



Manual

BSL100

**Bootstrap Loader Module for Infineon Tricore™
Microcontrollers**



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Important

This quick manual is intended to introduce the currently existing BSL components from EVC. A **continuously updated** list of cars which can be programmed with the BSL tools can be found following this link:

<http://www.evc.de/en/product/bsl/type.asp>

Additionally, a **continuously updated** list of ECUs which can be programmed with the BSL tools can be found following this link.

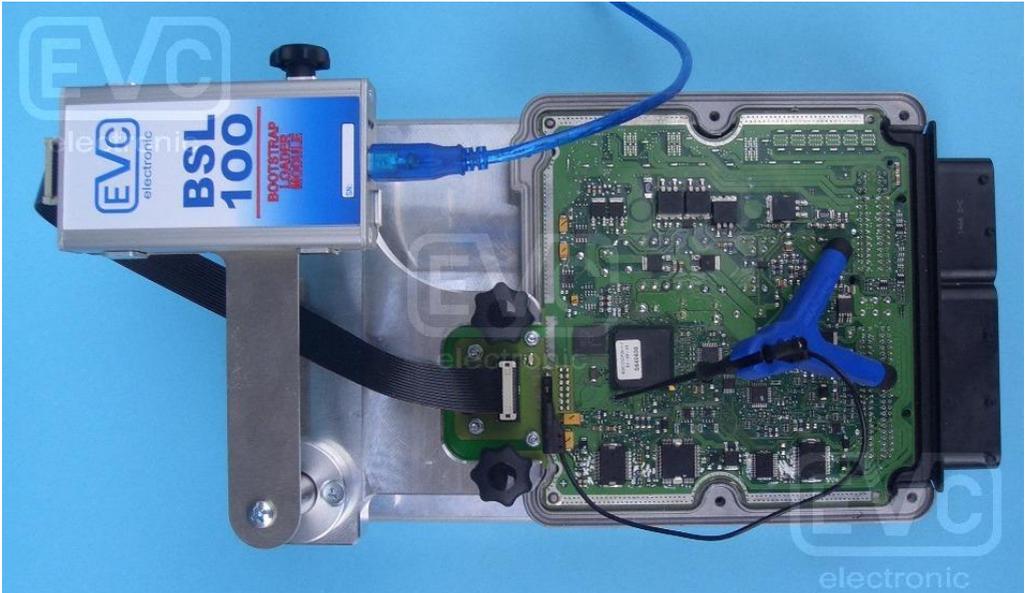
<http://www.evc.de/en/product/bsl/ecu.asp>

Disclaimer / Warranty

The BSL100 module is for use by qualified personnel only. A warranty on our part for direct damages and consequential damages, caused by the improper handling of our product or additional products is excluded.



To avoid damages on your BSL100-module or on an ECU, please carefully read this manual before you start running the BSL100 Module with an ECU!



Pict. 1: A typical arrangement on BOSCH ECUs: BSL100 module, BSL130 probe and bootpin-probe.

Please first connect your BSL100 module with your PC or notebook via the USB cable.

The lower of the both blue LEDs on the front panel now starts flashing.

The BSL100 module has no own power source. It is an USB device and obtains its power via the USB cable.

If the BSL100 module is connected to an ECU, the upper of the both blue LEDs indicates that a data transfer is in progress.



Pict 2: The BSL-module is always connected to the USB cable first.



Pict. 3: The BSL100 has established a data connection to an ECU.

To force the microcontroller to CAN boot mode, it is necessary to contact one or more special points on the board with the bootpin probe.

Therefore the bootpin probe is connected to the 2-mm socket on the BSL130 probe (pict.1).

The BSL130 probe is shipped 12V power supply which also powers the ECU.

The switching of the power is controlled by the BSL100 module.

A red LED on top of the BSL130 lights up, indicating the ECU receives power.

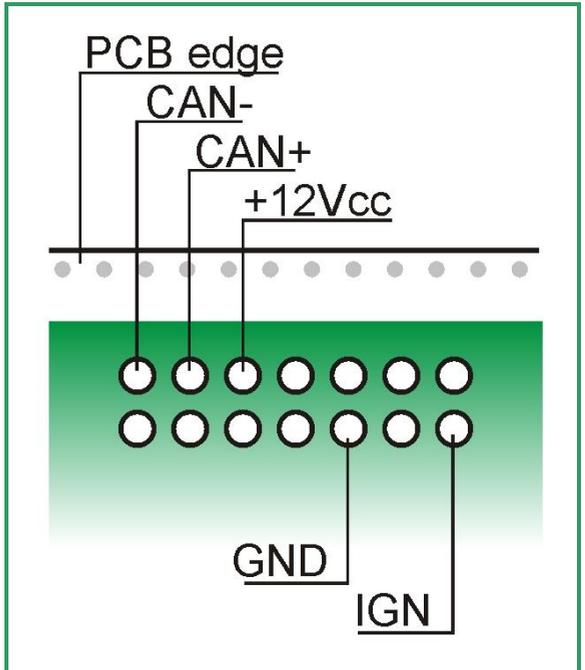


Pict.1: The BSL130 probe is lowered to the pad array and the bootpin probe is placed on the bootpin.

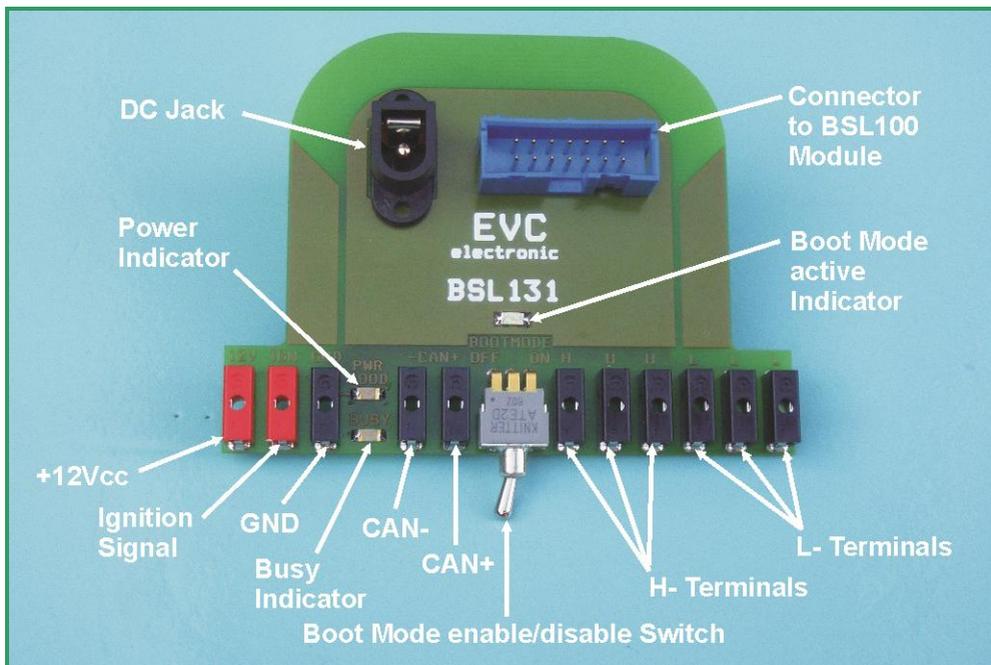
Picture 2 shows the pin out of the 2 x 7 pad array.

Both the CAN bus lines and also the power for the ECU are routed from here. The extra pads of this array are not used.

On Bosch ECUs the 2 x 7 pad array commonly is located near the border of the board.



Pict 2: The pin out of the 2 x 7 pad array.



Pict 1: The BSL131 programming adapter en detail.

The BSL131 programming adapter is intended for ECUs which do not have the typical BOSCH-pad array or for ECUs which have more then one "bootpin" must be configured.

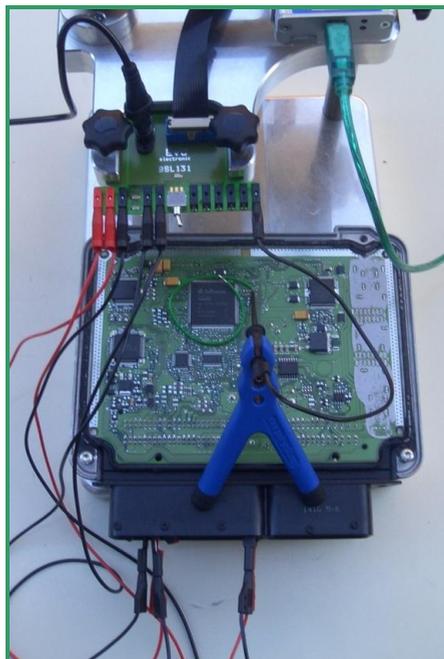
Like on the BSL130 probe, the power distribution of the ECU is controlled by the BSL100 module.

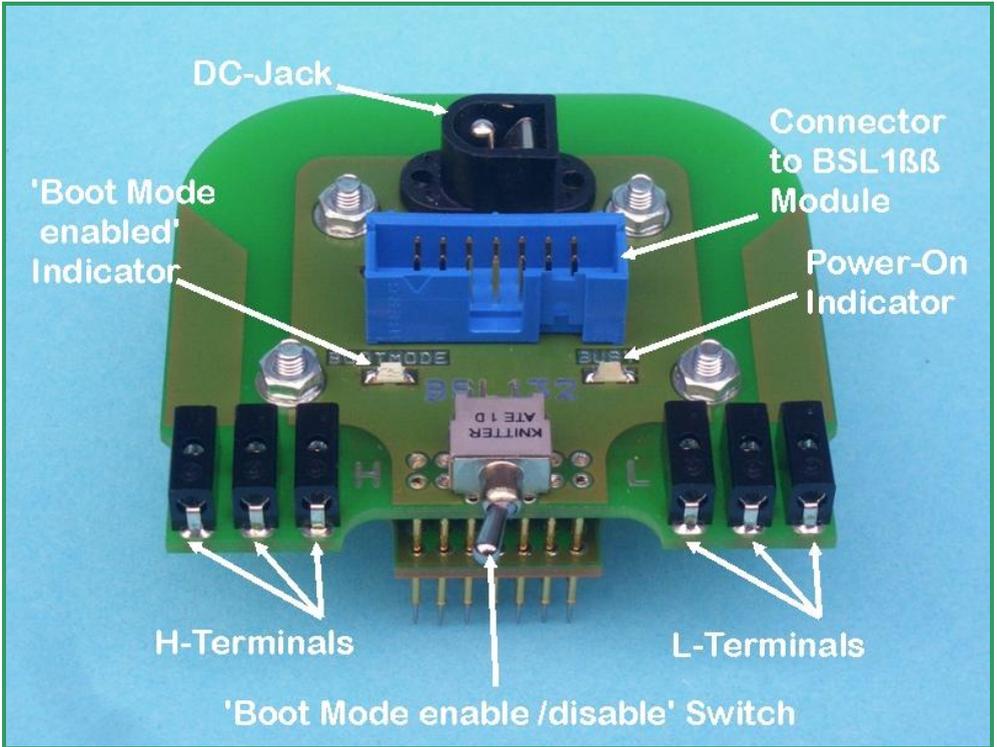
The connection to the power supply and to the CAN bus are made to the main connector of the ECU using the included cables and alligator clips.

The connection to he "bootpins" are made using additional orderable cables and probes. .

The switch on the BSL131 adapter the L- and H- terminals can be switched to high impedance state.

Pict.2: A Bosch MED17.5.5 is connected to a BSL131 adapter. ♂





Pict. 1: Connectors and indicators of the BSL132 probe.

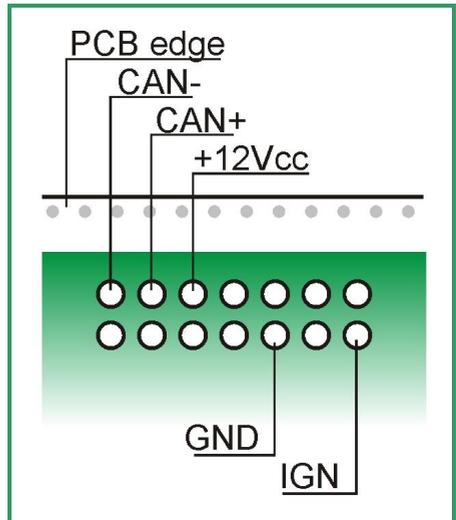
The BSL132 probe is necessary on Bosch ECUs where more than one bootpin must be configured.

Like on the BSL130 probe, the power to the ECU is controlled by the BSL100 module.

The BSL130 probe is shipped together with a 12V power supply which powers the ECU.

Up to four cables connecting the bootpins to the corresponding 2 mm H- and L-Terminals of the BSL132 adapter.

The switch toggles the H- and L- Terminals between CAN boot mode (conducting) and normal boot mode (high impedance state).



Pict 2: The pin out of the 2 x 7 pad array.



Pict. 1: Connectors and LEDs of the BSL-ADP.

The BSL-ADP is a USB-controlled, two-channel pulse generator.

The outputs of the pulse generator channels will be connected to the crankshaft sensor input and camshaft sensor input of the ECU.

With this signals, the ECU can be forced into its service mode. With the ECU in service mode, the password can be read then.

First, the GND connection between BSL-ADP and the ECU needs to be established.

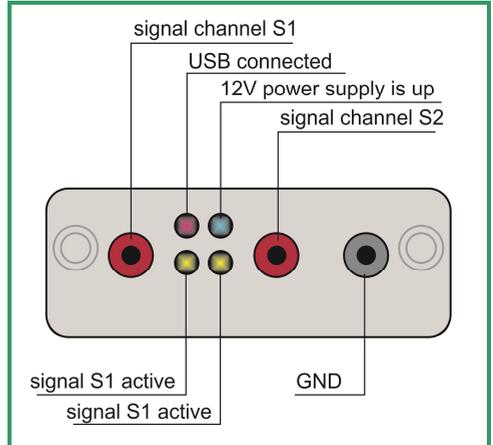
In case of using the BSL131, the cascable 2mm- connectors of the black cables must be connected to either the GND of the ECU or to the GND socket of the BSL131.

In case of the BSL130 or BSL132, the BSL-ADP must be connected directly to the GND of the ECU.

The signals S1 and S2 need to be connected to the corresponding pins of the ECU then.

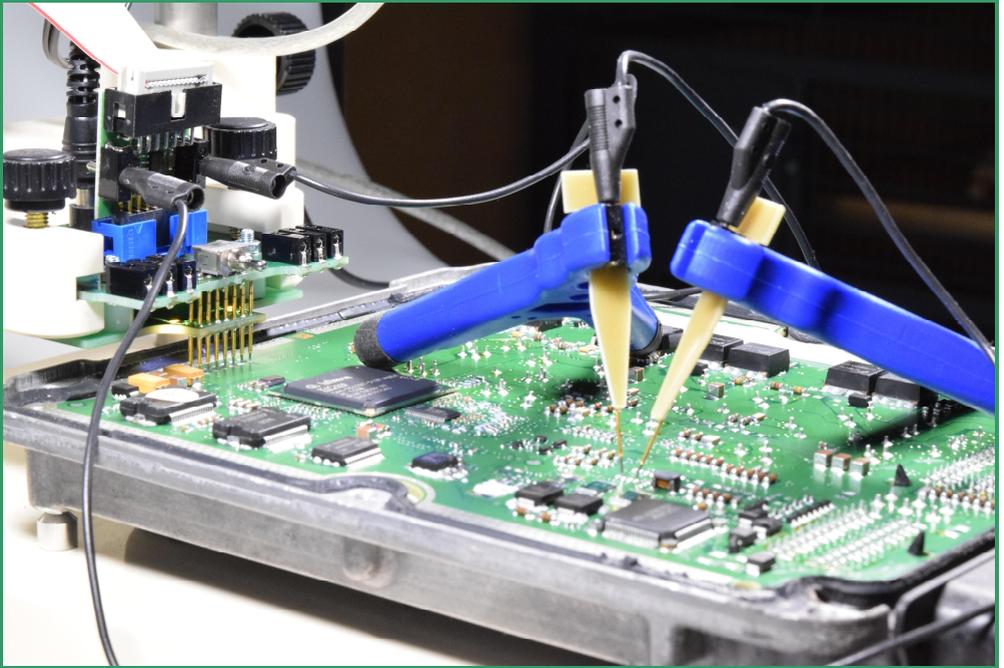
Which pins on which ECU are required, is documented on our website:

<http://www.evc.de/de/product/bsl/ecu.asp>



Pict 2: The pin out of the BSL-ADP and the meaning of the LEDs.

When all connections are made between PC, BSL-ADP, BSL100, the ECU and the appropriate probe, then create a project in WinOLS (or choose "read an ECU" in BslToGo), then choose the ADP-option and follow the instructions of the software



Pict. 1: The BSL-DRV plugged in a BSL132 probe (at the upper left corner of this picture).

.The BSL-DRV module is required on ECUs where the CAN-transceiver wasn't placed.

Nevertheless, for realizing a CAN bus connection, the BSL-DRV module is plugged onto a BSL131 or BSL132 probe.

On the other side the BSL-module is connected to the 14-way flat ribbon cable of the BDM100 module.

By using two BSL-MPST probe tips the TXD and RxD lines from the ECU are connected to the BSL-DRV module.



Pict 2: Detailed view of the BSL-DRV module. In this case it's plugged to a BSL131 probe.

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Although we were afforded to describe all details with the highest possible precision, nevertheless we can not guarantee an error free content of this manual.



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