



EWS2, EWS3, CAS emulator

BMW, MINI 1998...2012, EWS3

Emulator will work on ALL BMW cars up to MY'2006 100%, later cars with EWS4 or CAS3+ will work only if ews4 mode is not active.

Target applications:

- motorsports;
- various engine swap situations where new type engine is installed on old car without any EWS on board;
- boats;
- test ECU's for garage technicians to help locate problems more quickly and easily.

Connection:

4 wires (**EWS line**, **K-line** for diagnostics and configuration, **K1.15** (Ignition ON), **GND**. Original EWS must be disconnected: EWS line must be free - cut or pull out pin from ecu connector, remove EWS (must short starter wires too!) etc. Pins are marked on opposite side of emulator board.

Configuration:

- Launch configurator, write ISN, select mode and write these data into emulator by pressing button WRITE. It is possible to read back ISN and mode from emulator at any time.
- Set emulator for alignment,
- Set ECU for new start value.

Steps 2 and 3 are necessary only if EWS3 mode is used. In case of EWS2 car is ready to start immediately after writing correct ISN and EWS2 mode into emulator.

Some EWS3 specifics:

During alignment power supply must be uninterrupted. Otherwise procedure fails. Wiring loom must match original specification - permanent "30" must remain ON even after "15" is switched off, main relay is mandatory.

Alignment in case of EWS can be done with INPA too. At first must set emulator for alignment, then launch INPA, launch script for engine, perform EWS3 alignment. Must note that most INPA scripts try to communicate with EWS or CAS even if ECU script is launched, error will occur, ignore it (press "continue")! Wait until procedure is finished, observe feedback. If alignment fails: turn off ignition, wait some seconds, turn ignition ON, repeat procedure.

MS43 / DDE4 connections:

EWS line:	connector D, pin 33
K-line:	connector D, pin 32
K1.15 IGN_ON	connector D, pin 26
GND	connector A, pin 4,5,6

according to BMW WDS:
connector A: X60001A (9-pin)
connector D: X60004A (40-pin)

NOTE:

step1 always do using configurator software;
step2 is possible to do using INPA / Tool32 using EWS3 scripts too;
step3 in configurator software works only for DDE4 and MS42/43 ECUs, for BMS46, MS5.2.1, ME9, MS45, MSV70 or anything else must do it using INPA / Tool32.

