

CANBus-Interface B2S

B2S "reads" digital data of car-bus systems, converts them to analog signals (i.e. +12V), and provides them by its analog signal-outputs. This instruction describes the universal interface-types A, B, D, FM, and H (1, 2, 4, 4 or 8 outputs) to be connected to CAN-C or according to the car model (only B2S-4... and B2S-8....) sometimes to CAN-B.

Important advises and conditions

- Before installation read carefully the whole instruction of B2S.
- The B2S-interface may only be installed by an expert workshop with trained specialists.
- The B2S must be installed in a dry location of the car.
- All instructions of the car-manufacturer must duly observed.
- Regarding installation of B2S in a car all prevailing regulations, and security advises of car handicraft and car manufacturer must be duly observed, as well as those ones of the countries where this car is licensed and approved.
- The B2S complies with all requirements of European Commission Directive 2004/104/EC and 95/54/EC.
- **The "application list" enclosed to the single B2S-interface specifies for which car models (intended for European market) it fits as well as which of its CanBus-system must be connected as well as which analog signals will be available in the car model concerned.**

Function

The B2S is an automotive interface developed to enable in an easy manner connections to the CAN-network of any car (CAN-C = Highspeed, CAN-B = Lowspeed, "single wire CAN"). It universally suits for almost all car models equipped with such multiplex CANBUS-data-bus-systems. After its installation the B2S recognizes automatically the car model, whose digital CAN-data (or some of them) from now on will be converted to analog electric signals. NOTE: On request there also can be programmed a customized B2S according to the requirements of special applications, and correspondingly providing various analog signals.

Terms and conditions

This manual may not be modified without the prior consent of the producer. The producer is not responsible for any modifications being made, nor for any typing and/or printing errors, or any consequences that arise as a result thereof. The producer, besides, is not responsible for any damage and/or consequential loss in relation to any system or device caused by the (incorrect) use or installation of the B2S.

Connections in the vehicle

The instructions concerning the connections of B2S in the single car model can be found in dedicated files (but not in this general manual).

Together with the B2S-device there are provided a "user name / password" each to enable the (one-off) access and login on our website to the special instructions for every car model concerned.

1. Compile as much information as possible about the car: manufacturer, model, year of production...
2. Visit our website: for example via "/service" on page "/registration" a lot of files are offered.
3. Select the file corresponding to the interface-type (and to the car-model) and open it.
4. On request enter "user name" and "password" observing their correct writing.
5. Take note that the files on certain website-pages can be viewed only temporarily and once. (Use the "printable version" button to print out the instructions for your own use.)

Technical data

| | | | |
|------------------------------------|--|-----------------------|-----------------|
| protection level: | IP40 | operation temperature | -40°C to +85°C |
| voltage supply (V ₀):= | 8V(dc) to 14V(dc) | | |
| current consumption:- normal mode | < 160 mA (at 12V) | signal inputs: | CAN-C Highspeed |
| "sleep mode" | < 1 mA (at 12 V) | | CAN-B Lowspeed |
| signal outputs: | protected against short-circuit (+12V or ground) | | |
| electronic outputs: | thermal protection | | |
| voltage range | = V ₀ : (8V to 14 V) | e-approval | e3 03 1659 |
| maximum load | 500 mA (per output) | patent | N 1024730 |
| frequency outputs: | 10V with "pull down" to ground | | |
| voltage range | = -2V if 8V < V ₀ < 11V or 10V if V ₀ > 11V) | | |
| maximum load | 200 mA (per 2 outputs) | | |

GENERAL INSTRUCTION

possible analog outputs of B2S

| | |
|------------------------------|--------|
| speed pulses | BLUE |
| ignition (+15) on | GREEN |
| lower beams or r.p.m. | YELLOW |
| reversing lamp or engine run | WHITE |
| r.p.m. or... | VIOLET |
| engine run or... | GREY |
| optional | PINK |
| optional | ORANGE |

Installation of the B2S in the car

Before starting installation and during installation observe and ensure:-



- Disconnect the car battery in accordance with the instructions of the car's manufacturer !
- Electrical wire connections must be always and only made by use of a gas soldering !
- The B2S must be always connected to a constant power supply !
- Ensure that the B2S power supply is fused (5 A to 15 A)
- Never cut a CANBUS-wire of the car !
- The CANBUS-wires, neither those of the car nor those of the B2S, may not be lengthened !
- Insulate unused wires (of the B2S) !

1.: Preparation:

(only B2S-4... and B2S-8...)

1.a) Determine the CANBUS type for the car model concerned: highspeed or lowspeed
The B2S-D and the B2S-H are suitable either for CAN-C ("engine" CanBus = highspeed-CAN) or for CAN-B ("comfort" CanBus = lowspeed-CAN).

NOTE: **The application list attached to the single B2S prescribes, which CANBus-system in the car model concerned must be connected to the corresponding B2S-wiring-pair of (details see 2nd step).**

(all types of B2S)

1.b) Determine the best location in the car for connecting its CanBus

Use our car-model-instructions or connection-files to get the description of the 2 CANBUS-wires concerned (which mostly are twisted together) as well as the location, where to connect them.

NOTE: In many car models there can be wires appearing similar, but providing other functions.

1.c) Find suitable possibilities in the car to connect to battery-plus and a good ground

To ensure proper power supply of the B2S, its RED wire must be connected by a fuse (5 to 15A) to constant +12V (= battery-plus: +30), and its BLACK wire to a "good" ground (= battery-minus: -31).

By preference, make these connections close to the CANBUS-connections mentioned in step 1b.

Recommendations mostly may be found in our car-model-instructions (or connection-lists).



The connection to battery-plus must be protected by a fuse (maximum 15A), whose exact value (between 5 A and 15 A) depends on the specifications (power consumption, input loads) of the device to be connected to the output-wires of the B2S.

2.: Connections in the car = inputs of the B2S

Create the 4 connections in the car

Disconnect car battery (follow car manufacturer's advises).

Now use the locations determined to connect the 4 required wires of the car to the corresponding wires of the B2S:-

- battery-plus (+30) to RED
- battery ground (-31) to BROWN
- highspeed-CAN-C High to BLACK-RED
- highspeed-CAN-C Low to BLACK-WHITE
- lowspeed CAN-B High to BLACK-YELLOW
- lowspeed CAN-B Low to BLACK-GREEN

or (only B2S-D and B2S-H) connect (instead of CAN-C):-



IMPORTANT: Never cut a CANBUS-wire of the car or lengthen a CANBUS-wire of the B2S !
Recommendation: Just remove a little bit of the insulation of the CANBUS-wire (of the car) and the solder there the B2S-wire to be connected.

Before re-assembling the coverings, carry out the inspection (3rd step).

Now reconnect the car battery in accordance with the car manufacturer's instructions.

3.: Inspection:

Verify whether the B2S is operating properly (using the LED)

As soon as B2S is connected, its green LED starts flashing.

Now switch on ignition to ensure that the CANBUS of the car is activated.

As soon as B2S has identified the car model (when doing this first time, it may take maximum 2 minutes), the LED will light on permanently, indication that the B2S will be operational.

When the ignition is switched off now, the LED will eventually go out, and the B2S will enter its "sleep-mode" (or may be with some delay, depending on the car model).