



BINUNLOCK LLC

Automotive software for professional service work

EGS OBD ISN Workspace 2.0.0

English User Guide

BMW EGS7, 7DTC300 and AISIN EEPROM analysis, local ENET/ZGW discovery and guarded two-phase ISN reset.

DOCUMENT REVISION 1.0

Qualified service work only.

Read the target-control, EEPROM and reset chapters before sending a state-changing command.

Contents & document control

APPLICATION EGS OBD ISN Workspace 2.0.0	PUBLISHER BinUnlock LLC
SUPPORTED FAMILIES EGS7 (GEN3) · 7DTC300 · AISIN EGS	PUBLISHED 13 August 2026

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DOCUMENT STATUS

This guide applies to version 2.0.0 and contains native Windows screenshots of the current C# interface. All displayed identifiers are synthetic documentation data; no vehicle was contacted.

Purpose, scope and validation status

This workspace performs local BMW EGS EEPROM analysis, ZGW discovery and a guarded ISN reset for exactly three supported controller families.

READ BEFORE BENCH OR VEHICLE USE

EEPROM parsers, protocol frames, timeouts, error paths and isolated UDP/TCP fixtures have passed deterministic tests. Controlled physical EGS bench validation is still pending. Do not present this release as physically validated until that comparison is completed.

What the workspace does

- Analyses a local EEPROM image for **EGS7 (GEN3)**, **7DTC300** or **AISIN EGS** and displays the recovered 16-byte ISN as 32 hexadecimal characters.
- Finds a BMW ZGW on the local wired ENET network or accepts a separately verified ZGW IPv4 address.
- Locks every reset until the target family, EEPROM result, gateway and requested ISN source pass validation.
- Runs the recovered two-phase reset transaction and reports definite success only when the final response ends in **C0 01**.

What it does not do

- It does not identify the correct family or EEPROM source for the operator.
- It does not read the EEPROM from the EGS, flash software, code the EGS or replace BMW service and recovery tools.
- It does not upload the EEPROM, ISN or vehicle data to a remote service.
- A completion message is not a substitute for post-operation ECU identification, coding and functional verification.

AUTHORIZED SERVICE ONLY

Use only on a controller or vehicle you own or are explicitly authorized to service. Follow the applicable service information, electrical-safety rules and recovery procedure.

Safety, authorization and stop conditions

The reset changes EGS state. Establish the exact target, source file, network route, stable power and recovery plan before selecting a red action.

Before reset	Required evidence
Authorization	A work order or other explicit permission covers the intended EGS and operation.
Target family	The selected family is confirmed from reliable controller and read information, not from a guess.
EEPROM source	The read belongs to the intended EGS; the original file is preserved and the displayed ISN has been independently checked.
Gateway	The ZGW address belongs to the intended vehicle/network and remains stable.
Power	A regulated workshop-grade supply can remain stable throughout both phases and subsequent coding.
Recovery	The appropriate diagnostic/coding route, files and qualified operator are ready before the reset.

STOP IMMEDIATELY

Stop if the family or EEPROM origin is uncertain, ISN data is unexpected, the ZGW changes, ENET becomes unstable, voltage fluctuates or the recovery path is incomplete.

- Do not switch ignition, disconnect ENET, move the network adapter or remove power while a reset is running.
- Close ISTA, E-Sys and any other client that could compete for the same vehicle network session.
- Do not bypass a disabled reset button or edit an ISN field; the displayed values are read-only evidence from the accepted file.
- Do not repeatedly retry after an uncertain result. Preserve the operation log, re-establish identity and choose recovery from evidence.

ATOMIC AFTER START

Cancellation is accepted before vehicle communication begins. After the first phase starts, the short two-phase transaction is allowed to finish so it is not deliberately split between ECU reset and ISN write.

Windows, ENET and local requirements

Prepare the computer, wired network and power source before launching the workspace.

Category	Requirement	Reason
Windows	Windows 7 SP1, 8.1, 10 or 11; 32-bit or 64-bit	The application is a 32-bit .NET Framework WinForms program.
Runtime	Microsoft .NET Framework 4.8	Required to start the application.
Display	1024 × 768 or greater; normal Windows scaling recommended	The adaptive layout keeps all controls readable and resizes within its minimum window.
Vehicle link	Known-good BMW ENET cable and active wired IPv4 adapter	Discovery and reset traffic remain on the local vehicle network.
Power	Regulated workshop support supply	Prevents interruption during the two reset phases and later coding.
Computer	AC power; sleep and hibernation disabled	Avoids adapter loss or suspension during service.

Local ports

Purpose	Protocol	Port	Direction
ZGW discovery	UDP	6811	Local active IPv4 adapter to directed broadcast; replies return locally
EGS reset phases	TCP	6801	Windows computer to the selected ZGW IPv4 address

If Windows Firewall requests access for discovery, allow it only on the trusted private workshop network. Do not expose the ENET segment or these ports to the public Internet.

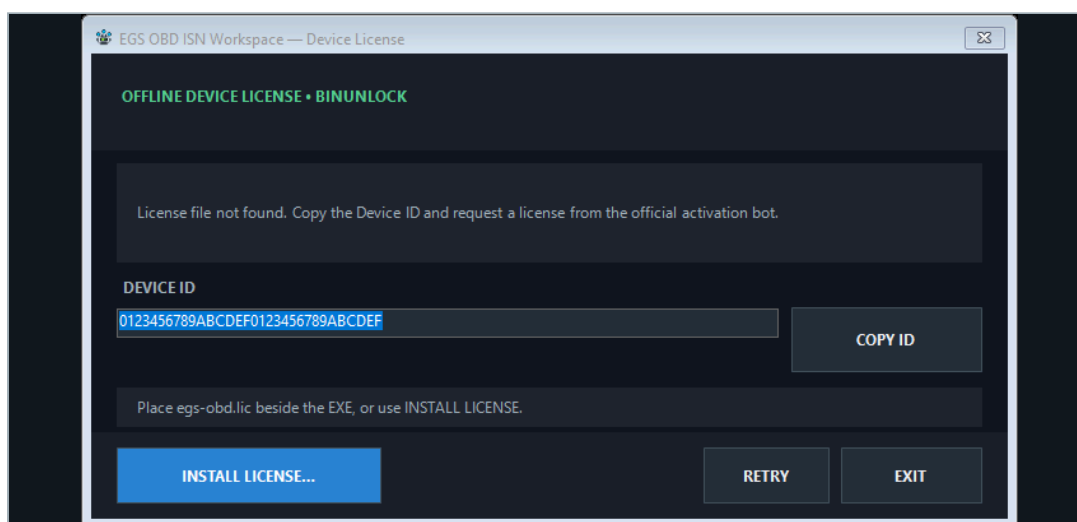
LOCAL VEHICLE WORKFLOW

There is no backend, updater, telemetry, ECU-data upload or usage quota in the vehicle workflow. The only optional web action is selecting the BinUnlock favicon to open <https://binunlock.com> in the default browser.

Extract, start and activate

The device-bound license is issued for 10 days, 30 days or permanent use and is validated locally from `egs-obd.lic`.

- 1 Extract the complete official ZIP to a normal local folder. Do not launch the EXE from inside an archive preview.
- 2 Start `EGS_OBD_ISN_Workspace_2.0.0.exe` as the normal workshop user.
- 3 In Device License, select `COPY ID` and send the complete 32-character Device ID to the official activation bot.
- 4 Request the required term: 10 days, 30 days or permanent. Save the returned file without editing it and keep the name `egs-obd.lic`.
- 5 Select `INSTALL LICENSE...`, choose `egs-obd.lic`, then select `RETRY`. A valid file placed beside the EXE is also detected on Retry.
- 6 Confirm that the header shows `LICENSE • N DAYS LEFT` or `LICENSE • PERMANENT` before beginning work.



Native Device License window with a synthetic documentation Device ID.

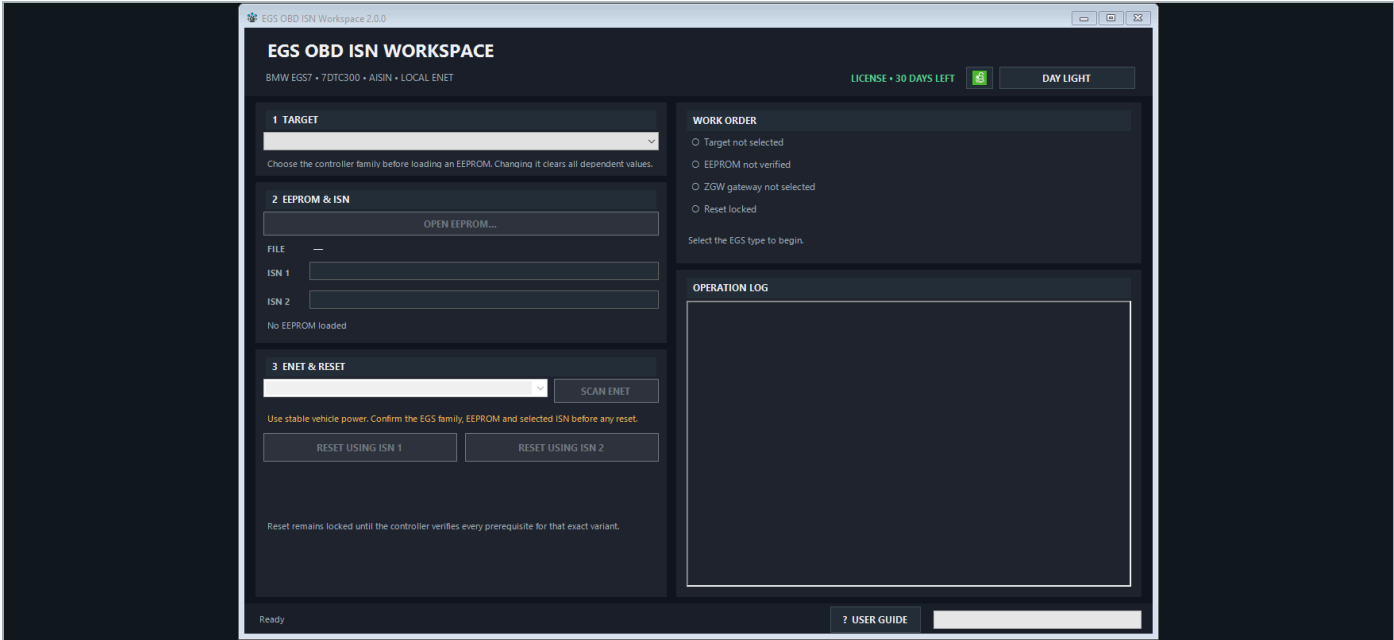
- Keep Windows date, time and time zone correct. Moving the clock backwards can block a timed license.
- A substantial hardware or virtual-machine change can produce a different Device ID.
- Do not rename, edit or publish the license file.
- If a portable `egs-obd.lic` beside the EXE is obsolete, remove it from that folder before installing and retrying a replacement.

OFFLINE AFTER ISSUANCE

The application verifies the installed license locally. Internet access is not required for EEPROM analysis, discovery or reset.

Adaptive workspace and themes

The single workspace keeps prerequisites, EEPROM evidence, network selection, reset actions, log and status visible together.



Initial workspace in DARK NIGHT mode. Controls remain staged until their prerequisites are satisfied.

Area	Meaning
1 TARGET	Selects one of the three supported EGS families. Changing the selection clears dependent EEPROM and gateway state.
2 EEPROM & ISN	Opens a local BIN, shows acceptance details, and displays read-only ISN 1 / ISN 2 values.
3 ENET & RESET	Scans for ZGW or accepts an IPv4 address; exposes only the reset variants authorized by the accepted file.
WORK ORDER	Shows target, EEPROM, gateway and reset gates as incomplete or verified.
OPERATION LOG	Records the current-session chronology, warnings, reset result and recovery evidence.
Bottom bar	Shows current status, opens this guide and displays operation progress.

- Select DAY LIGHT / DARK NIGHT to change presentation only. Theme choice does not change parsing or protocol behavior.
- The layout adapts down to its supported minimum window and uses the available work area when the desktop is smaller than the preferred size.
- Select the green BinUnlock favicon to open <https://binunlock.com>.
- Select USER GUIDE to open this embedded English manual.
- A native DAY LIGHT capture of the same controlled ready state is included with the guide package for visual reference.

Safe quick-start sequence

Use the same order for every controller: target first, file second, gateway third, state change last.

- 1 Confirm authorization, controller family, EEPROM origin, regulated power and recovery/coding plan.
- 2 Select exactly one target: **EGS7 (GEN3)**, **7DTC300** or **AISIN EGS**.
- 3 Select **OPEN EEPROM...**, choose the correct BIN and wait for **VERIFIED**. Compare its size, source result and displayed ISN with the work record.
- 4 Connect the known-good ENET cable and establish the required ignition/wake state. Close competing diagnostic tools.
- 5 Select **SCAN ENET**, or type a separately verified ZGW IPv4 address. Check the WORK ORDER gateway row.
- 6 Choose only the reset variant unlocked by the verified file. Read the confirmation summary line by line.
- 7 Maintain stable power and ENET until the result is shown. Definite protocol success requires a final **C0 01** marker.
- 8 Perform the required EGS coding with E-Sys, re-identify the unit and verify the repair before returning it to service.

BUTTONS ARE SAFETY GATES

A disabled action is not a UI inconvenience. It means one or more controller-owned prerequisites for that exact mutation are not proven.

NO VEHICLE WAS USED FOR THIS MANUAL

The screenshots were produced from the actual Windows C# interface using synthetic documentation state. They demonstrate layout and gating only, not a completed physical EGS service.

Supported families and EEPROM requirements

Select the family from reliable controller/read information. A file accepted under one family must never be assumed valid for another.

Family	Accepted EEPROM evidence	Reset availability
EGS7 (GEN3)	Image size from 200,000 through 1,200,000 bytes inclusive, plus one of the recovered supported EGS7 signatures and a complete primary ISN payload.	Variant 1 only, using the verified primary ISN.
7DTC300	Contains marker <code>300BM_BC1</code> ; within the recovered candidate area, a valid ISN is a non-zero/non-FF 16-byte value repeated three times. One or two distinct candidates can be recovered.	Variant 1 uses ISN 1. Variant 2 is available only when a second valid replicated ISN is actually recovered.
AISIN EGS	Exactly 64 KiB (65,536 bytes) or 128 KiB (131,072 bytes); the primary 16-byte ISN is read from the recovered fixed location.	Variant 1 only, using the verified primary ISN.

ACCEPTED DOES NOT PROVE OWNERSHIP

Parser acceptance proves only that the bytes satisfy the selected format checks. The operator must still prove that the file belongs to the intended EGS and vehicle.

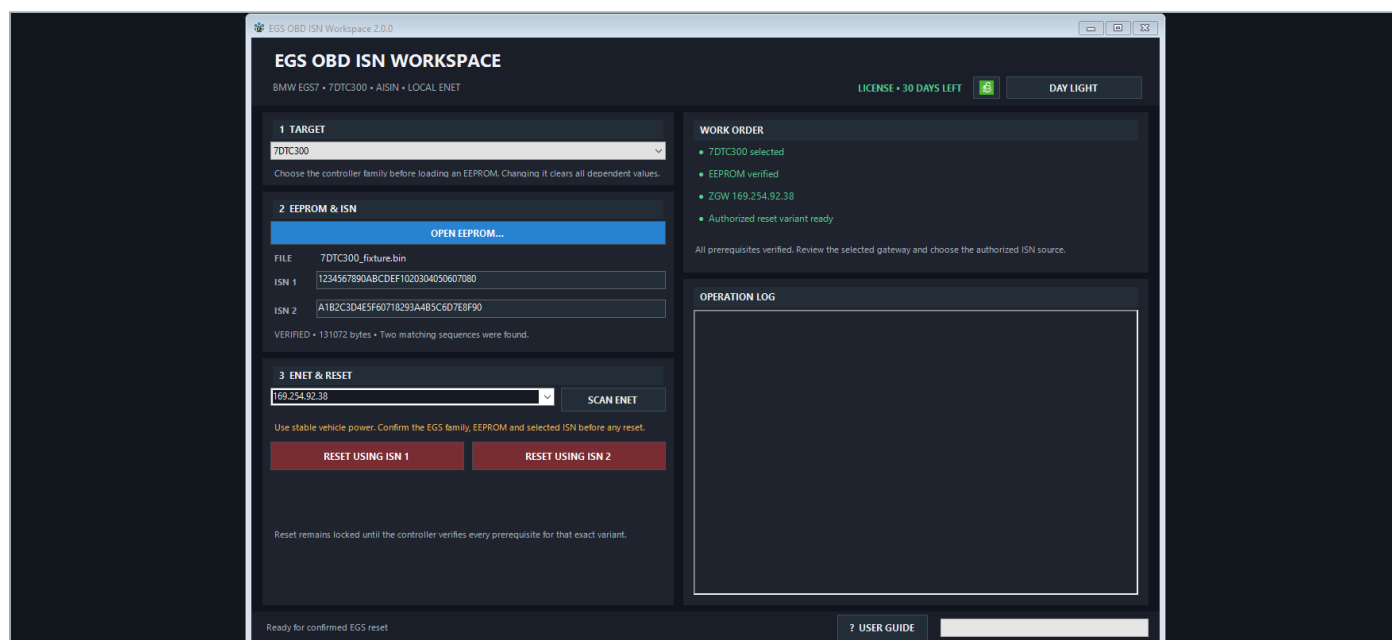
Rejected file states

- **WrongSize**: the image length is outside the exact requirement for the selected family.
- **PatternNotFound**: the required family signature, marker, complete ISN payload or repeated 7DTC300 candidate was not found.
- A rejected or truncated file leaves both reset actions locked.
- Changing target clears the prior file result, ISNs and gateway so evidence from different controllers cannot be mixed.

Load and verify an EEPROM image

EEPROM analysis is local and read-only. The workspace does not alter the selected BIN.

- 1 Preserve the original read and work from a clearly named copy. Record tool, read mode, controller and source vehicle/unit.
- 2 Select the exact family before selecting **OPEN EEPROM...**
- 3 Choose the BIN and wait for the summary under ISN 2. Do not proceed unless it begins with **VERIFIED**.
- 4 Compare the displayed byte count and parser explanation with the selected family requirements.
- 5 Compare ISN 1 and, for 7DTC300 only, ISN 2 with independent evidence. Each valid ISN is displayed as 32 hexadecimal characters.
- 6 If any result is unexpected, stop, select the correct family and obtain a new known-good read instead of forcing a reset.



Accepted 7DTC300 documentation fixture: two synthetic ISNs, synthetic ZGW address and all four WORK ORDER gates visible.

SAFE VARIANT 2 CORRECTION

The legacy program could reach its second command path when ISN 2 was absent and build an incomplete request. Version 2.0.0 deliberately keeps Variant 2 locked unless a valid second 16-byte triple-copy value was recovered from an accepted 7DTC300 image.

For EGS7 or AISIN, an empty ISN 2 field is normal: those families expose only the primary reset path.

Discover ZGW or enter the address manually

Discovery searches active local IPv4 adapters. Manual entry is available when a trusted workshop source already supplies the gateway address.

Automatic discovery

- 1 Connect ENET, confirm adapter link and establish the vehicle wake/ignition state required by the service procedure.
- 2 After an EEPROM is verified, select **SCAN ENET**.
- 3 The application sends the local discovery probe on UDP 6811 to directed broadcast targets and listens for replies for the recovered discovery interval.
- 4 Review the returned ZGW IPv4 entries. The first discovered address is selected automatically; change it only when independent target evidence requires another entry.

Manual address

- 1 Obtain the ZGW IPv4 address from a separate controlled source.
- 2 Enter a plain IPv4 value such as **169.254.x.x**, with no port, protocol prefix or spaces.
- 3 Confirm that WORK ORDER shows the same ZGW before selecting a reset.

NO GATEWAY FOUND

Check ENET link, ignition/wake state, active IPv4 adapter, private firewall profile, VPN/route interference and competing diagnostic clients. Manual entry is not a substitute for proving the correct target.

DISCOVERY IS READ-ONLY

Scanning sends only the local ZGW discovery probe. It does not send either EGS reset phase.

Work-order gates and exact variant choice

The controller calculates action availability from verified state; the form does not infer permission from text or a selected row.

WORK ORDER row	Complete when	If incomplete
Target	One supported family is selected.	OPEN EEPROM remains unavailable.
EEPROM	The selected family parser accepted the file and recovered a valid primary ISN.	Scan, gateway entry and both reset buttons remain locked.
ZGW	A syntactically valid IPv4 gateway was discovered or entered.	Reset remains locked.
Reset	The exact variant has a valid ISN source and every earlier gate is complete.	Do not bypass the disabled button.

Variant 1

- Available for an accepted EGS7, 7DTC300 or AISIN image when ISN 1 is exactly 16 bytes and the ZGW address is valid.
- The phase-2 request carries ISN 1 exactly as recovered from the accepted image.

Variant 2

- Available only for 7DTC300 when the parser recovered a second valid 16-byte triple-copy sequence.
- The phase-2 request carries ISN 2. It never falls back to ISN 1 and never sends an empty second value.

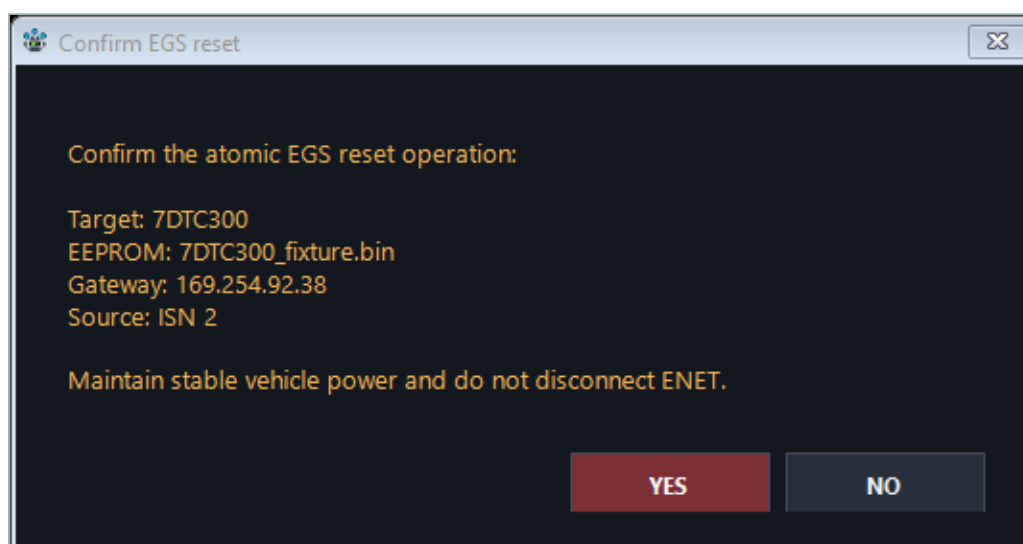
CHANGING INPUT INVALIDATES DEPENDENCIES

Changing family resets EEPROM, ISN and gateway state. Loading another file recalculates both reset gates. Treat that reset of the checklist as intentional target-separation behavior.

Run the confirmed two-phase reset

Both buttons use the same recovered network sequence; only the verified ISN source in phase 2 differs.

- 1 Recheck family, EEPROM filename, selected ZGW and required ISN in the workspace.
- 2 Select **RESET USING ISN 1** or, only when authorized, **RESET USING ISN 2**.
- 3 Read the confirmation summary: Target, EEPROM, Gateway and Source. Select **NO** if any line is wrong.
- 4 Confirm regulated power, wired ENET and recovery readiness, then select **YES** once.
- 5 Phase 1 opens a fresh TCP 6801 session to the ZGW and sends the recovered ECU-reset request. The session is read and closed.
- 6 After the fixed two-second inter-phase delay, phase 2 opens a new TCP 6801 session and sends the selected 16-byte ISN in the recovered write request.
- 7 The application reads the final response. Definite success is reported only when its last two bytes are **C0 01**.
- 8 After success, code the EGS with E-Sys and verify identity, communication and function before returning it to service.



Native Variant 2 confirmation. The controlled capture selected NO; no TCP reset phase was started.

DO NOT INTERRUPT BETWEEN PHASES

The second session follows even when the first session reported a caught transport error, matching the recovered procedure. Keep the physical route stable until the final outcome is displayed.

Interpret C0 01 and the operation log

Use the result class, complete log and subsequent ECU verification together. Socket completion alone is not proof of the final controller state.

Visible outcome	Meaning	Required response
Reset completed; positive C0 01 tail	Phase 2 returned data whose final bytes are the recovered positive marker.	Preserve the log, code the EGS with E-Sys, re-identify and functionally verify.
Completed with a phase-1 warning	The phase-1 session raised an error, but phase 2 ended with C0 01.	Do not ignore the warning. Preserve evidence and verify the actual EGS state before coding/return to service.
Response did not end with C0 01	The reset is not confirmed.	Do not assume success and do not blind-retry. Re-establish identity and use the prepared recovery procedure.
Phase-2 communication failed	The ISN write session did not produce a confirmable final response.	Treat state as uncertain; keep power stable, preserve evidence and diagnose/recover.
Preflight rejected	A required family, ISN, variant or IPv4 condition failed before mutation.	Correct the source evidence; no bypass is appropriate.

C0 01 IS NECESSARY, NOT THE WHOLE REPAIR

The marker is the program's definite protocol-success condition. It does not independently prove correct target selection, successful later coding or normal transmission operation.

- Record the exact target, EEPROM filename, selected ISN source, ZGW and complete final message.
- Do not close the workspace until the operation log has been reviewed and captured for the work record.
- After an uncertain state, do not switch targets or files before preserving the evidence.

Errors and recovery decisions

Resolve failures by stage. Repeating the same state-changing action without new evidence can make diagnosis harder.

Problem	Likely stage	Safe next action
EXE does not start	Windows/runtime/extraction	Extract again to a local folder, confirm .NET Framework 4.8 and retry as the normal user.
License not found or invalid	Activation	Confirm Device ID, term, unchanged filename <code>egs-obd.lic</code> , clock and correct installation path; request a replacement only when evidence shows it is needed.
EEPROM rejected	Local parser	Confirm family, byte count and read mode; obtain a new known-good read. Do not edit padding or copy an ISN into the UI.
Variant 2 disabled	7DTC300 evidence	The accepted file did not prove a second valid triple-copy ISN. Use Variant 1 only if the work procedure requires its verified primary value.
No ZGW found	Local ENET discovery	Check link, wake state, IPv4/firewall/VPN and competing tools; use manual IP only from a trusted source.
Reset not confirmed	TCP phase 2 / ECU response	Keep power stable, preserve log and exact message, re-identify the unit and follow the prepared recovery path.

Evidence for support

- Application version and Windows version.
- Selected family, EEPROM filename and exact byte count; never send a customer EEPROM or ISN unless the authorized support process explicitly requires it.
- Selected ZGW address, action variant, complete status/error text and operation-log sequence.
- Power-supply state, ENET adapter state and whether competing tools were closed.
- What was independently verified after the message appeared.

UNCERTAIN STATE

A timeout or closed session does not prove that the ECU was unchanged. Preserve power and evidence, then inspect the controller state before deciding whether to recover or repeat.

Offline operation and data handling

EEPROM processing and vehicle communication stay on the workshop computer and local ENET segment.

Activity	Destination	Data
EEPROM analysis	Local process memory	Selected BIN bytes and recovered ISN values
ZGW discovery	Local directed broadcast on UDP 6811	Fixed discovery probe; local gateway replies
EGS reset	Selected local ZGW on TCP 6801	Recovered reset frame and selected 16-byte ISN
License validation	Local computer	Device-bound <code>egs-obd.lic</code>
BinUnlock favicon	Default web browser, only when clicked	Opens https://binunlock.com

- There is no remote ECU-function lookup, cloud parser, update check, telemetry or daily-use limit.
- Keep original and working EEPROM files in the workshop's authorized storage with access appropriate to vehicle security data.
- Do not post Device IDs, licenses, ISNs, EEPROM images or operation logs in public channels.
- The application does not make an unsafe public network safe; keep the ENET adapter on a trusted private profile.

NO INTERNET DEPENDENCY

Once a valid license is present, Internet connectivity is not part of the target/EEPROM/discovery/reset workflow.

Action reference and glossary

Use this compact reference only after the operating and safety chapters are understood.

Control	Class	Availability / effect
Target list	LOCAL SELECTION	Chooses one supported family and clears dependent state when changed.
OPEN EEPROM...	READ-ONLY FILE	Locally validates the BIN and recovers eligible ISN values.
SCAN ENET	READ-ONLY NETWORK	Discovers local ZGW replies over UDP 6811 after EEPROM acceptance.
ZGW GATEWAY IP	LOCAL SELECTION	Accepts a discovered or manually verified IPv4 address.
RESET USING ISN 1	SECURITY STATE CHANGE	Runs both TCP phases with the verified primary ISN.
RESET USING ISN 2	SECURITY STATE CHANGE	7DTC300 only; runs both phases with a proven second ISN.
USER GUIDE	LOCAL DOCUMENT	Opens this embedded English manual.
BinUnlock favicon	OPTIONAL WEB LINK	Opens https://binunlock.com only when selected.
DAY LIGHT / DARK NIGHT	DISPLAY	Changes colors only.

Glossary

Term	Meaning in this guide
EEPROM	Binary source image analysed locally for the selected EGS family and ISN.
EGS	BMW electronic transmission control unit addressed through the ZGW.
ENET	BMW Ethernet diagnostic connection between the Windows computer and vehicle network.
ISN	A 16-byte security value displayed as 32 hexadecimal characters.
Variant 1	Two-phase reset whose phase-2 request uses verified ISN 1.
Variant 2	7DTC300-only two-phase reset whose phase-2 request uses a verified second triple-copy ISN.
ZGW	BMW central gateway used as the local discovery and TCP endpoint.
C0 01	The two final response bytes required for definite protocol success.
Atomic	Once phase 1 begins, the sequence is not deliberately cancelled between the two sessions.

FINAL WORKSHOP CHECK

Before returning the vehicle or unit: complete required coding, verify identity and communication, confirm intended EGS state and function, retain the work evidence and disconnect cleanly.