

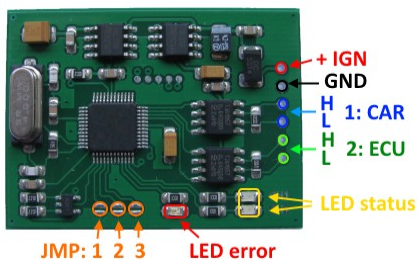
## FORD Cx Type 3

immo emulator

C1/C2 platform: C-Max, Focus, Kuga, 2010 up

**Usage:** FORD C1/C2 platform cars, starting from MY 2010 and up (Ford C-Max from 2011, Focus from 2012, Kuga from 2013 etc). Acts as a **CAN filter** between ECU and original BCM/ABS. Not Plug&Play, must store 10 bytes SYNC into emulator.

**Installation:** install emulator in CAN wiring between BCM/ABS and ECU (cut CAN wires), CAN-1: CAR (BCM) side, CAN-2: ECU side. Power it from main relay output. If you install emulator inside ECU it is good idea to install it instead of CAN EMI supressor.



### Configuration and jumpers (JMP):

- **JMP1:** open - allows SYNC update, if short - SYNC update is prohibited.
- **JMP2:** short for **standard** mode, open for **standalone** mode of operation. Choose what's better for your demands -
  - **standalone:** authorization is sent to CAN-2 after each ECU request. No ECU request = no response. Usable if there is no BCM and/or ABS unit installed.
  - **standard:** emulator modifies original BCM authorization messages received from CAN-1 and then transfer them to CAN-2. No messages from BCM and ABS = no response to ECU auth requests.
- **JMP3:** does nothing, no matter if it is shorted or left open.

### Alignment methods:

- Store necessary SYNC and into emulator. JMP1 must be open to allow EEPROM updates, MBcan or any suitable CAN logger must be **attached to CAN-1** (BCM / car side). While JMP1 is open you may change SYNC at any time to test various SYNC candidates “on the fly” until ECU is satisfied with it (observe LEDerror !). SYNC change is applied immediately.
- How to proceed:
  - Using MBcan: simply store necessary SYNC.
  - Using CAN logger: set communication speed to 500kB, use 11bit (short) id. To store SYNC must send two frames with corresponding ID's and SYNC data (example: SYNC 112233445566778899AA) -
 

```
0x7FC 8 11 22 33 44 55 66 77 88
0x7FE 8 99 AA 00 00 00 00 00 00
```

 If success, emulator must respond with same data, ID's are 7FD and 7FF:
 

```
0x7FD 8 11 22 33 44 55 66 77 88
0x7FF 8 99 AA 00 00 00 00 00 00
```
  - Test what happens (observe **LEDerror**). If everything seems OK and ECU is authorized, place solder joint to short JMP1 (to prohibit further SYNC updates).

### LEDs on emulator board:

- **LEDstatus** - two leds, to indicate CAN-1 and CAN-2 activity.
- **LEDerror** - CAN exchange error **OR** ECU request. If everything is OK, there must be a short blink at startup (all 3 LEDs ON together), then short blink each time when ECU request is received. If LED is permanently ON most likely ECU is NOT authorized (continuous requests – wrong SYNC?).

