



# TOPDON T-Kunai Universal Programmer User Manual

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## USER MANUAL

### Universal Programmer

## SAFETY IS ALWAYS THE FIRST PRIORITY!

### READ ALL INSTRUCTIONS BEFORE USE

- For your safety, the safety of others, and to avoid any damage to the product and your vehicle, **CAREFULLY READ AND MAKE SURE YOU FULLY UNDERSTAND ALL THE SAFETY INSTRUCTIONS AND MESSAGES ON**
- **THIS MANUAL BEFORE OPERATING.** You must also read the vehicle's service manual, and observe the stated precautions or instructions before and during any test or service procedure.
- Keep yourself, your clothing and other objects away from moving or hot engine parts and avoid contact with electrical connections.
- **ONLY OPERATE THE VEHICLE IN A WELL-VENTILATED AREA**, as the vehicle produces carbon monoxide, a toxic and poisonous gas, and particulate matter when the engine is running.
- **ALWAYS WEAR APPROVED SAFETY GOGGLES** to prevent damage from sharp objects and caustic liquids.
- **DO NOT SMOKE OR HAVE ANY FLAMES NEAR THE VEHICLE** when testing. The fuel and battery vapors are highly flammable.
- **DO NOT ATTEMPT TO INTERACT WITH THE PRODUCT WHILE DRIVING.** Any distraction may cause an accident.
- Never collide, throw, or puncture the test equipment, and avoid falling, extruding and bending it.

- Do not insert foreign objects into or place heavy objects on your device. Sensitive components inside might cause damage.
- Do not use the test equipment in exceptionally cold or hot, dusty, damp or dry environments.
- In places using the test equipment may cause interference or generate a potential risk, please turn it off.
- The test equipment is a sealed unit. There are no end-user serviceable parts inside. All internal repairs must be done by an authorized repair facility or qualified technician. If there is any injury, please contact the dealer.
- Never place the test equipment into apparatus with strong electromagnetic field.
- Do not attempt to replace the internal rechargeable lithium battery. Contact the dealer for factory replacement.
- Use the included battery and charger. Risk of explosion if the battery is replaced with an incorrect type.
- Do not disconnect power abruptly when the test equipment is being formatted or in process of uploading or downloading. Or else it may result in program error.
- Do not disconnect battery or any wiring cables in the vehicle when the ignition switch is on, as this could avoid damage to the sensors or the ECU.
- Do not place any magnetic objects near the ECU. Disconnect the power supply to the ECU before performing any welding operations on the vehicle.
- Use extreme caution when performing any operations near the ECU or sensors. Ground yourself when you disassemble PROM, otherwise ECU and sensors can be damaged by static electricity.
- When reconnecting the ECU harness connector, be sure it is attached firmly, otherwise electronic elements, such as ICs inside the ECU, can be damaged.
- DISCLAIMER: TOPDON shall not be liable for any damage or loss arising from the use of this product.

## **SECTION 1 WHAT'S IN THE BOX**

- T-Kunai Device
- EEP Adapter
- USB Cable
- SOP 8 Adapter
- Power Adapter
- ECU Cable
- MCU Cable
- MC9S12 Cable
- EVA Package
- User Manual

## **SECTION 2 PRODUCT OVERVIEW**

T-Kunai is TOPDON's universal automotive programmer for car key programming, module maintenance and airbag repair. This tool can read and write EEPROM, MCU and ECU, identify car remote transponder chip, detect frequency, identify NFC card, identify and copy ID or IC card, repair airbag and mileage. More functions are coming soon.

### **2.1 Terminology**

EEPROM: Electrically Erasable Programmable Read – Only Memory, usually used to store data generated during the operation of the chip.

FLASH: Flash memory, usually used to store the program of the chip

D-FLASH: Data flash memory, with the same function as EEPROM.

P-FLASH: Program flash memory, with the same function as FLASH.

ROM: Read Only Memory, usually used to store the program of the chip, cannot be erased and programmed.

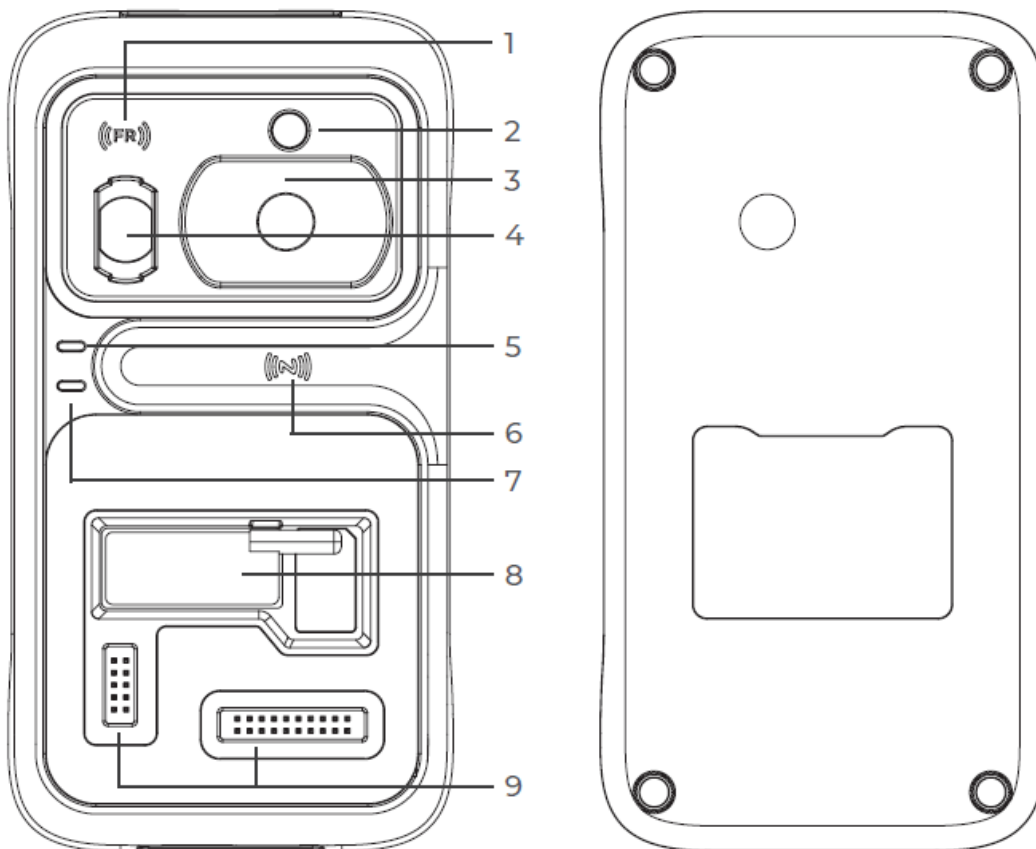
EEE: Emulated EEPROM, with the same function as EEPROM

POF: Single programming area, data can only be written once and cannot be erased (rarely used).

## 2.2 Specifications

- Working Temperature: -10°C – 40°C (14°F – 104°F), humidity < 90%
- Storage Temperature: -20°C – 75°C (-4°F – 167°F), humidity < 90%
- Ports: USB Type-C, DB26, DC12
- Input Voltage: 12V DC == 2A
- Dimensions (L x W x H): 174.5 x 92.5 x 33 mm (6.97 x 3.64 x 1.30 in.)
- Net Weight: 0.27 kg (0.60 lb)

## 2.3 Components and Ports



### 1. Remote Control Frequency Detection Area

Place the remote control near this area to detect car remote control frequency.

## 2. Transponder Chip Slot

Place the transponder chip to read and write vehicle transponder chip information.

## 3. Key Slot

Place the car key to read and write vehicle key information. Card-type keys can be placed on a flat surface.

## 4. Infrared Key Slot

Place the infrared key to read and write Mercedes-Benz infrared key transponder chip information.

## 5. Power Indicator

Solid green indicates 12V DC power is connected.

## 6. NFC Detection Area

Place the NFC car key to read card information, or place supported IC or ID card to copy card information.

## 7. Status Indicator

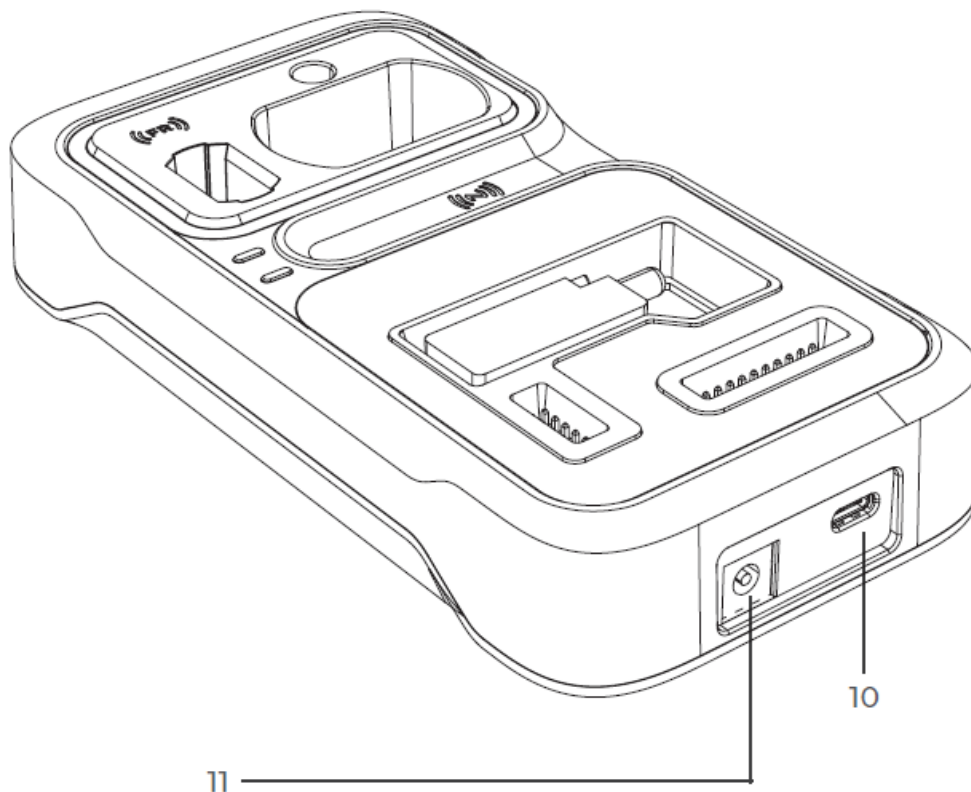
Solid blue indicates T-Kunai is connected to a computer or a tablet such as T-Ninja Pro. Flashing blue indicates function operation or data transmission.

## 8. EEPROM Socket Lock

Combined with the SOP 8 adapter to read and write SOP memory chip EEPROM data.

## 9. 10PIN, 20PIN DIY Slot

To connect the DIY cable or Dupont line. It is used to read and write special ECU and MCU. It can also be combined with the EEP adapter to program memory data.

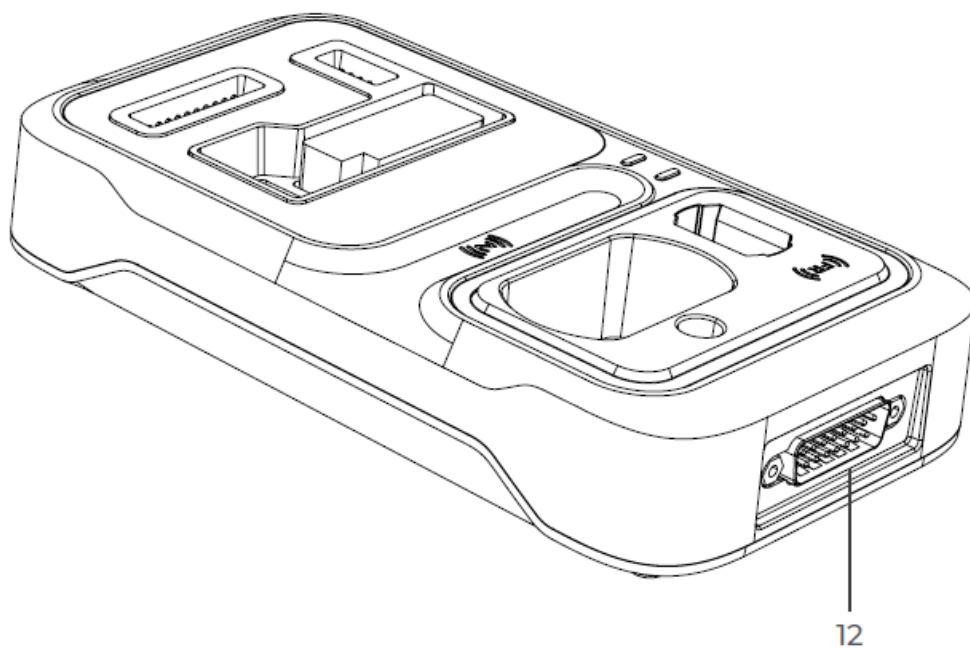


## 10. USB Type-C Port

Provides data communication and 5V DC power supply.

## 11. DC Port

Connects the power adapter and provides 12V DC power supply.

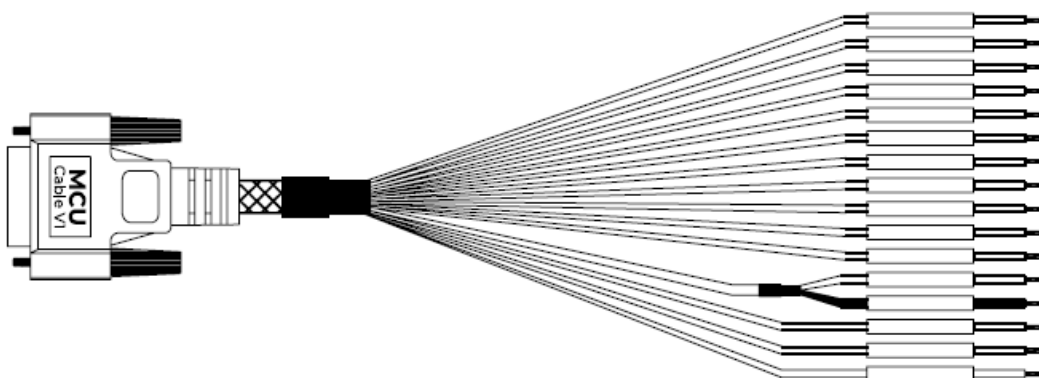


## 12. DB26 Port

Three components can be connected to this port: MCU cable, ECU cable, MC9S12 cable.

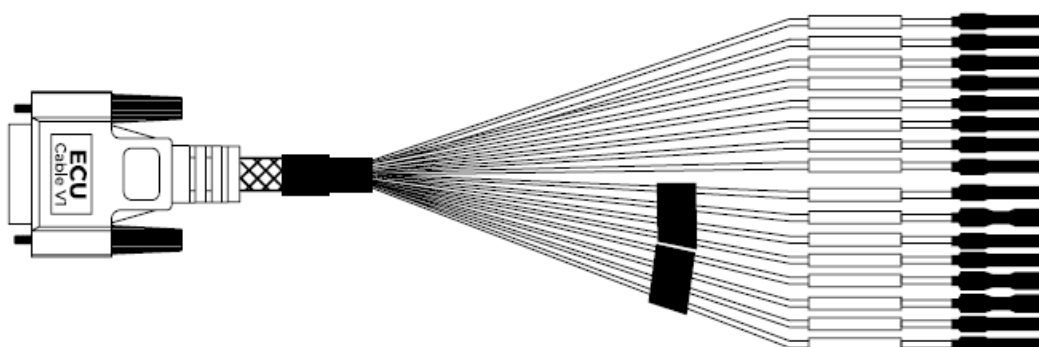
### 2.4 Cable Definitions

#### 2.4.1 MCU Cable



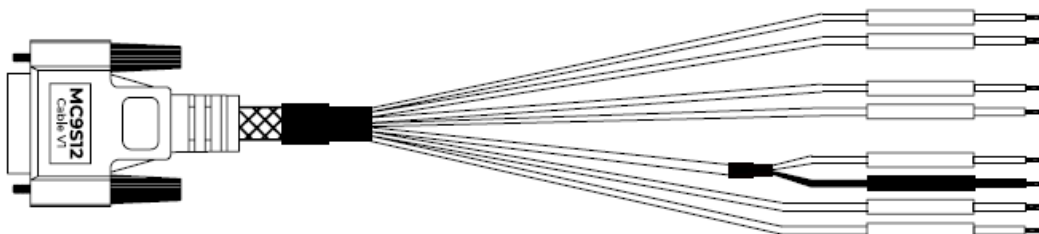
| DB26 Pin | Color  | Definition        |
|----------|--------|-------------------|
| 1        | White  | ECU_B2            |
| 2        | Brown  | ECU_B4(TX)        |
| 3        | Blue   | ECU_B6            |
| 4        | Yellow | ECU_RESET         |
| 8        | Red    | ECU_SI_VDD/VCC/5V |
| 9        | Red    | VPP1/VPP          |
| 10       | Purple | ECU_B1/BKGD       |
| 11       | Green  | ECU_B3/XCLKS      |
| 12       | Orange | ECU_B5            |
| 13       | Grey   | ECU_B7            |
| 18       | Red    | VPP2/VPPR         |
| 19       | White  | ECU_W/R_FREQ/CLK  |
| 23       | Black  | GND               |
| 24       | Black  | GND               |
| 25       | Black  | GND-C             |
| 26       | Red    | 12V               |

#### 2.4.2 ECU Cable



| DB26 Pin | Color  | Definition    |
|----------|--------|---------------|
| 6        | Yellow | S2/KLINE/KBUS |
| 7        | Blue   | CANH          |
| 16       | Brown  | BUSL/CANL     |
| 20       | Green  | IGN           |
| 23       | Grey   | S1/BOOTM      |
| 24       | Black  | GND           |
| 25       | Black  | GND           |
| 26       | Red    | 12V           |

### 2.4.3 MC9S12 Cable

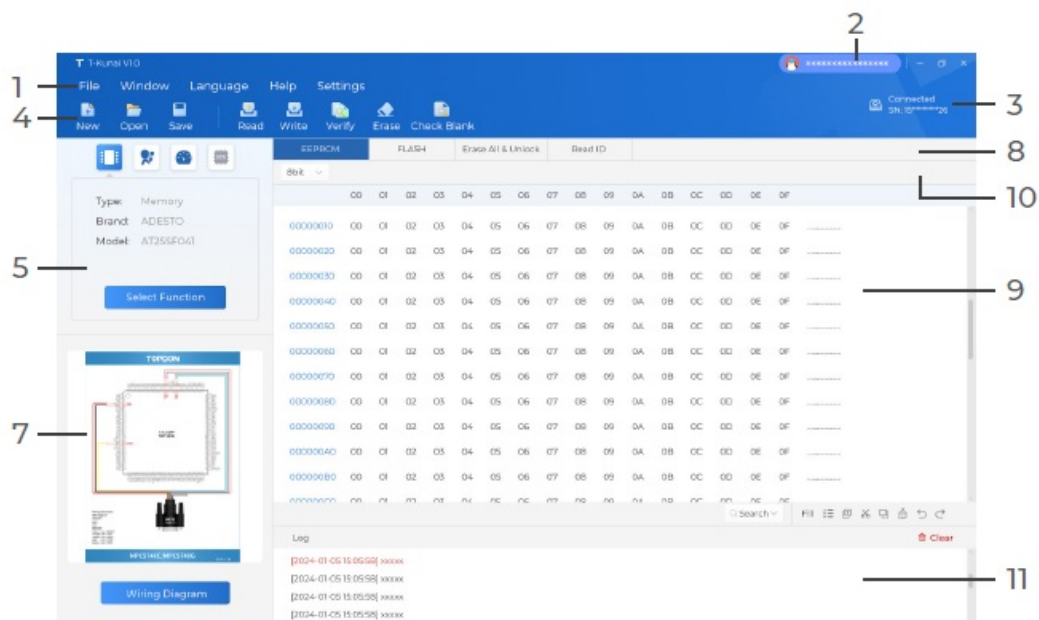


| DB26 Pin | Color  | Definition       |
|----------|--------|------------------|
| 4        | Yellow | ECU_RESET        |
| 8        | Red    | ECU_SI_VDD/VCC   |
| 10       | Purple | ECU_B1/BKGD      |
| 11       | Green  | ECU_B3/XCLKS     |
| 19       | White  | ECU_W/R_FREQ/CLK |
| 23       | Black  | GND              |
| 24       | Black  | GND              |
| 25       | Yellow | GND-C            |

## SECTION 3 GETTING STARTED

### 3.1 Software Interface





## 1. Tool options

File: To load data files.

Window: To tile or cascade HEX text windows.

Language: To switch software language.

Help: Includes Feedback, Function List, User Manual and About.

Settings: Includes Operation Settings (read and verify, write and verify, erase and check blank) and Update.

## 2. Account

To log in or log out to your account.

## 3. Connection status

The connection status and SN information will be displayed if the device is successfully connected.

## 4. Common options

New: To create a new HEX text.

Open: To open a local file.

Save: To save the file of the current window.

## 5. Function options

Optional: Programming, Reading and Writing, Airbag Repair, Mileage Repair, ECU/TCU Clone (coming soon), supports more than 6000 types, and will continue to upgrade more types soon.

## 6. Operation options

After selecting a function, you can click Read, Write, Verify, Erase, and Check Blank to perform the corresponding operations.

## 7. Wiring Diagram

After selecting a function, you can view the corresponding wiring diagram and zoom in or zoom out in equal proportions.

## 8. Reading Range and Special Options

Some chips include multiple data areas, such as EEPROM, DFLASH, PFLASH. You can click Read Chip ID, Lock

Chip or Unlock Chip to perform the corresponding operations.

### 9. HEX Text

Displays HEX text information, read data, or loaded file data.

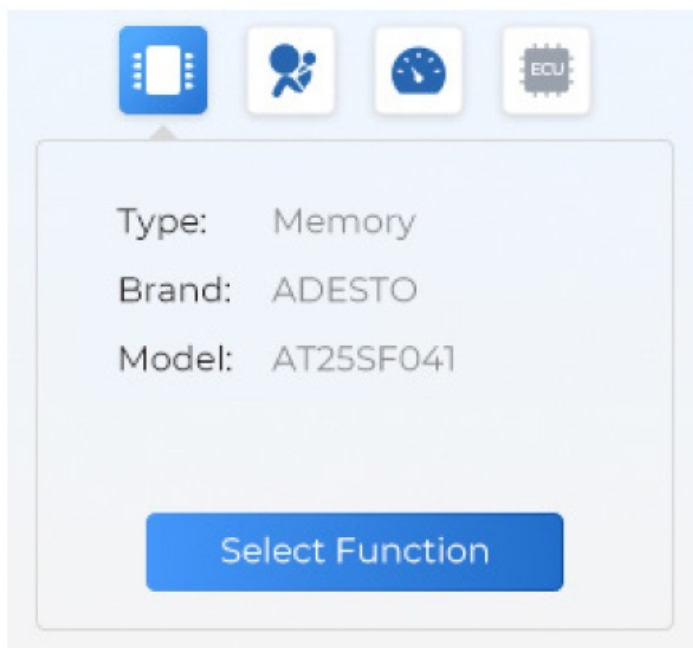
### 10. Display Mode

You can switch the HEX text display mode of the current window, including Lo-Hi, 8bit, 16bit, and 32bit.

### 11. Operation Log

Displays prompts for each operation.

## 3.2 Function Descriptions



### 3.2.1 Programming, Reading and Writing

Memory chip supports multiple brands including Adesto Technologies, AKM, ALTERA, AMIC, ATMEL, CATALYST/ONSEMI, CHINGIS (PMC), EON, ESMT, EXEL, FAIRCHILD/NSC/RAMTRON, FUJITSU, GIGADEVICE, GRUNDIG, HOLTEK, KHIC, MXIC, MICROCHIP, MICRON, MITSUBISHI, NEC, NUMONYX, OKI, PCT, PHILIPS, ROHM, SEIKO (SII), SPANSION, STT, ST, WINBOND, XICOR, YMC and so on.

MCU support multiple brands, including MOTOROLA/FREESCALE, FUJITSU, NATION, NXP, RENESAS, ST and so on.

### 3.2.2 Airbag Repair

It will support more than 50 common car brands and more than 2,000 types of airbag repair.

### 3.2.3 Mileage Repair

It will support more than 50 common car brands and more than 2,000 types of mileage repair.

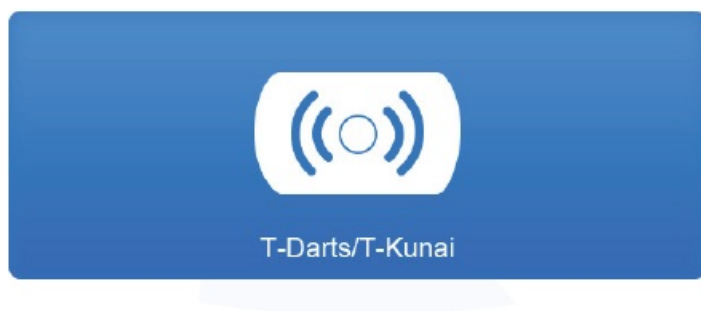
### 3.2.4 ECU/TCU Clone

ECU/TCU module clone function (coming soon).

## 3.3 RFID/IR/NFC

Use the supplied USB cable to connect T-Kunai to T-Ninja Pro, and you can perform operations such as Transponder Recognition, Frequency Detection, Generate Transponder, Write Key via Dump, IR Key and NFC

Card (coming soon).



**Tips:** T-Kunai currently supports connection with T-Ninja Pro or UltraDiag.

### 3.3.1 Transponder Recognition

Place the key in the Key Slot to detect vehicle key transponder chip ID information.

### 3.3.2 Frequency Detection

Place the remote control near the ((FR)) area of T-Kunai. Then press any button on the remote control to detect the frequency information of the remote control.

### 3.3.3 Generate Transponder

Ordinary car anti-theft transponders can be rewritten into special transponders. For example, you can use the LKP 46 blank transponder to generate a 46 GM special transponder. After successful rewriting, it can be used for anti-theft key matching of GM related models.

### 3.3.4 Write Key via Dump

Write Key via Dump can generally be divided into two forms. The first is to write the key ID in the original data to the new transponder chip, without changing the original data of the car. This only changes the new chip ID.

The second is to write the new key ID into the anti-theft data, without changing the new key ID. This only change the original key

#### **ID in the original car anti-theft data to the new key ID.**

Currently most car models can be directly matched or copied. Write Key via Dump becomes valuable in the case of failure to match or copy, such as OBD communication failure, abnormal vehicle status. Some car models require special chips for matching, while Write Key via Dump require the corresponding blank chip.

### 3.3.5 IR Key

Insert the infrared key in the Infrared Key Slot to identify the infrared key transponder chip information. It is commonly used in infrared keys for Mercedes-Benz and Infiniti.

### 3.3.6 NFC Card

Place the NFC card near the ((N)) area to identify NFC card information. Currently it supports identifying NFC card keys of common models and copying most IC or ID cards.

## SECTION 4 UPDATE

Click Settings from the tool options. Then select Update.

Tips: If you choose Ignore to exit the installation, you will need to download again for subsequent updates.

1. The system will automatically detect available new software or firmware version.
2. The system will display prompts if your computer is disconnected from the internet or the device.
3. No update is required if the current software or firmware is the latest version.
4. If a new version is available, you can click Update to update the software or firmware, or click Ignore to refuse the update.
5. Click Update, the system will start updating and display the progress percentage. When the percentage reaches 100%, you can click Install to install the new software or firmware version, or click Ignore to exit the installation.

## **Specifications:**

- Model: 836-TN05-20000
- Weight: 200g
- Dimensions: 120x180mm
- Release Date: 20240116
- Type: Universal Programmer

## **SECTION 5 WARRANTY**

### **TOPDON's One-Year Limited Warranty**

TOPDON warrants to its original purchaser that the company's products will be free from defects in material and workmanship for 12 months from the date of purchase (Warranty Period).

For the defects reported during the Warranty Period, TOPDON will either repair or replace the defective part or product according to its technical support analysis and confirmation.

TOPDON shall not be liable for any incidental or consequential damages arising from the device's use, misuse, or mounting.

If there is any conflict between the TOPDON warranty policy and local laws, the local laws shall prevail.

This limited warranty is void under the following conditions:

- Misused, disassembled, altered or repaired by unauthorized stores or technicians.
- Careless handling and/or improper operation.

Notice: All information in this manual is based on the latest information available at the time of publication and no warranty can be made for its accuracy or completeness. TOPDON reserves the right to make changes at any time without notice.

## **SECTION 6 FCC**

### **FCC Statement:**

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used

in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter

## CUSTOMER SERVICE

**TEL:** 86-755-21612590; 1-833-629-4832 (NORTH AMERICA)

**EMAIL:** [SUPPORT@TOPDON.COM](mailto:SUPPORT@TOPDON.COM)

**WEBSITE:** [WWW.TOPDON.COM](http://WWW.TOPDON.COM)

**FACEBOOK:** @TOPDONOFFICIAL

**TWITTER:** @TOPDONOFFICIAL



## Frequently Asked Questions (FAQ):

**Q: Can I use the T-Kunai in extreme temperature conditions?**

A: It is not recommended to use the test equipment in exceptionally cold or hot, dusty, damp, or dry environments as this may damage sensitive components inside.

**Q: How do I update the T-Kunai programmer?**

A: To update your T-Kunai programmer, visit the manufacturer's website, download any available updates, and follow the installation instructions provided.

**Q: What is the function of EEPROM in the T-Kunai programmer?**

A: EEPROM (Electrically Erasable Programmable Read-Only Memory) is used to store data generated during the operation of the chip in the T-Kunai programmer.

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## Documents / Resources

**TOPDON T-Kunai Universal Programmer** [pdf] User Manual  
TKUNAI 2AVYW, TKUNAI 2AVYWTKUNAI, 836-TN05-20000, T-Kunai Universal Programmer,  
T-Kunai, Programmer, T-Kunai Programmer, Universal Programmer

## References

- User Manual

[Manuals+](#), [Privacy Policy](#)

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