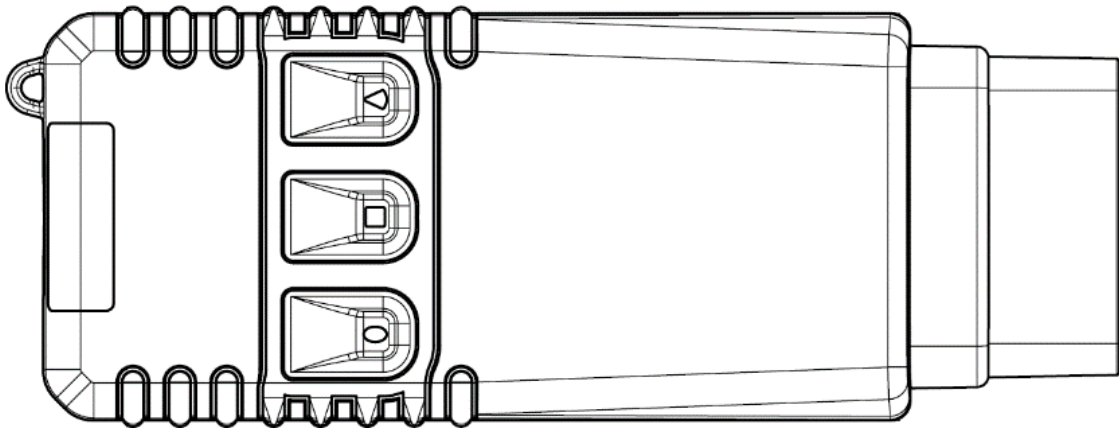


USER MANUAL

AVL DITEST weLINK



AVL ID: AT8120EN
Declaration ID 322001
Revision: 01
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Firmware-Version:

PASSION INNOVATES FUTURE

Data subject to change and errors expected.
All data valid at the time of printing.

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1 General

1.1 Intended Use

Using **AVL DiTEST weLINK** and the AVL DiTEST diagnostic software, control unit diagnostics can be performed on automobiles (buses, trucks, vans, passenger cars, and motorcycles). Communication with the PC is wireless using Wi-Fi or Bluetooth. Alternatively, a USB cable can be used as well.

The device must **not** be used in moving vehicles (frequency band is prohibited).



WARNING

Please always observe the attached safety instructions.

1.2 Design

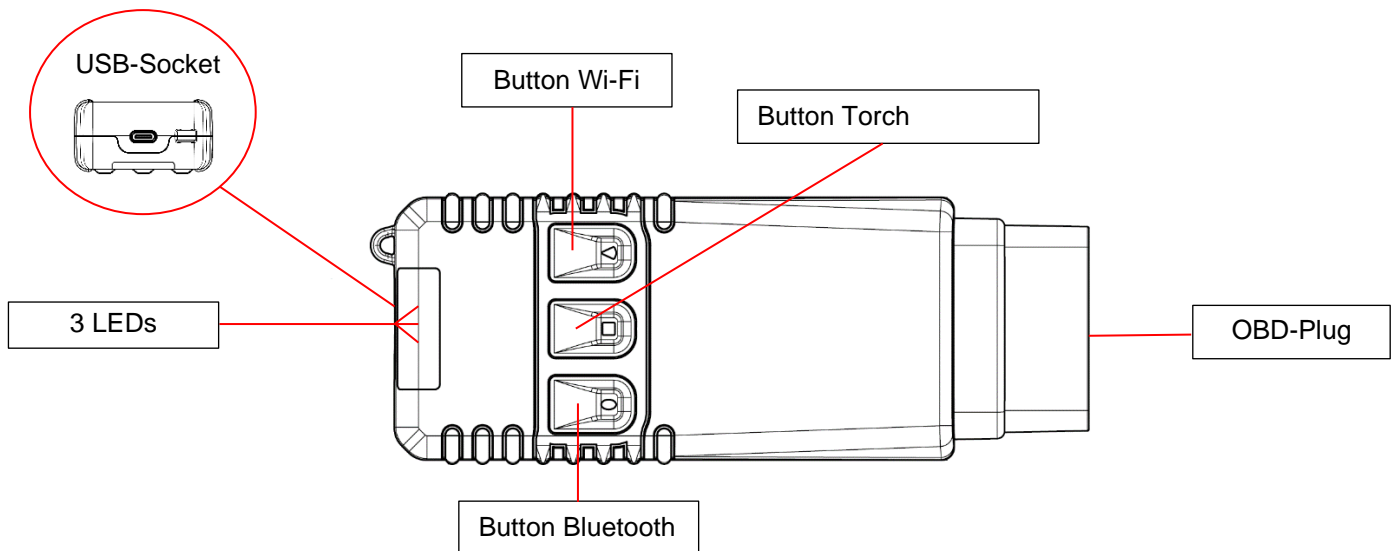


Fig. 1-1

Button functions

Button	Action	Function
Wi-Fi	pressed briefly	Shows the strength of the Wi-Fi signal via LED
Wi-Fi	pressed for a long time	Switches Wi-Fi on or off
Wi-Fi	pressed for a long time simultaneously with the torch button	Switches the Wi-Fi access point on or off
Torch	pressed briefly when weLINK is not connected to the vehicle	Torch on/off
Torch	pressed for longer than 5 seconds when switching on	weLINK boots in rescue mode

Torch	pressed briefly with standalone mode configured	starts/stops the standalone mode
Bluetooth	pressed for a long time	turns Bluetooth on/off
Bluetooth	pressed in standalone mode	Set markers in recorder mode (e.g. ride recorder)

1.3 Display Elements and Signaling Devices

The following chapter describes display elements and signal transmitters.

1.3.1 Status-LED

The following table describes the status LED:

Color	State	Meaning
yellow	illuminated	first boot sequence
light blue	illuminated	weLINK boots
dark blue	illuminated	weLINK can be connected (WiFi, USB, Bluetooth)
dark blue	flashes	Connection to the PC (Wi-Fi, Bluetooth or USB) is established. Data is transferred to the vehicle
yellow	flashes quickly	Communication in progress
green	flashes 2x	Upload of a file finished
magenta	flashes slowly	Firmware update in progress
yellow	flashes slowly	Supply voltage low (VBAT < 10 V)
red	flashes slowly	Supply voltage very low (VBAT < 7 V)

1.3.2 Wi-Fi Status-LED

The following table describes the Wi-Fi status LED:

State	Meaning
off	Wi-Fi not connected
red	Signal strength > 20 %
orange	Signal strength 20 – 40 %
yellow	Signal strength 40 – 60 %
light yellow	Signal strength 60 – 80 %
green	Signal strength ≥ 80 %

1.3.3 Charging Status Power Adapter

If the Power adapter is connected, the charging status of the adapter is additionally displayed on the status LED. This status periodically flashes in between while the main status is displayed.

Color	State	Meaning
orange	short periodic flash	Power adapter available and charging - may not provide 90 second autonomous supply
green	short periodic flash	Power adapter available and fully charge - will provide 90 second of autonomous supply
yellow	short periodic flash	Power adapter available and used as supply source - enough capacity available
red	short periodic flash	Power adapter available and used as supply source, but reaching end of capacity

2 Initial Start-Up

2.1 Adaptations

1. Plug the OBD connector (7) of AVL DiTEST weLINK into the OBD socket of the automobile (10).

NOTICE

Plug the OBD connector of weLINK as straight as possible into the OBD socket to avoid contact problems or mechanical wear of AVL DiTEST weLINK and the OBD socket.

The blue LED (3) is illuminated.

If required, e.g. in the event of hard-to-reach OBD sockets, the extension cable (7) can be used.

Pushing the button (4) will light a LED (5) installed into the OBD connector (3).

This way, AVL DiTEST weLINK can be adapted easier in dark installation locations.

2. Establish a Wi-Fi connection to the PC.
See description of the diagnostic program.

Alternatively, you can also connect AVL DiTEST weLINK to the PC using Bluetooth or a USB cable (1). To connect with USB, open the cover (2) on AVL DiTEST weLINK and connect the USB cable (1) to the USB socket (2).

If a connection to the PC is established, the will light **green**.

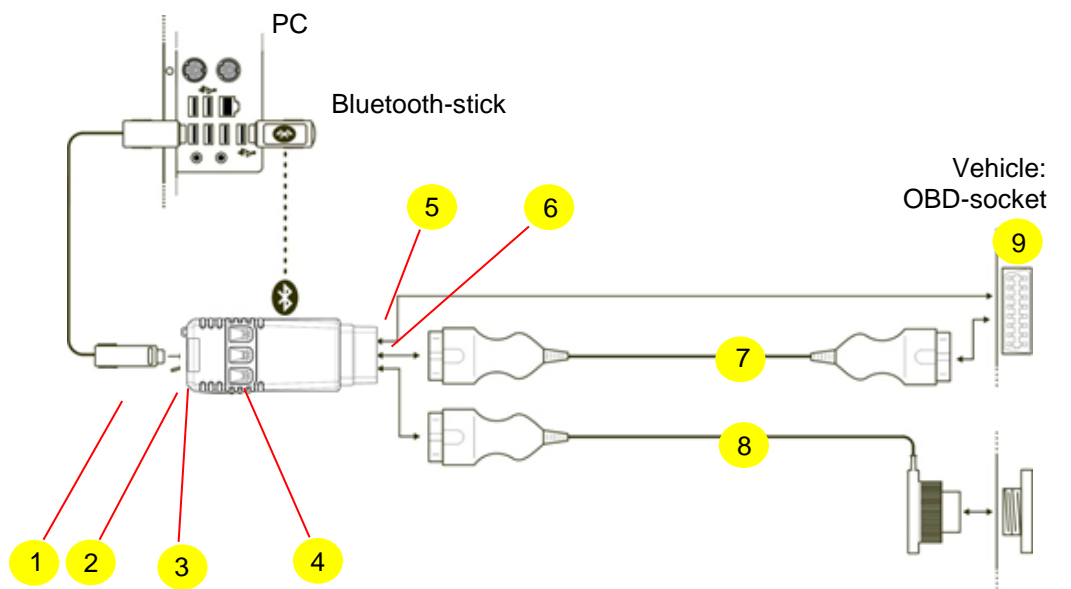


Abb. 2-1

Vehicle:
Manufacturer-specific socket

2.2 Firmware Update

See description of the diagnostic program. The firmware update can basically be performed via all interfaces (Wi-Fi, USB, Bluetooth). Note that it is not recommended to update via Bluetooth due to the slower transfer speed and the associated longer duration.

3 Operation

Observe the description of the diagnostic program.

4 Power Adapter

For measurements on motorcycles, the Power adapter (figure below) can be used to supply the weLINK with power during ignition change.

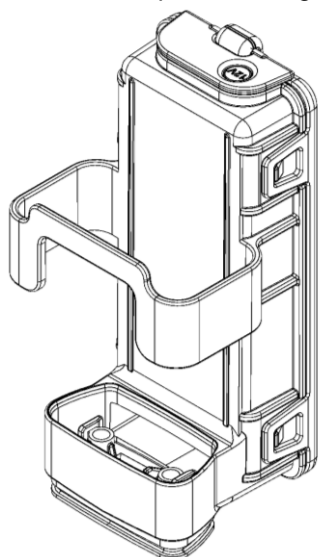


Abb. 4-1

4.1 Power Adapter Power Supply

To power the motor-cycle via the Power adapter, open the plastic tab and connect it to a 12 V battery via the crocodile clips (BV8289).

NOTICE

Only connect a 12 V battery. Connecting a mains adapter is not permitted and may cause damage.



Abb. 4-2

4.2 Retrofit Power Adapter

To retrofit the Power adapter, proceed as follows:

1. Unscrew the two pan-head screws (M 2 × 12 TORX).

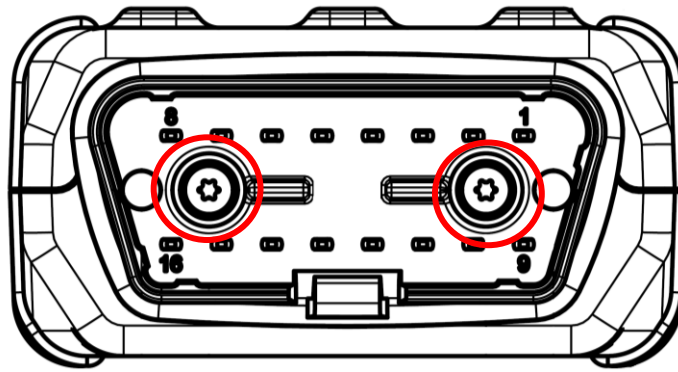


Abb. 4-3

2. Pull off the plug.

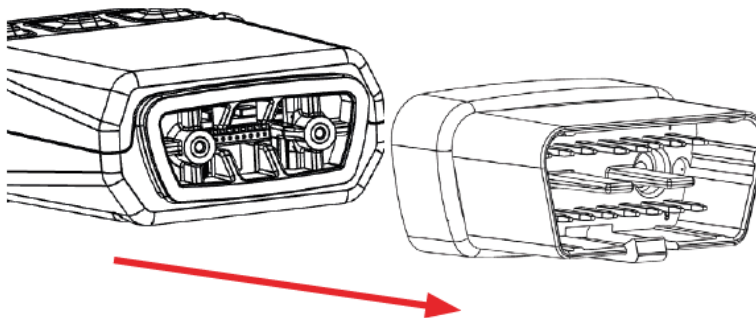


Abb. 4-4

3. Lubricate the O-ring with silicone grease and insert the weLINK into the adapter as shown in the image.
4. Lubricate the O-ring on the adapter with silicone grease and fit the plug to the bottom of the adapter. Secure it with the screws supplied (0.3Nm)

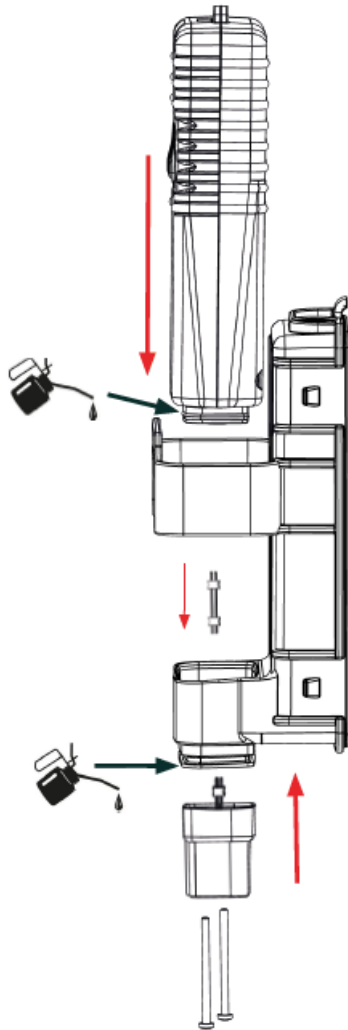


Abb. 4-5

The Power Adapter was successfully retrofit.

5 In Case of Error

- Observe the indicator elements and the transducer, see chapter 1.2.
- Ensure that AVL DiTEST weLINK was commissioned properly.
- Ensure that the AVL DiTEST diagnostic software was started properly
- Check the proper connection between
automobile ↔ AVL DiTEST weLINK ↔ PC
- Re-mount the OBD connector or check whether it has been mounted correctly.
- Contact the AVL DiTEST service partner and/or dealer

NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
-

6 Maintenance and Care

6.1 Cleaning

Ensure that the contacts of the USB socket and of the OBD connector are not dirty and damaged.
Clean the housing, the USB socket, and the OBD connector with a mild cleaning agent, if required.

6.2 Battery Replacement



CAUTION

Danger of explosion if the battery is replaced improperly.
Dispose of used batteries according to the instructions.

NOTICE

Due to their higher temperature resistance, it is recommended to use Murata CR2032W button cells.

1. Turn the battery cover to .

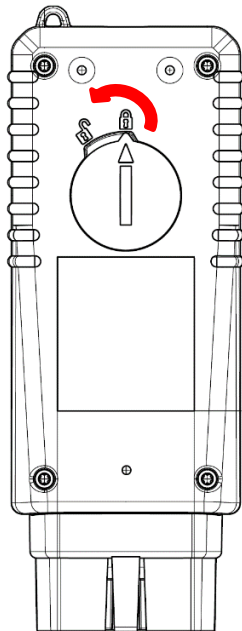



Abb. 6-1

2. Remove the battery from the battery holder and install a new one. Pay attention to the polarity of the battery.
3. Insert the battery with the battery holder.
4. Mount the battery cover and turn it to .

7 Plug Replacement

If necessary, the OBD connector of the AVL DiTEST weLINK can be replaced. New OBD plugs are available separately. The exchange must be carried out in a dust-free, clean and dry environment.

To replace the OBD connector, proceed as follows:

1. Unscrew the two pan-head screws (M 2 × 12 TORX).

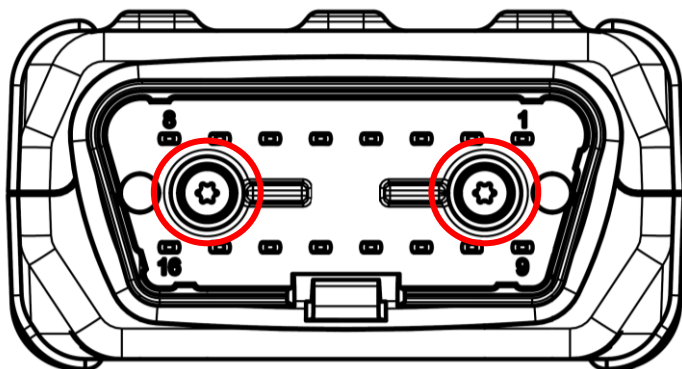


Abb. 7-1

2. Pull off the plug.

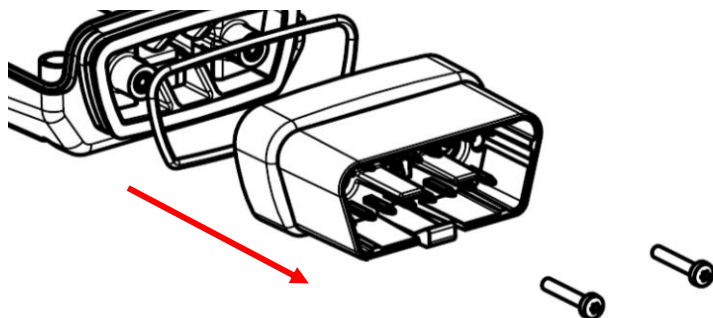


Abb. 7-2

3. Lubricate the area with grease and install the O-ring.
4. Carefully mount the new connector.
5. Mount the two pan-head screws (M 2 × 12 TORX) with 0.3 Nm.
6. Press the torch button to check if the device is working.

The OBD connector was successfully replaced.

8 Warranty

8.1 New Devices

For new devices the warranty period is 12 months.

The agreements with your supplier apply.

Generally excluded from the warranty are wear and tear parts, batteries and accessories.

Valid for the implementation is the date of the delivery document to the final customer.

The warranty expires due to:

- mechanical damage (e.g. dropping the device, etc.)
- Penetration of liquid (e.g. water, oil, acids, etc.)
- External intervention (e.g. repairs carried out by non-authorized people)
- Improper operation (e.g. cleaning with air pressure)
- Improper storage, maintenance and care (e.g. cleaning the device with solvent-based cleaners)

8.2 Exchange or Loaner Units

The agreements with your supplier apply.

Valid for the implementation is the date of the delivery document to the final customer.

8.3 In Case of Damage

In case of damage, please contact your respective AVL DiTEST representation / the corresponding AVL DiTEST partner in your country.

9 Technical Data

Check the serial number on the nameplate to identify the technical data for your device.

9.1 Licenses Canada

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by the party responsible for compliance voids the user's authority to operate this equipment.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- 1) L'appareil ne doit pas produire de brouillage;
- 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité annulent l'autorité de l'utilisateur à faire fonctionner cet équipement.

9.2 Licenses USA

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by the party responsible for compliance voids the user's authority to operate this equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

9.3 Radio Frequency Radiation Exposure Information (Canada, USA)

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un Environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne.”

9.4 weLINK (Declaration ID 322001)

Temperature	
Operating temperature (Standard)	Min. -30 ... +60 °C
Transport temperature	Min. -40 ... +80 °C
Humidity	Max. 93 % (not condensing)
Power Supply	
Power supply	6...36 V $\overline{=}$
Max. power consumption	~4 W
Housing	
Weight	~ 140 g
Dimensions	~ 140 x 52 x 28 mm
IP class	Min. IP54
Interfaces	
Interfaces	<ul style="list-style-type: none"> - USB-C (IEC 62680-1-3) with USB 3.0/2.0 support - WiFi 802.11 ac/a/b/g/n with WPA2/WPA3 - Bluetooth V5.0 Class 1.5
Vehicle interfaces	<ul style="list-style-type: none"> - OBD2 (ISO 15031-3, SAE J1962)
Supported API	<ul style="list-style-type: none"> - D-PDU API (ISO 22900-2) - SAE J2534 DEC2004
Supported interfaces	<ul style="list-style-type: none"> - CAN-FD ISO 11898-1/2, CAN-HS/LS compatible - CAN-HS/LS (2x) ISO 11898-1/2 - DoIP/Ethernet IEEE 802.3bw/bp (100/1000BASE-T1)** - K/L-Line ISO 9141 / ISO 14230-1 - SAE J1850 PWM/VPW - CAN-HV (ISO 11992-1)

Examples of supported vehicle-protocols	<ul style="list-style-type: none"> - CAN <ul style="list-style-type: none"> • KWP2000/ISOTP (ISO 14230-3 on ISO 15765-2) • UDS/ISOTP (ISO 15765-3 on ISO 15765-2 / ISO 14229-3 on ISO 15765-2) • SAE J1939 (SAE J1939-73 on SAE J1939-21) • Raw (ISO 11898-RAW) • CAN Calibration Protocol (CCP 2.1) - K-Line <ul style="list-style-type: none"> • KWP2000/K-Line (ISO 14230-3 on ISO 14230-2) - DoIP ISO 13400-2 <ul style="list-style-type: none"> • UDS/DoIP (ISO 14229-5 on ISO 13400-2)
User interface	<ul style="list-style-type: none"> - Multi-color status LEDs - 3 Buttons for user interaction for numerous applications and "LED flashlight function"
Add. hardware features	<ul style="list-style-type: none"> - Flexible pinout for CAN-LS/HS and K/L-Line - 8 GB internal memory - Real-Time-Clock - Rugged design and Shock resistance up to 25g, up to 2kHz - Multiple Stand-Alone functionality - Exchangeable OBD2 connector with LED-Flashlight
OBD2 Pinout	
CAN-FD	CAN-FD: <ul style="list-style-type: none"> - 6 (High) - 14 (Low)
CAN-HS/LS	Flexible pinout for CAN-HS/LS
100Base-T1 (DoIP)	<ul style="list-style-type: none"> - 7 (T1+) - 15 (T1-)
100Base-TX (DoIP)	<ul style="list-style-type: none"> - 3 (RX+) - 8 (DoIP Enable) - 11 (RX-) - 12 (TX+) - 13 (TX-)
J1850 and HV-CAN	J1850: <ul style="list-style-type: none"> - 2 (High) - 10 (Low) CAN-HV: <ul style="list-style-type: none"> - 3 (High) - 11 (Low)
K/L-Line	Flexible pinout for K/L-Line
Power Supply und Ignition	<ul style="list-style-type: none"> - 16 (Batt. Pow.) - 4 (Chassis GND) - 5 (Signal GND) - 1 (Ignition)
Standards and regulations	
Certification	<ul style="list-style-type: none"> - EU: <ul style="list-style-type: none"> - EN 300 328 (BT, WLAN2.4), - EN 301 893 (WLAN 5 GHz), - EN 301 489 (EMC) - USA: FCC Part 15b
Safety regulations	<ul style="list-style-type: none"> - EU: IEC/EN 62368-1 ed.2

9.5 Power Adapter (Declaration ID 323001)

The Power Adapter may only be used with the BO8118 version.

Powersupply	
DC In	12 V $\overline{=}$ (only battery supply permitted) 10 ... 14 V $\overline{=}$
Power supply OBD-plug	6 ... 35 V
Maximum power consumption	96 W
Supply of weLINK with fully charged Power adapter	approx. 100 seconds
Temperature	
Operating temperature (Standard)	Min. 0 ... +40 °C
Transport temperature	Min. -40 ... +80 °C
Humidity	Max. 93 % (not condensing)
Housing	
Dimensions	11 cm x 4,5 cm x 5,5 cm