GCS Setting**
	2	Pre-Cocking		**1** OFF
				2 LOW
				3 MID
				4 HIGH
				5 GCS Setting**
	3	Battery Protection		**1** Off
				2 LiPo
				3 LiPo 3.2 V Warning
				4 GCS Setting**
	4	Active Brake		**1** Adaptive
				2 100%
				3 60%
				4 OFF
				5 GCS Setting**
	5	Advanced*		**1** Restore Default Settings
				2 Restore Factory Settings
				3 Set Trigger Sensitivity

* To select **Option** from **Advanced**, hold trigger down for **3 seconds or more**.

** Predefined in GCS app. Read more: **help.gatee.eu**

SEMI POSITION			AUTO POSITION		
FUNCTION WITH CORRESPONDING NUMBER OF VIBRATIONS AND LED COLOR	**1**	**Fire Mode**	1	SAFE-AUTO-SEMI	**OPTION WITH CORRESPONDING NUMBER OF VIBRATIONS AND LED COLOR**
			2	SAFE-BINARY-SEMI	
			3	SAFE-SEMI-SEMI	
			4	SAFE-BURST-SEMI	
			5	GCS Setting**	
	2	**Pre-Cocking**	1	OFF	
			2	LOW	
			3	MID	
			4	HIGH	
			5	GCS Setting**	
	3	**Battery Protection**	1	Off	
			2	LiPo	
			3	LiPo 3.2 V Warning	
			4	GCS Setting**	
	4	**Active Brake**	1	Adaptive	
			2	100%	
			3	60%	
			4	OFF	
			5	GCS Setting**	
	5	**Advanced***	1	Restore Default Settings	
			2	Restore Factory Settings	
			3	Set Trigger Sensitivity	

*   To select **Option** from **Advanced**, hold trigger down for **3 seconds or more**.
** Predefined in GCS app. Read more: **help.gatee.eu**

---

*To select **Option** from **Advanced**, hold **trigger** down for **3 seconds or more**.
**Predefined in GCS app. Read more: help.gatee.eu.

Predefine the setting in GCS, so it's available at trigger level. Once you disconnect the battery, the setting cannot be changed and needs to be reintroduced in GCS.

Selecting a Function

1. Switch the selector to SEMI.

2. To get to a function, pull the trigger the specified number of times (according to the table above).

Selecting an Option of a Function

1. Switch the selector to AUTO.

2. To get to an option of a selected function, pull the trigger the specified number of times (according to the table above).

Saving an Option

1. To save an option, switch the selector to SEMI.

2. The setting is saved and you are back to the functions menu.

3. You can set the options of the other basic functions the same way.

Advanced Options

1. Select the **Advanced** option.

2. Pull and hold the trigger for more than 3 seconds.
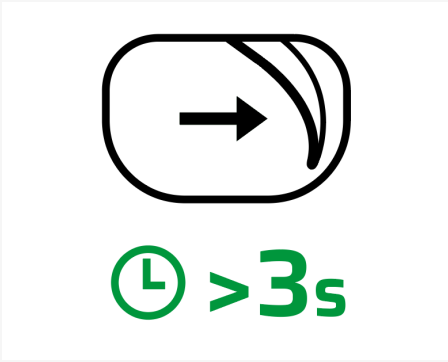
Trigger Sensitivity Adjustment

ASTER SE V3

The Trigger sensitivity adjustment option allows you not only to check the currently set sensitivity but also to adjust the sensitivity to any position of your choice.

1. Switching on the Trigger sensitivity mode works analogically as with other ADVANCED functions (check the previous section).


2. After pressing the trigger to the position of the currently set sensitivity, a single, short vibration will activate. The set sensitivity is also indicated by orange LED light, which goes out when the trigger is released. The LED light informs about the set sensitivity even if all vibrations are muted in GCS.

3. Setting the sensitivity is done by pressing and holding the trigger to the position in which you want to set the activation threshold, and switching the selector to SEMI to confirm the set position. After this operation, you remain in the ADVANCED function and you can go to the option selection or select another function at any time.
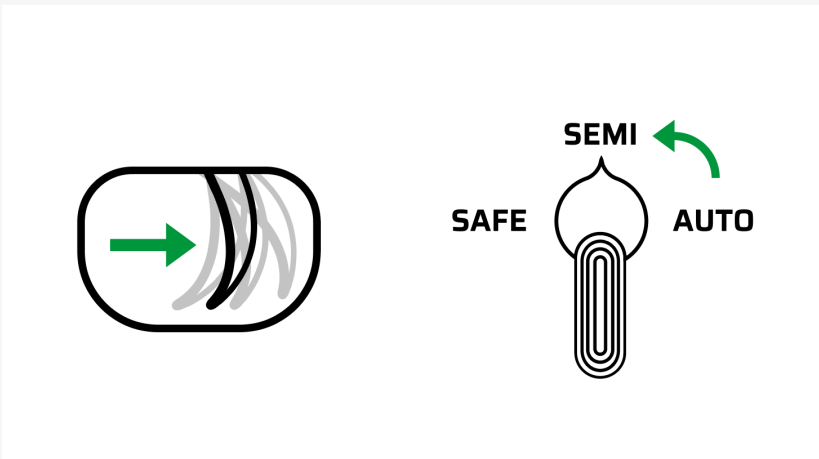
4. If you do not want to change the trigger sensitivity, it is enough to not move the trigger for 5 seconds - this will result in going back to the option selection.
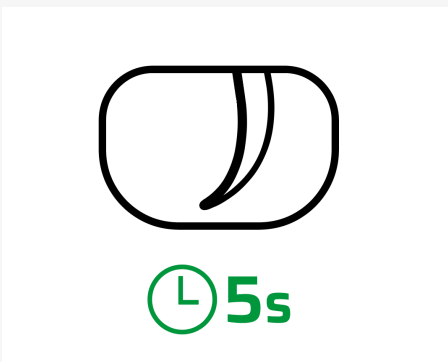
GATE ASTER SE & SX - Trigger Sensitivity Adjustment

ASTER V3

✓ **Note**
Update your ASTER's firmware with the GCS app and Blu-Link or USB-Link to use **Trigger Sensitivity Adjustment**.

Exiting the Programming Mode

1. Switch the selector to SAFE.
2. Enjoy the ASTER functions you've just set.

Activating SAFE Mode if Not Assigned

If SAFE mode is not assigned in GCS, it is possible to activate it via the selector*:

1. Switch the selector **rapidly** in this sequence: SAFE → SEMI → SAFE (SAFE → AUTO → SAFE for AK-47)
2. Now SAFE mode is activated – switch to SEMI or AUTO to deactivate it
3. Switching to SAFE again accesses the fire mode assigned to the SAFE position in the GCS

*SAFE mode also applies when the selector is in SAFE while connecting the battery – switching to SEMI or AUTO deactivates it.

Programming via USB-Link

✓ **Note**
You can use a USB-Link to connect your ASTER to GCS for Android and Windows/macOS. To connect to GCS for iOS, you must use a Blu-Link. To learn more, go to QuickStart (QSG) [BLU-L].

⚠ **Caution**
Prevent the USB-Link and the ends of the USB cable from contact with conductive materials, such as dust, liquid or metal powder.

1. Connect the USB-Link via its Micro-USB plug to your PC, Mac or smartphone using one of the dedicated USB cables:

- USB-A cable for PC/Mac
- Micro-USB or USB-C cable for smartphones

⊘ **Note**
    The micro-USB cable has the same connectors on both sides. However, it is very important to connect the USB-Link and smartphone to the appropriate ends of the cable as otherwise, it will not work.

⊘ **Note**
    If your USB-Link cannot be detected, follow the instructions displayed in GCS.

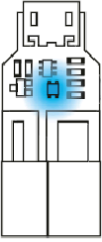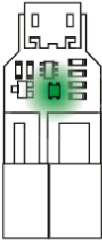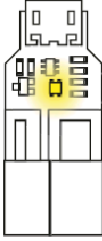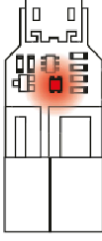2. Connect ASTER to the USB-Link

⊘ **Note**
    In case you have any difficulties while installing or using this product:

    - contact us via https://help.gatee.eu
    - send us an e-mail: support@gatee.eu
    - join GATE Airsoft Community Discord Server

3. Now you can control ASTER via GCS

USB-Link Troubleshooting

|	GLOWING	BLINKING
blue	The USB-Link is connected to PC or smartphone. ASTER is not connected or PC driver is not installed. You can download the driver here: *https://www.gatee.eu/drivers*	The USB-Link does not have firmware installed. Please install the firmware.
green	The USB-Link is connected to ASTER and PC, Mac or smartphone.	The USB-Link is connected to ASTER and PC, Mac or smartphone, but ASTER does not have firmware installed. Please install the ASTER firmware.
yellow	The USB-Link is transmitting data.	
red	Communication with ASTER was interrupted while saving settings. ASTER settings may have been transmitted incorrectly. Please check the connection between the USB-Link and ASTER.	

Restoring Factory Settings

⊘ **Note**
Restoring the factory settings results in resetting the default settings, erasing adaptations and statistical data.

⊘ **Note**
Restoring the factory settings of ASTER requires recalibration in GCS.

You can restore Factory Settings in 3 ways:

- Via GCS:

Go to **General**. Open the menu in the upper right corner and select **Restore factory settings**.
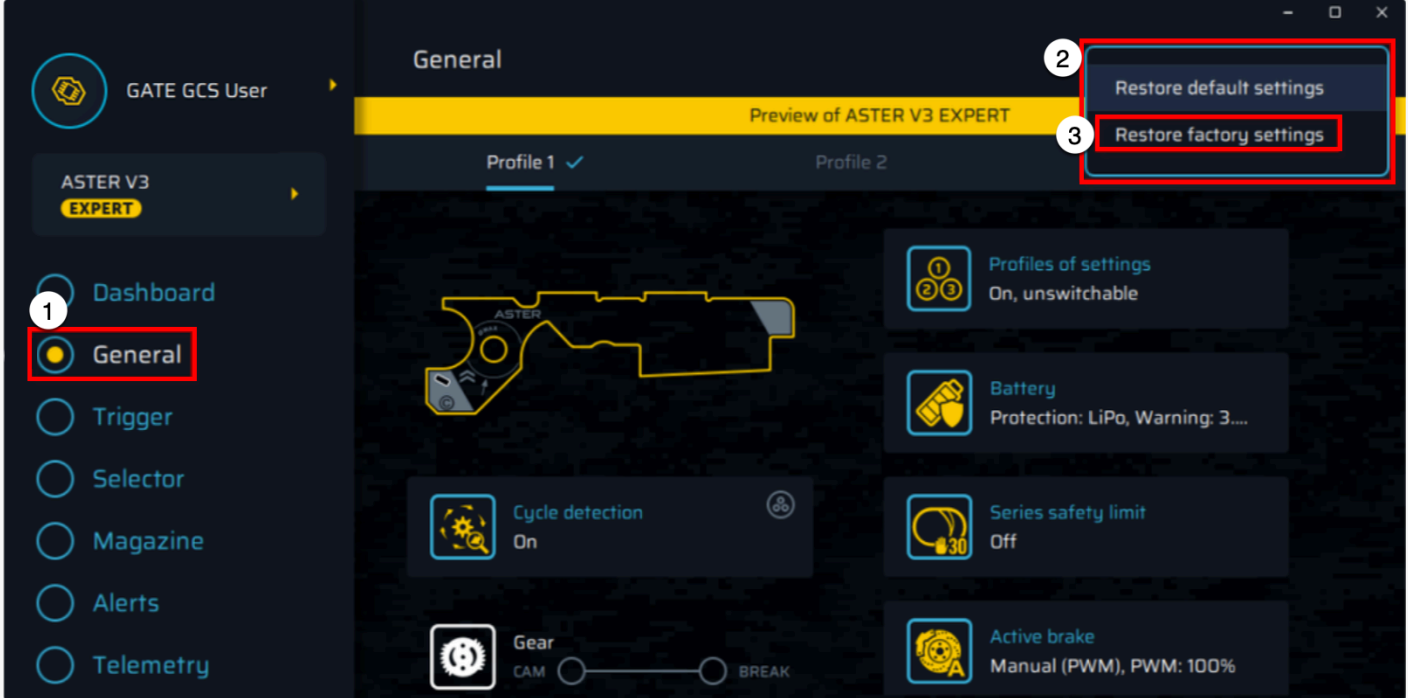
- While in programming mode:

1. Turn on the programming mode as described in **Programming via Trigger**
2. Switch the selector to SEMI
3. Pull the trigger 4 times to select **Advanced** (5 vibrations, LED glowing orange)
4. Switch the selector to AUTO
5. Pull the trigger to get to **Restore Factory Settings** (4 vibrations, LED glowing pink)
6. Confirm the **Restore Factory Settings** option by pulling the trigger for at least 3 seconds

- While connecting the battery:

1. Disconnect the battery
2. Pull the trigger
3. While the trigger is pulled, connect the battery (ignore the warning vibrations)
4. Hold the trigger for 10 seconds until you hear 2 vibrations confirming the reset (ignore the vibrations occurring in the meantime informing about entering the programming mode)
5. Release the trigger
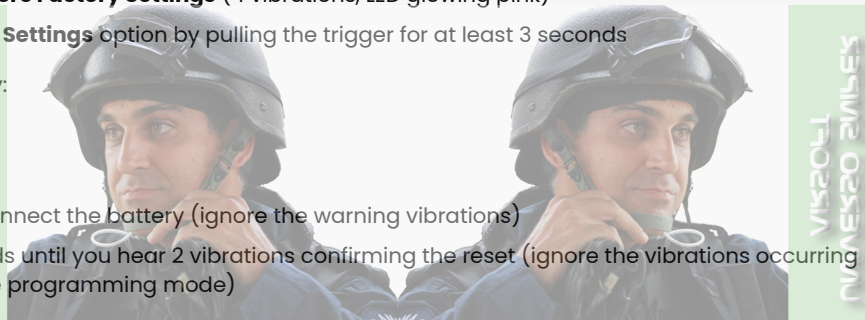
> ⊘ **Note**
> The trigger must be held down throughout the entire operation – from connecting the battery until you hear the vibrations.

Sensor Diagnostic Mode

> ⚠ **Caution**
> In order for the test to be carried out correctly, it is necessary that it is performed on the target correctly installed parts:
>
> - shimmed gears – for the purpose of the test, a sector gear is sufficient
> - target screw-adjusted trigger – if adjustable
> - target selector plate with a white sticker in place.
>
> **Failure to comply with the above points may result in passing the diagnostic test, however, the system may malfunction in the assembled replica!**

> ⓘ **LED light signals during the diagnostic procedure are as follows:**
>
> - **purple** – waiting for a change in the state of the tested sensor
> - **green** – the tested sensor is functioning correctly
> - **red** – the tested sensor is not functioning properly (no signal change within 3 seconds or insufficient signal change for correct sensor calibration). If the **red** LED light is illuminated, it is necessary to repeat the test from the beginning.

> ⓘ **First, connect the ETU power supply and observe the changing LED light colors. If:**

1. **everything is OK and the sensors are uncalibrated:**
    - a glowing **purple** LED signals readiness to start – a detailed description of the procedure is available in the **Successfully Passed Test** section
2. **everything is OK and the sensors are calibrated:**
    - a **green** LED lights up for 2 seconds (as before)
    - in this case, it is impossible to perform the diagnostic test for the factory – to conduct the diagnostic procedure, it is necessary to restore factory settings of the **ASTER** unit
3. **Other cases:**
    - **red** and **blue** LEDs flash alternately, indicating a SELF-TEST failure
    - the unit remains in this state until the battery is disconnected – disconnect and reconnect the battery to the unit
    - if problems persist during the SELF-TEST repetition, contact the technical support department: https://help.gatee.eu/page/contact

The first step in installing your **ASTER** is to check that the sensors correctly detect the gear, trigger, and fire selector. Sensor diagnostic mode is available in the latest versions of **ASTER with firmware versions v 4.0-02 or later**. It is used to detect the malfunction of the error sensors even before the **gearbox** is completely assembled.

You will need:

- gearbox shell
- ASTER
- sector gear
- trigger
- selector plate
- 2 screws
- battery

Installation Procedure:

1. Install **ASTER**, **sector gear**, and **trigger** in the **gearbox shell**
2. Screw the **gearbox shell** together with at least two screws
3. Install the **selector plate**

Example of a Successfully Passed Test after the Installation Procedure:

1. Connect the battery
2. When the LED turns **purple**, carry out the test procedure:

> ⓘ **Caution**
> If, within 5 seconds of the **purple** LED light turning on, the sector gear sensor does not detect a change (cam-gap), the unit will revert to normal operation mode. To re-run the diagnostic test, it is necessary to disconnect and reconnect the battery.

- turn the gear so that it makes a few revolutions – **the LED temporarily turns green, then back to purple**
- press the trigger several times in its full range of motion – **the LED temporarily turns green, then back to purple**
- move the selector plate in the full range of its movement – **LED turns green again permanently – test successful**

3. You can now proceed with the rest of the installation

Example of a Failed Test after the Installation Procedure:

A **red** LED indicates an error in the reading of the last sensor to be checked – **a failed test**. It is necessary to repeat the test from the beginning.

> ⊘ After each step, the LED should turn **green** – this means that the test was successful.

> ⚠ The appearance of the **red** LED color indicates an error in reading the last checked sensor – **the test has failed**. It is necessary to repeat the test from the beginning.

> ⊘ **Information**
> If it is impossible to complete the test due to a lack of sensor response, you can connect to the GCS application to read diagnostic errors and check the sensors. Afterwards, you can proceed to re-run the test.

Troubleshooting

Low Battery Warnings

When activated, you are warned 5 times before the battery is discharged. Each warning is communicated by 3 vibrations: High → Mid → High.

Vibrations after connecting the battery

ASTER can detect number of battery cells automatically. If you activate this function, vibrations start once the battery is connected. Remember to always check if ASTER detected correct number of battery cells.

Vibrations after connecting the battery	Explanation
1 short high frequency	Cell detection error
2 short high frequency	Two cells detected
3 short high frequency	Three cells detected
4 short high, 1 long low frequency	The voltage is too high
3 short low frequency	Lack of trigger or selector calibration
4 short low frequency	Trigger error: after connecting the battery, ASTER detected a trigger position where a shot may be fired

Diagnostic Trouble Codes

Diagnostic Trouble Codes (DTC) enable detecting basic malfunctions and problems with your AEG or ASTER. You are notified of the main errors with LED lights glowing in the trigger hole and vibrations. These light-and-sound sequences are activated once a malfunction takes place. DTCs can be later read and cleared in the DTC menu in GCS as well as in the Programming Mode in Advanced Settings. In the latter case, the LED light blinks the same number of times as the motor vibrates, so you can check DTCs even without a connected motor.

If DTCs are read while in **Programming via Trigger** mode:

- The LED light in the trigger hole glows in the color reflecting the issue type
  - Yellow indicates a warning
  - Red indicates a problem
  - Red-Blue blinking alternately indicates the device failed on self-test when connecting to power supply
  - Red-Yellow blinking alternately indicates other errors
- Each vibration type corresponds to an issue type
  - high frequency vibrations indicate a warning
  - low frequency vibrations indicate a problem
  - Low-high frequency vibrations indicate the device failed on self-test
  - High-low frequency vibrations indicate other errors
- The number of vibrations determines exactly what the problem is (for reference read the DTC explanations presented later on in this guide)

> ⊘ **Note**
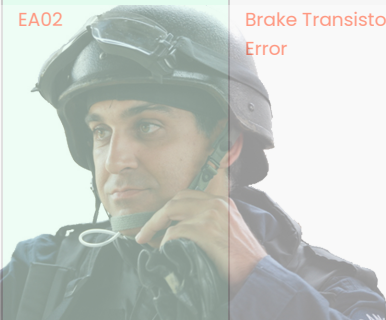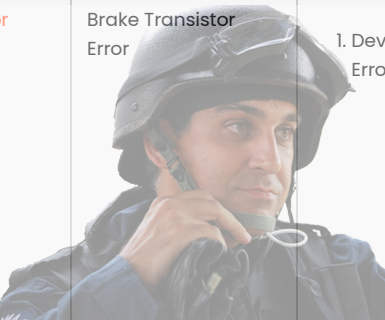> It is good practice to clear the DTCs in GCS before each skirmish.

The table presents DTC along with their possible reasons and solutions.

DTC Code in GCS warning error	AST V3 warning error	DTC Name	Description	Reason	Wha
UVP1	UVP1	Under Voltage Protection 1	Protection against battery over-discharge (battery protection) activated	1. Discharged battery 2. Battery type or number of battery cells set incorrectly	1. Charge... 2. Set the battery number cells
UVP2	UVP2	Under Voltage Protection 2	Voltage has dropped below a critical level for your device to work properly	1. Discharged battery 2. The battery is worn out and there is excessive internal resistance 3. Inadequate battery type for the current AEG configuration 4. Excessive electrical resistance between your device and the battery 5. Motor too strong for the connected battery 6. Motor connection short circuit 7. Jammed motor 8. Damaged motor	1. Charge... 2. Replace... 3. Use a b... more c... higher v... 4. We rec... using a Deans-... you nee... adapto... quality... 5. Use sta... torque... instead... speed... 6. Check... wire ins... 7. Unjam t... 8. Replace...
UVP3	UVP3	Under Voltage Protection 3	Protection against battery over-discharge (battery protection) activated immediately after connecting the battery	1. The number of cells is different from the number set in GCS 2. Discharged battery	1. Set the... of cells... the batt... 2. Charge...
OVP	OVP	Over Voltage Protection	Voltage exceeding a critical level for your device to work properly	1. Connected battery type not supported by the unit	1. Replace...

TEMP (OTP)	OTP	Over Temperature Protection	Excessive device temperature – over-temperature protection activated	1. The outside temperature is too high in relation to the requirements of your AEG 2. Frequent short circuits and device electrical overloads	1. Wait un… temper…
MOTOR DISC	MOTOR DISC	Motor Disconnected	ETU did not detect the motor	1. Motor not connected 2. Brushes worn out 3. Damaged motor	1. Check … motor … connec… 2. Replace… 3. Replace…
GEAR (E07 GND)	GND	Gear Not Detected	ETU did not detect any movement of the sector gear	1. Excessive gear shimming 2. Dirty sector gear sensor 3. Jammed sector gear 4. Damaged sector gear sensor 5. Damaged motor	1. Remove … from un… sector g… 2. Clean s… sensor; … sensor u… alternat… detecti… 3. Check t… of the g… 4. Set Cyc… OFF (yo… minima… functio… contact… at supp… 5. Replace…
OCP1 (E11)	OCP1	Over Current Protection Type 1	Excessive current detected – overcurrent protection activated	1. Motor connection short circuit 2. Motor or gearbox jammed 3. Motor damaged	1. Check … wire ins… 2. Unjam t… gearbo… 3. Replace…
OCP2 (E12)	OCP2	Over Current Protection Type 2	Excessive current detected – overcurrent protection activated	1. Motor connection short circuit 2. Motor or gearbox jammed 3. Motor damaged 4. Battery voltage too high for the current motor	1. Check … wire ins… 2. Unjam t… gearbo… 3. Replace… 4. Replace…
SCP	SCP	Short Circuit Protection	Current over 220 A detected – short circuit protection activated	1. Motor connection short circuit 2. Motor or gearbox jammed 3. Motor damaged	1. Check … wire ins… 2. Unjam t… gearbo… 3. Replace…

SELF (E14 STF)	STF	Self-Test Failure	The device failed on self-test	1. Device Internal Error 2. Always activated with other Device Internal Errors	1. Clear th 2. Unplug from the Blu-Link wait 10s 3. Connec to the b wait ag 4. Check t – if the contact at supp
FET1 (E01 EA01 T_Drive)	EA01	Main Transistors Error	Main Transistors Error	1. Device Internal Error	1. Clear th 2. Unplug from the Blu-Link wait 10s 3. Connec to the b wait ag 4. Check t – if the contact at supp
FET2 (E02 EA02)	EA02	Brake Transistor Error	Brake Transistor Error	1. Device Internal Error	1. Clear th 2. Unplug from the Blu-Link wait 10s 3. Connec to the b wait ag 4. Check t – if the contact at supp
VME1 (E03 EA03 VoltageSensor)	EA03	Voltage Measurement Error	Voltage Measurement Error	1. Device Internal Error	1. Clear th 2. Unplug from the Blu-Link wait 10s 3. Connec to the b wait ag 4. Check t – if the contact at supp
SELF (E14 STF)	STF	Self-Test Failure	The device failed on self-test	1. Device Internal Error 2. Always activated with other Device Internal Errors	1. Clear th 2. Unplug from the Blu-Link wait 10s 3. Connec to the b wait ag 4. Check t – if the contact at supp

TSE (E04 EA04 TempSensor)	EA04	Temperature Sensor Error	Temperature Sensor Error	1. Device Internal Error	1. Clear th… 2. Unplug from th… Blu-Link… wait 10s… 3. Connec… to the b… wait ag… 4. Check t… – if the… contact… at supp…
SEL-ERR (E08 EA08)	EA08	Selector Error	Selector Error	1. Badly calibrated selector 2. Outside light reaching selector sensor 3. Selector plate not reflecting light	1. Perform calibrat… 2. Insert th… into the… 3. Modify t… plate us… from th… INSTALL…
TRIG-ERR (E09 EA9)	EA9	Trigger Error	A pulled trigger detected when connecting the battery	1. Trigger pulled while connecting the battery 2. Trigger sensitivity set too high 3. Dirty trigger sensors 4. Badly calibrated trigger 5. Attempt to enter the Programming via Trigger mode when connecting the battery 6. Emergency recovery of factory settings with trigger movement 7. Trigger sensor covered by wires	1. Release… 2. Using th… lower tr… sensitiv… 3. Clean th… sensors 4. Check t… the wire… gearbo… 5. Perform… calibrat…
SEL-SW (E10 EA10)	EA10	Switched Selector	The selector has switched during a shot	1. The selector was switched deliberately during a shot 2. Sensors detect switching the selector at the edge of a selector position	1. Inspect… sensors… takes pl… of the th… position… or AUTO… modify… plate

CFG (E13 EA13 Config)	EA13	Configuration Error	Configuration Error	1. Zmieniono typ firmware'u 2. Błąd wewnętrzny urządzenia	1. Restore settings 2. Install the firmwar 3. Clear th 4. Unplug from the Blu-Link wait 10s 5. Connec to the b wait ag 6. Check t – if the contact at supp
SEL-CAL (E06 EA06)	EA06	Selector not Calibrated	Selector Calibration not Performed	Selector calibration not Performed	Calibrate th
TRIG-CAL (E16 EA16)	EA16	Trigger Not Calibrated	Trigger Calibration Not Performed	Trigger Calibration Not Performed	Calibrate th
SEL-OE (E17 EA17)	EA17	Selector Sensor Overexposed	Selector Sensor Overexposed	Too much external light reaching the selector sensor	Cover the g against exte
TRIG-OE (E18 EA18)	EA18	Trigger Sensor Overexposed	Trigger Sensor Overexposed	Too much external light reaching the trigger sensor	Cover the g against exte
GEAR-OE	GOE	Gear Sensor Overexposed	Gear Sensor Overexposed	Too much external light reaching the gear sensor	Cover the g against exte
OVL	OVL	Overload	Load Limit Exceeded	1. BASIC firmware edition is dedicated to up to mid-tuned guns	1. Use a hi motor c 2. Upgrad EXPERT

Technical Specifications

The design and production of the device is based on harmonized standards.

	ASTER SE V3 ASTER V3
Supply Voltage Range	3.75-12.9 V
Rated Current	30 A
Current Consumption	26 mA
Low Power Mode	285 µA
Dimensions (Length x Width x Height)	73.5 mm x 24 mm x 12.5 mm
Finished Product Weight	26 g

Operating Temperature Range	min. -15ºC max. + 50ºC
Relative Humidity	≤ 80%

Legal Notice

Please read the Legal Notice before operating your device and keep it for future reference. This document contains important terms and conditions with respect to your device. By using this device, you accept these terms and conditions.

Exclusion of Liability

GATE Enterprise sp. z o.o. sp. k. is not liable for any damages, injuries or accidents of any kind resulting from the use of this product or airsoft gun with the product installed, including (but not limited to) incidental or special damages to airsoft gun, airsoft gun parts, batteries and gearbox internals.

Disclaimer

GATE Enterprise sp. z o.o. sp. k. takes no responsibility regarding compliance of the product with the requirements of any law, rule or airsoft restrictions pertaining thereto.

Intellectual Property

Intellectual Property owned by GATE Enterprise sp. z o.o. sp. k., including but not limited to, devices, accessories, parts, software, documentation, is proprietary to GATE Enterprise sp. z o.o. sp. k. and protected under Polish laws, EU laws, and international treaty provisions. You may not violate the rights of the Intellectual Property and you will not prepare derivative works of or reverse engineer the device or software. No ownership in the Intellectual Property is transferred to you.

GATE Limited Warranty Policy

GATE Enterprise sp. z o.o. sp. k. warrants that its Product is free from manufacturing and material defects at the date of purchase and for a period of two (2) years from the date of purchase and it is nonextendable. This Limited Warranty is conditioned upon proper use of Product by Purchaser.

This Limited Warranty is valid provided that the owner provides a proof of purchase and properly completed warranty form.

This Limited Warranty does not cover: (a) defects or damage (e.g. mechanical, thermal or chemical) resulting from accident, misuse (misinterpretation of the instructions), abuse, neglect, unusual physical, electrical or electromechanical stress, water immersion, repairs or structural modification of any part of Product, or (b) the Product that has its serial number removed or made illegible; (c) defects or damage from improper operation, maintenance or installation, (d) installation of the products.

Requests for warranty are processed as soon as possible, not exceeding seven (7) working days. The company's obligation under this Limited Warranty shall be limited to providing replacement of parts only.

The color of the product may vary slightly depending on the batch.

Product Disposal Instructions

The symbol shown here means that the product is classified as Electrical or Electronic Equipment and should not be disposed with other household and commercial waste at the end of its working life. The Waste of Electrical and Electronic Equipment (WEEE Directive 2012/19/EU) has been put in place to recycle products using best available recovery and recycling techniques to minimize the impact on the environment. Purchasers shall take any old electrical equipment to waste recycling public centres or points of sale.

Product Compliance

Declaration of Conformity

GATE Enterprise sp. z o.o. sp. k. hereby declares under our sole responsibility that the products GATE ASTER V3 is in conformity with the essential requirements of the following Directives: 2011/65/EU, 2014/30/EU, 2014/35/EU, 2001/95/WE.

Stay tuned with GATE

GATE HELP CENTER

GATE Enterprise

Join the GATE Airsoft Community Discord Server!
Facebook
YouTube
Instagram

Manufactured by GATE Enterprise sp. z o.o. sp. k.
Torowa 3H
PL-30435 KRAKÓW
email: support@gatee.eu
tel: +48 12 210 05 23

👍 Aún no le ha gustado a nadie