

TX board

for CAN LIN I/O board

TX board features:

- 7 x digital inputs, 12v compatible, threshold ~6v,
- input status is transferred to CAN / LIN,
- main idea is to send status through existing CAN network or single wire, properly configured CAN LIN I/O board at receiver side may decode CAN/LIN frames and manage outputs according to TX board inputs;
- Board is designed for GAINTA enclosure (not included, manufacturer numbers for ordering: NUB705017BK / NUB705017OR / NUB705017RD).

TX board connections:

- **LEFT** side:
 - **CAN** and **LIN** (LIN is used for configuration if JMP is OPEN);
 - **JMP**: must be open to allow configuration or short for normal operation mode;
 - **CAN term**: place solder joint if CAN termination is necessary.
- **RIGHT** side:
 - **INPUTS 1...7**: 12v tolerant, if INPUTx is HIGH (voltage >6v) corresponding bit is set in DATA frame,
 - **+12v**: power supply (battery plus or terminal "15"), must use **external 1...2A fuse**;
 - **GND**: ground, battery minus.

Configuration:

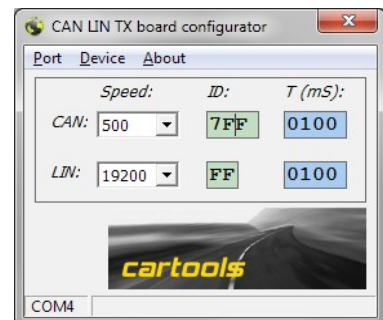
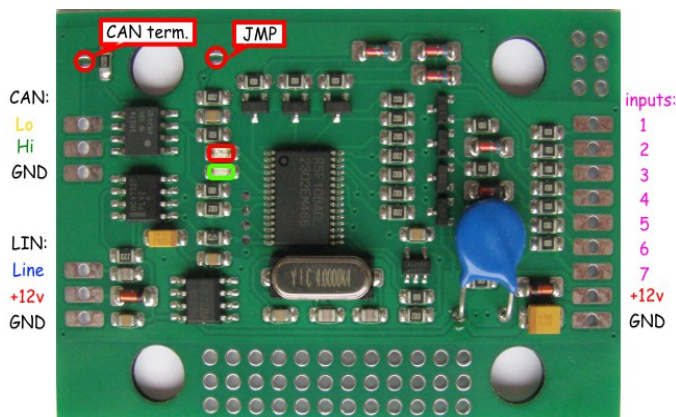
- JMP on board must be open (solder joint removed);
- attach any K-line adapter to Line, +12v, GND (LIN pads), power entire system from 12v power supply;
- using configurator software set necessary CAN ID (**NOTE**: avoid conflicts with existing CAN matrix!), CAN speed, CAN timings (time between consecutive frames, range 10....2500 mS);
- For LIN you may set any values you wish because dedicated line is necessary anyway (**IMPORTANT**: you can not use board on existing LIN network because board acts as a master, there are no two masters allowed on one subnet!);
- store values, place solder joint to short JMP.

Operation:

- TX board periodically transmits DATA frame with 2 data bytes, 1st byte shows input state, 2nd byte is inversion of 1st byte. Example (CAN ID is set to be 7AA here):
 - **7AA (2) 0D F2** in binary looks as **00001110** what mean inputs 2, 3 and 4 are set HIGH;
 - **7AA (2) 40 BF** in binary looks as **01000000** what mean input 7 is set HIGH.
- DATA frames are sent periodically as set by configuration, although if INPUT state change occurs additional frame is issued immediately.

LED behaviour:

- **RED** and **GREEN** both must go on at startup for 0.3 seconds;
- **RED** and **GREEN** alternating:
 - at startup: no valid configuration stored;
 - while configuring: read / write confirmation;
- **GREEN** on while operating - CAN is operating properly, no errors;
- **GREEN** off while operating - CAN is faulty (no receiving node / short / open circuit etc.);
- **RED** on for 0.3 seconds while operating – INPUT state change detected.



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