



KTM immobilizer emulator, CAN

MINDA-641 system, 2017 up

Purpose:

KTM bikes: 790, 890, 990, 1090, 1190, 1290 with MINDA641 immobox (HT3 keys), 2017 up. Not Plug & Play, must store immodata (must have ability to read data from R5F10Bxxx (immobox) or Tricore (ECU)).

Preparation:

Must store immodata (17-bytes ECU_ID and 32-bytes of SYNC) into emulator using CAN logger or MBcan. ECU_ID is printed on ECU label too, for verify purposes. Below is example how data looks into IMMO dump (locations may vary, depends on IMMO firmware):

```

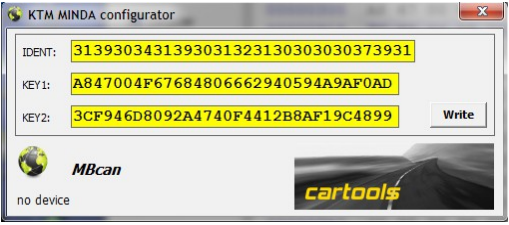
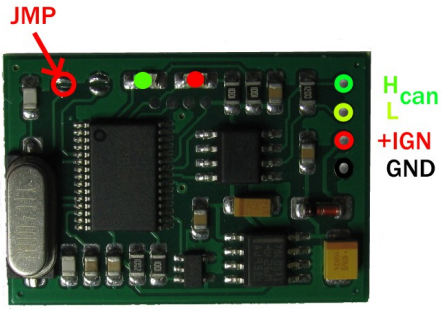
000002D0 | 03 08 00 00 00 56 42 4B 54 55 36 34 30 30 4B 4D | VBKTU640 M
000002E0 | 37 [REDACTED] 00 0F A0 01 01 A5 02 A5 01 31 | 7 [REDACTED] I I 1
000002F0 | 39 30 34 31 39 30 31 32 31 30 30 30 30 37 39 31 | 9041901210000791
00000300 | A8 47 00 4F 67 68 48 06 66 29 40 59 4A 9A F0 AD | EG OghH f)@YJp-
00000310 | 3C F9 46 D8 09 2A 47 40 F4 41 2B 8A F1 9C 48 99 | <щFIII *G@фA+БсБH™
  
```

Emulator must be in configuration mode (both JMP opem). Must send 9 frames using CAN logger with WCU_ID and SYNC like below:

```

7FE 8 30 31 31 39 30 34 31 39
7FE 8 30 32 30 31 32 31 30 30
7FE 8 30 33 30 30 37 39 31 00
7FE 8 30 34 A8 47 00 4F 67 68
7FE 8 30 35 48 06 66 29 40 59
7FE 8 30 36 4A 9A F0 AD 3C F9
7FE 8 30 37 46 D8 09 2A 47 40
7FE 8 30 38 F4 41 2B 8A F1 9C
7FE 8 30 39 48 99 00 00 00 00
  
```

If data accepted, emulator must respond with:
7FF 8 4F 4B 21 2D 2D 2D 2D 2D OK!-----



Alternative - use MBcan and configurator software to store all necessary data.

Installation:

Install emulator anywhere on bike close to CAN network and terminal "15" (hot when IGN ON). It is not mandatory to place it at original place where immobox is usually located. **Place solder joint (short any or both JMP)** on emulator board to disable any data updates by accident. Job done.

Wire colors, bike wiring, at immobilizer connector:

NOTE: wire colors from immo to connector may differ!

- CAN-Hi: BLU / BLK
- CAN-Lo: BLU / WHT
- +IGN: RED
- GND: BRN

LEDs on emulator board:

- GRN and RED both switching: startup, emulator ready, no data received.
- GRN blinks – waiting for further communication;
- GRN on permanently – code sent (ECU possibly authorized);
- RED blinks: communication / authorization error etc.

