

# EFI TECHNOLOGY AC\*\*I

For ASW-NEXT

Short User Manual



May 2023

## Important notes:

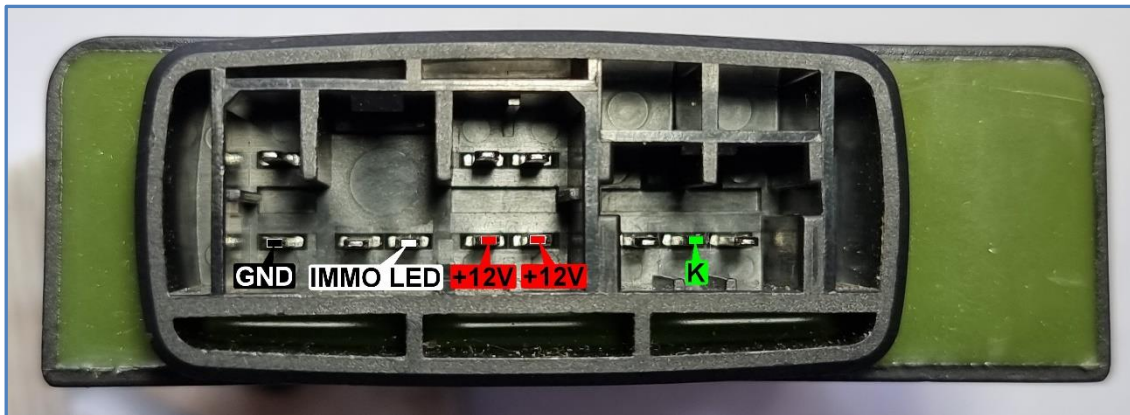
Letter "I" in the part name means "IMMOBILIZER". For example, CDI unit AC19I has built-in immobilizer function, meanwhile AC19 is non-immobilized version of same CDI unit.

Please keep in mind that transponder key programming is not possible for CDI units without letter "I" in the part name.

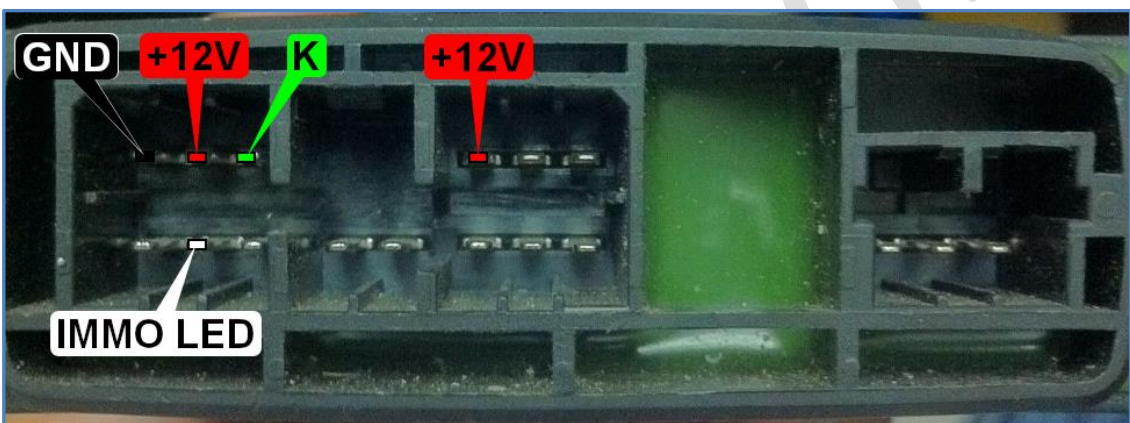
This user manual applies to CDI units manufactured by EFI TECHNOLOGY. They can be recognized by presence of EFI TECHNOLOGY logo on the label or on the plastic casing of CDI unit.



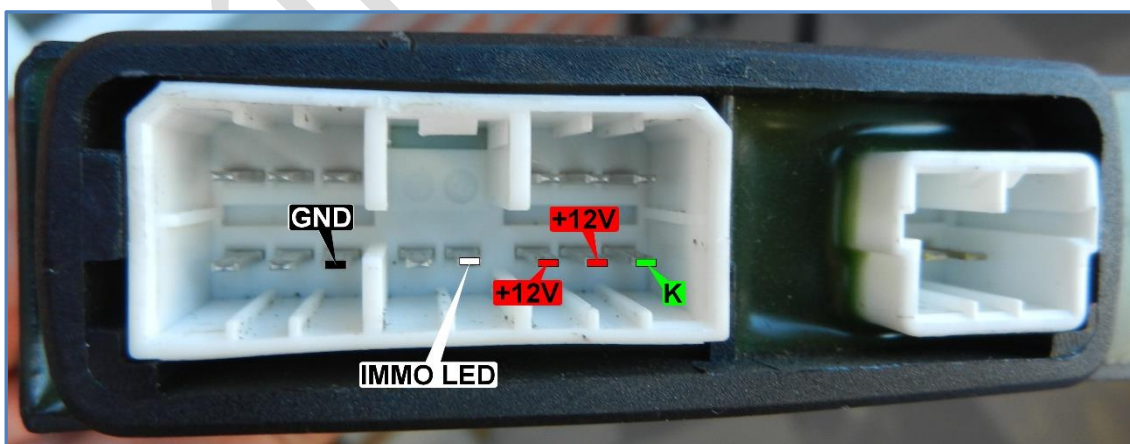
## 1. How to connect on-the-bench?



ACII / AC2I / AC5I / AC8I / AC13I / AC14I / AC21I / AC23I



AC24I / AC25I / AC32I



AC19I / AC20I / AC27I / AC28I

(could also be with black connectors with the same pin-out)

## 2. How to connect in the scooter?

**NOTE:** In-scooter programming by diagnostic connector is available for EURO-3 CDI units only:

AC19 / AC19I  
AC20 / AC20I  
AC24 / AC24I  
AC27 / AC27I  
AC28 / AC28I  
AC32 / AC32I

Other CDI units must be removed from scooter for on-the-bench programming.

- ✓ Connect **RED** and **BLACK** crocodile clips of ASW-NEXT interface to “+” and “-” of scooter battery
- ✓ Connect **GREEN** wire of ASW-NEXT interface (“K”) to **pin 3** in the diagnostic connector - this is a K-LINE.  
Prepare yourself a piece of wire to make a bridge between green wire of ASW-NEXT and pin 3 of the diagnostic connector.



### 3. Software features

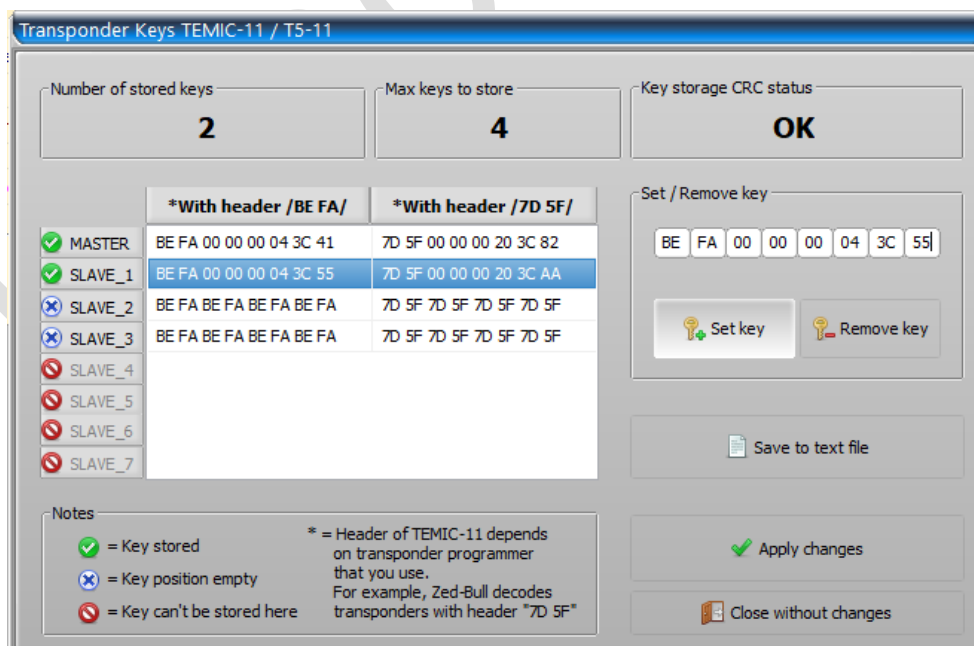
- Read / Write internal **ST7 EEPROM** (if equipped)
- Read / Write external **SPI EEPROM**
  
- **Read / Set keys**  
To read existing and to store new desired values of transponders. Up to 4 keys can be programmed during this procedure.
  
- **Reset to VIRGIN**  
**Erases all keys.** Control unit is ready to self-learn new transponder values after Reset-to-VIRGIN.
  
- **Read / Erase DTC** (for EURO 3 units AC19, AC20, AC24, AC25, AC27, AC28, AC32 only)

### 4. Key programming procedures

Let's overview several possible situations:

➤ **All keys were lost**

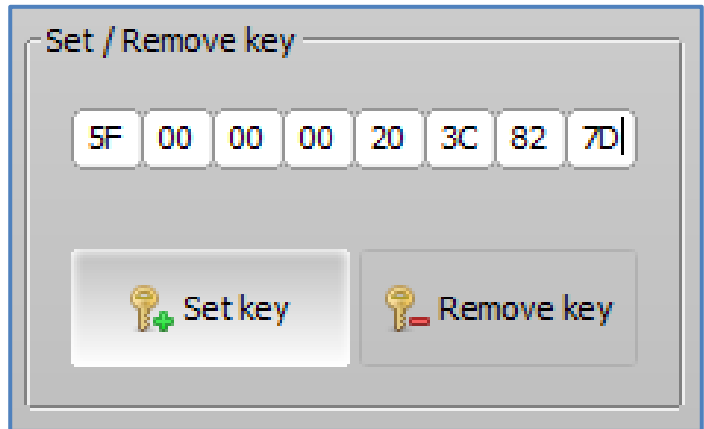
Connect wires from interface of ASW-NEXT to CDI unit, apply +12V power to connection and press „**Read /Set Keys**“ button. Diagnostic connection to CDI unit will be established and transponder values will be read:



Write value of any active (marked with green) key to transponder **T5** as **TEMIC-11** using any suitable transponder programmer. Choose data with header „**BE FA**“ or „**7D 5F**“ depending on type of your transponder programmer.

➤ You want to set / delete key(s) manually in CDI unit

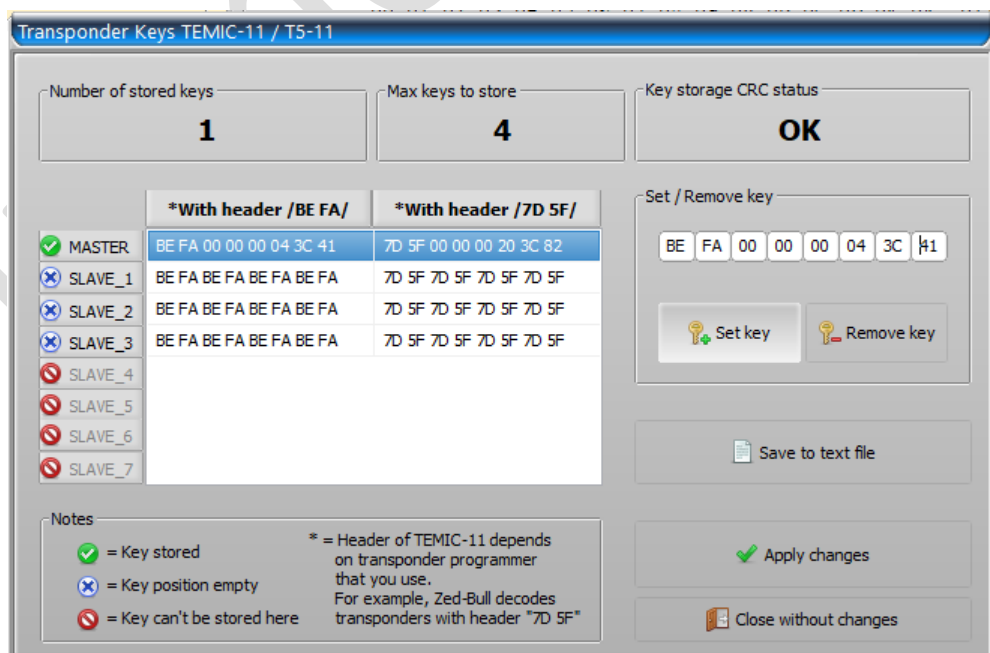
Press „**Read /Set Keys**“ button. Diagnostic connection to CDI unit will be established and transponder values will be read. Select position to set key to. Read key you want to store to CDI unit with any transponder programmer.



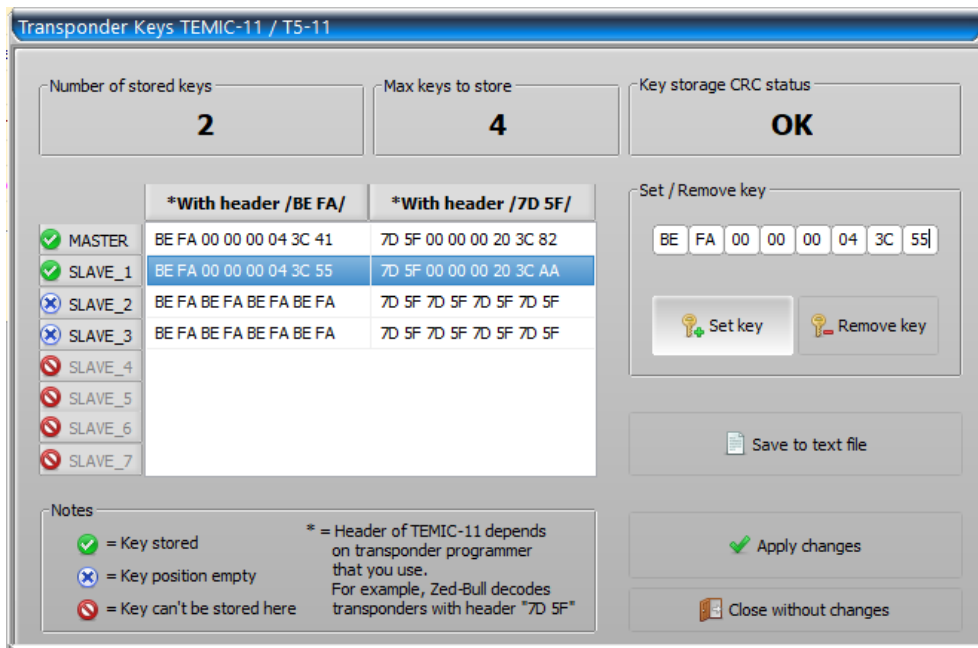
Let's say you've got **TYPE-11** or **T5-11** transponder and your transponder reader displayed value as in the picture above.

Enter this value to the „**Set / Remove key**“ field and press „**Set key**“ button. **Software will accept valid transponder value from a key programmer of every type – no data conversion of any kind is required.**

Software will automatically re-align bits and now it looks like this:



You may delete unneeded keys and set as many keys as you need (max 4):



- Use „**Save to text file**“ to access transponder data later if no physical transponder is prepared yet.
- Press „**Apply changes**“ button to write key programming values to control unit

Please note that CDI unit will treat itself as not completely programmed with only one key stored. To avoid this you must to store one more key, even if single key is needed. Just enter any valid value for a second key position, different from value of **MASTER** key.

## You want to reset CDI unit to VIRGIN state

- Fill all key positions with **BE FA BE FA BE FA BE FA**
- Press „**Apply changes**“ to program blank key values to memory  
or
- Press button „**Reset to VIRGIN**“

### ➤ You want to learn keys to the VIRGIN CDI unit

- Make yourself two valid **T5-11** transponders or take two ready suitable keys of **TEMIC-11 / TYPE-11**.

To make **T5-11** transponders please program to one of them, for example:

**BE FA 00 00 00 11 22 33 (7D 5F 00 00 00 88 44 CC)\*** and  
**BE FA 00 00 00 11 22 34 (7D 5F 00 00 00 88 44 2C)\*** to another.

Both transponders must be programmed with different values.

- Turn on ignition with first key for 1.5 sec. Turn off ignition while LED is still on. Key will be stored as a **MASTER**
- Turn on ignition with second key for 1.5 sec. Turn off ignition while LED is still on. Key will be stored as a **SERVICE**
- Turn on ignition with first key again for 1.5 sec. Turn off ignition while LED is still on. Programming procedure closed.

**NOTE:** Do not exceed time of 1.5 seconds when changing key in ignition lock between every step.

\*- Depends on type of transponder programmer (does it use **BE FA** or **7D 5F** header)

### ➤ You want to disable / enable immobilizer feature in CDI unit (IMMO-OFF / IMMO-ON)

Connect wires from interface of ASW-NEXT to CDI unit, apply +12V power to connection and press „**Set IMMO-OFF / IMMO-ON**“ button. Immobilizer feature configuration dialog will pop-up:

