

IT SIMPLY WORKS.



# AUTODIAGNOSIS

// Autodiagnostic tools



**MAHLE**



IT SIMPLY WORKS.



## DIAGNOSTICS IT SIMPLY WORKS.

CONNEX ST-9400 // CONNEX ST-9400 BT // CONNEX SMART ST-9200  
B-TOUCH ST-9000 // F-TOUCH ST-9100 // X-TOUCH // B-TP 1000

Our diagnostic tools are still at the heart of our product portfolio. Thanks to our many years of experience and ongoing investment in design, usability and regular updates to our databases, our vehicle autodiagnostic tools can cover all vehicle electronic systems currently possible..

### The key features of our diagnostic tools:

- + Comprehensive market coverage
- + In-house software development
- + Ongoing software updates to download from the internet
- + Unlimited initial licence, optional update licences
- + Troubleshooting guides (optional)
- + PASS-THRU feature (compatible)
- + Wide range of software packages for special applications
- + High compatibility with a range of operating systems
- + High security standards for internet connections
- + Spare parts identification (optional)

## // PRODUCT OVERVIEW

### CONNEX

### // CONNEX BT



**CONNEX ST-9400**  
EOBD connection  
via cable



**CONNEX ST-9400 BT**  
EOBD connection  
via Bluetooth

### CONNEX SMART



**CONNEX SMART ST-9200**  
In combination with PC  
(Windows) or tablet  
(Windows/Android/iOS) –  
EOBD connection  
via Bluetooth

### TOUCH LINE



**B-TOUCH**  
Diagnostic tool



**F-TOUCH**  
Diagnostic  
system  
for PC (windows)



**X-TOUCH**  
Diagnostic  
system  
and Tablet

### TPMS



**B-TP 1000**  
Tyre pressure monitoring  
system wireless scantool

### **A whole new dimension of diagnostics:**

The products in our autodiagnosics range are vital everyday helpers and act as an interactive interface between you, the automotive professional, and the vehicle. With numerous versatile features, extensive scanning options, simple user software and a large number of interfaces, our tools promise you fast work that gets results! The new generation of scantools – it simply works!

### **IT SIMPLY WORKS:**

The BRAIN BEE autodiagnosics make use of all the major diagnostic features :

- + Reading out control unit information
- + Reading and erasing errors
- + Adjustments
- + Activations
- + Codes
- + Graphic display of the position of diagnostic connectors in the vehicle, and the right diagnostic connector to use

## // MODES OF OPERATION

### **BPS Brain Problem Solver – the intelligent information feature:**

The Help features of the BRAIN BEE scantools have been further enhanced and adapted to suit diagnostic requirements in collaboration with Haynespro, the leading supplier of automotive databases. The BPS feature includes an active licence for your diagnostic tool, and gives you access to the most important information, parameters and datasheets, all continuously updated, throughout the term of the licence.

#### **BPS-INFO module:**

The BPS-INFO module is incorporated in all active BRAIN BEE licences free of charge. It contains all the technical data needed for everyday jobs in the workshop, divided into nine categories:

- + Servicing
- + Engine
- + Gearbox
- + Steering
- + Drivetrain
- + Brakes
- + Interior/exterior equipment
- + Electronics

For each of these categories, a diverse range of web-based information is available:

- + Technical, electrical and diagnostic diagrams
- + Configuration data
- + Instruction guides and operating procedures
- + Repair times
- + Fuses and relays

#### **BPS-TUTOR:**

The BPS-TUTOR (optional) is an ideal extension for those who need a tool with even higher performance. With it, you will be able to create a guided diagnosis and rapidly find a solution to complicated problems – based on the fault code read out by the TOUCH device. The result is available straight away.

**BPS-INFO**  
**BPS-TUTOR**

## // ADDITIONAL FEATURES

### **FORD SPECIALIST** special activation e-card:

The special upgrade e-card is used to diagnose Ford vehicles. An increasing number of automakers also use secure communication for routine car servicing. Then, only a diagnostic tool provided by that manufacturer can help.

The Ford Group is one of the automakers who use extensive protocols to protect their diagnostic data. This makes it difficult for car workshops to use multibrands diagnostic systems.

Therefore, BRAIN BEE's goal was to give workshops the opportunity to also service Ford vehicles using BRAIN BEE diagnostic tools. We did this with our FORD SPECIALIST special function.

### **LPG&CNG** special activation e-card:

Over the past years, the number of CNG and LPG vehicles in the circulating fleet has progressively and constantly increased. Often, car repairers who are not specialized in gas systems must give up diagnostics on these systems in case of problems associated to actuators' sensors, which can only be detected by querying the ECU using original scantools. Therefore, BRAIN BEE developed some special features that are enabled with a separate e-card. These allow workshops to diagnose gas systems, giving them access to a whole new clientèle.

### **START&STOP** special upgrade card:

Today, nearly all new vehicles come with a start/stop system. By activating the special START & STOP, additional functions are now available for diagnosing these systems.

## // OTHER SPECIAL FEATURES

### **Quickly on target:**

The selection of functional areas or specific control units enables the diagnostics professional to establish a direct control unit connection and so speed up diagnostics.

### **Dynamic Tests:**

This fault-specific guided diagnostics makes it easier to identify the source of a problem. Developed together with professional users, this test cross references readings to ensure reliable, effective work based on results.

### **Freeze Frame:**

Parameters can be selected and fixed to the time of the fault.

### **PASS-THRU:**

The BRAIN BEE diagnostic tools offer the PASS-THRU control and programming option. The scantool thus becomes the means through which access to the Internet platform (paid option) of the automaker in question.

### **D-SCOPE 2 oscilloscope:**

This enables a visual display, e.g. of signals on the CAN bus, to aid the localisation of fault sources (optional).

### **Intelligent fault localisation:**

The wide-ranging links between different control units via CAN bus systems make it difficult to locate faults quickly. The BRAIN BEE Scantools line knows these links, scans possible control units one after the other, and indicates faults that have occurred based on the system.

### **Autonomous operation:**

The BRAIN BEE scantools have internal batteries that guarantee minimum three hours of independent working. The battery is charged automatically when the the device is connected to the vehicle.







LOOKS GREAT – AND IS AMAZING TO USE.  
THE CONNEX SERIES FROM BRAIN BEE.

CONNEX ST-9400 // CONNEX ST-9400 BT // CONNEX SMART ST-9200



**MADE IN BRAIN BEE:**

The CONNEX is based on many years of experience and an impressive record in the field of diagnostics.



**NEXUS 1.0:**

NEXUS 1.0 is the new, extra powerful operating system for practical workshop use, developed by BRAIN BEE. With impressive, high-performance 10.1" display.



**MAXIMUM SPEED:**

Just switch the CONNEX on – and you're ready to go. The diagnostic process starts in less than seven seconds. It doesn't get any faster than that!



**ALWAYS CONNECTED:**

Thanks to the web connection, it is always updated. So you are sure to use everyday your CONNEX at the maximum of its potential



**HELPLINE:**

Are you unsure about a diagnosis? If you have a hard nut to crack, our helpline is at your service.



**RICH OF OPPORTUNITIES FOR YOU**

CONNEX gives you several opportunities to improve your business. Very appreciated is the SAVE PER USE loyalty programm: the more you use your CONNEX, the more days-licence-free you gain at the licence renewal.

## // CONNEX

### Always connected<sup>(1)</sup>:

Always completely up to date, always ready for exclusive features. Thanks to the WiFi connection, every update is installed on your CONNEX device automatically. This way, your device always delivers the very best performance. What's more, the WiFi connection enables direct, instant access to a large number of further exclusive features, such as:

- + Automatic Search/VIN Search
- + SKIP 100 – Search By Plate
- + BPS Brain Problem Solver – Self Diagnosis Information Portal
- + BOB – Online Chat

The BRAIN BEE Helpdesk is also available. Each report that you send is analysed immediately by BRAIN BEE specialized technicians and answered rapidly.

<sup>(1)</sup> No internet connection required for diagnostics



### CONNEX:

EOBD connection via cable

### CONNEX BT:

EOBD connection via Bluetooth

### CONNEX SMART:

In combination with PC<sup>(2)</sup> or tablet<sup>(3)</sup> –  
EOBD connection via Bluetooth

<sup>(2)</sup> Windows

<sup>(3)</sup> Windows, Android, iOS



### Numerous services and options:

Save Per Use: Each time you use your CONNEX, you earn points. These points can be converted to free licence months with each update. The PASS-THRU feature is available, thanks to NEXUS THRU the accessory approved by the main car manufacturers that provide the service to be used with a PC (windows) terminal



### Your best assistant:

Everything you need – just one click away. So you don't know how to perform a particular service job on a vehicle? It's simple: with the CONNEX and its optional features!



**BPS Brain Problem Solver** – the WIFI connection provides you with the right information at the right time. Video tutorials help you with complex procedures. The BPS-TUTOR (optional) will guide you through diagnosis all the way to identifying which component needs replacing, and tells you the special spare parts code.

**BOB** (optional <sup>(4)</sup>) – with this exclusive feature, we are going one step further. A virtual assistant (with a team of professionals and experts in vehicle diagnostics) is at your disposal at all times to answer any questions that arise in real time. It's as if you had an entire library instead of a single bookshelf!

<sup>(4)</sup> Available in Italy and France. In other countries, please contact your BRAIN BEE dealer.

### Automatic vehicle search:

Ready for action fast! The CONNEX immediately recognises the vehicle model you are working on. You can choose between four different models, entirely in accordance with your habits and preferences:

- + COLUMBUS: just enter a key word and the functions allows you to skip other passages, allowing you to immediately enter into a diagnostic session
- + Via the EOBD socket
- + By entering the VIN <sup>(5)</sup>
- + SKIP 100 search by plate (optional<sup>(6)</sup>) by entering the vehicle registration number
- + Manual search for the model, facilitated by actual vehicle photos

<sup>(5)</sup> Also available. KBA (German Motor Transport Authority) number in Germany

<sup>(6)</sup> Available in England, France, Ireland, Italy, Netherlands, Portugal, Spain.  
In other countries, please contact your BRAIN BEE dealer.

## // NEXUS 1.0

### The new software from BRAIN BEE for vehicle diagnostics with the CONNEX series:

A powerful operating system, up to ten times faster than other vehicle diagnostic systems. You will be ready to go in less than seven seconds!



### New interface design:

The new interface design gives you immediate and rapid access to all the information you need for your professional work. The diagnostic station recognises the vehicle system and has a user-friendly display. This way, you will immediately see which jobs are required for the service.

### Developed with everyday practical use in mind:

We make sure our user interface is suitable for everyday work by continuously improving the CONNEX software.



### New information features:

Thanks to our further developed CONNEX **BPS-INFO** and **BPS-TUTOR** information features and additional video tutorials, you will always know how to go about every task, even if you are doing a procedure that is completely new to you.

And if you still have doubts, you can turn to **BOB**, our invaluable online help, which will hurry to your aid.



## // CONNEX ADAS

### ADAS systems and their impact on vehicle systems.

The ADAS (Advanced Driving Assistance Systems) technologies, increasingly fitted on circulating vehicles, are able to detect certain objects, classify them, alert the driver in case of dangerous road conditions and, in some cases, slow down or even stop the vehicle.

The most common ADAS systems are first and foremost based on a set of sensors: infrared, camera and radar sensors. Then there are components, such as the electric power steering, the electronic stability control, which can brake each wheel individually, and the navigator, which can trace the route via Gps. Lastly, there are software applications managing all these systems.

It is a complex network, involving several vehicle systems, which, even in case of routine maintenance operations, must be specifically recalibrated to ensure ADAS can be fully operational.

### When maintenance is required

The ADAS system must be calibrated whenever a vehicle system involved in the ADAS management undergoes maintenance.

Therefore also in case of frequent operations in multibrand workshops:

- + Windshield replacement,
- + Interventions on cameras/ radars,
- + Collisions or micro-collisions (parking-related),
- + Interventions on vehicle body (bumpers),
- + Vehicle levelling,
- + Tyre rims replacement ... and other

### CONNEX ADAS solution

Multibrand Workshops traditionally have difficulties getting a large number of specific panels and targets for each sensor requiring calibration and for each car maker/model being serviced, with significant investment costs and space to reserve to disposal.

On the contrary, CONNEX ADAS provides a new system (patent pending) with a limited number of TARGET (TARGETLESS), which reduces process times to a minimum.

The whole process has been redefined by the R&D department of MAHLE Aftermarket, with new and innovative technical and process-related solutions being identified, compared to what is already commercially available.

CONNEX lies at the heart of the system ensuring excellent, quick and dynamic results. The system can also be constantly updated and integrated with those vehicles that will progressively adopt one or several ADAS systems.



## // TECHNICAL DATA

AUTODIAGNOSIS	CONNEX ST-9400 CONNEX ST-9400 BT	CONNEX SMART ST-9200
Communication protocol	ISO 14230 (ISO 9141-2) ISO 11519 – J1850 PWM ISO 11519 – J1850 VPW ISO 11898-2 – High-speed CAN bus ISO 11898-3 – Low-speed CAN bus SAE J2411 – Single-wire CAN bus	ISO 14230 (ISO 9141-2) ISO 11519 – J1850 PWM ISO 11519 – J1850 VPW ISO 11898-2 – High-speed CAN bus ISO 11898-3 – Low-speed CAN bus SAE J2411 – Single-wire CAN bus
SAE J2534 PASS-THRU	NEXUS-THRU (optional)	NEXUS-THRU (optional)
Wireless connections	Terminal: Bluetooth 4.1 WIFI 802.11 B/G/N dual-band antenna with beamforming technology  VCI (CONNEX BT) Bluetooth 4.1 with 100 m range in open space	Bluetooth 4.1 with 100 m range in open space
Display	Touch TFT LCD 10.1", resolution 1,200 x 800	
Audio	2 W loudspeaker	
Battery	Built-in, rechargeable 7.4 V, 2,200 mAh lithium-ion battery, battery life: 3.5 hours	
Operating temperature	0 ÷ 50 °C	0 ÷ 50 °C
Power	25 W max.	6 W max.
Dimensions (L x H x W)	317 x 217 x 50 mm (terminal) 120 x 48 x 25 mm (VCI)	120 x 48 x 25 mm
Weight	1,500 g (terminal) 90 g (VCI)	90 g

## // SPECIAL FEATURES

## AUTODIAGNOSIS

BPS-INFO – Problem solving	Included in standard configuration
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BPS-TUTOR – Problem solving with spare parts identification	Optional
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VIN / KBA – Automatic search	Included in standard configuration
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SKIP 100 – Search by registration plate	Optional <sup>(1)</sup>
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BOB	Optional <sup>(1)</sup>
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Helpdesk	Included in standard configuration
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P.U.K. – PIN Unlock Key	Optional
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FORD SPECIALSIT	Included in standard configuration
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LPG&CNG engines	Optional
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START&STOP	Optional
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MERCEDES SPECIALIST	Optional
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On-board computer (body control specialist – learn and coding body control system)	Optional
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<sup>(1)</sup> Availability varies from one country to another. Please ask your BRAIN BEE dealer.



## // B-TOUCH

### The solution that's close at hand:

The B-TOUCH autodiagnostic tool will become your vital companion and be an active interface between you, the automotive professional, and the vehicle.

### Design & quality:

During our development of the B-TOUCH, we set ourselves extremely demanding goals where quality and durability are concerned. The soft touch inserts at the sides and the central housing of brushed aluminium are specially designed for the stresses and strains of the workshop, and combine an attractive design with a high-quality feel. The 7" (18 cm) colour touchscreen reacts rapidly and reliably to the user's touch, and speedily executes commands.

### Optimum networking:

The B-TOUCH uses PC connection software from BRAIN BEE and includes features to facilitate your daily work. With UP&GO software for your PC and the USB port on the B-TOUCH, you can manage and archive the diagnoses you perform. Additionally, you can print out diagnostic reports for the customer via Bluetooth.

### Extensive database for full control:

The B-TOUCH provides you with a complete database of car and van models, and is continually updated. It contains all vehicles from all European and Asian manufacturers.

Each year you will receive four updates, which are installed on your device via UP&GO and an internet connection. Various update models are at your disposal using our update cards.

Updates for your B-TOUCH are found and installed automatically. The device will inform you of this, but you don't have to enter anything complicated. Just connect to your PC and press a button.

### Special features (optional):

- + FORD SPECIALIST function
- + LPG&CNG function
- + START&STOP function
- + BPS-TUTOR function



## // F-TOUCH

### **Practical, simple and with a lot of technical information:**

The F-TOUCH is a simple and practical scantool equipped with a great deal of technical information, such as wiring diagrams (optional BPS-TUTOR), which guide the user through the troubleshooting process until the fault is found and can be remedied.

The F-TOUCH can be used with any PC with Windows operating system. It uses wireless Bluetooth technology to transfer the data from the vehicle to the computer, guaranteeing maximum user friendliness.

### **Extensive database for full control:**

The F-TOUCH provides you with a complete database of car and van models, which is continually updated. It contains all vehicles from all European and Asian manufacturers.

Each year you will receive four updates, which are installed on your device via UP&GO and an internet connection. Various update models are at your disposal with our EXPERT Line cards.

### **Special features (optional):**

- + FORD SPECIALIST function
- + LPG&CNG function
- + START&STOP function
- + BPS-TUTOR function

## // X-TOUCH

### **Everything under control:**

A Windows tablet is added to the F-TOUCH for mobile use. Here, the data are transferred from the vehicle to the PC via Bluetooth – for maximum user friendliness (Ford Specialist included).

## // UP&GO

### **With UP&GO you won't waste any time**

UP&GO is an intelligent program that automatically loads updates onto the hard drive of your PC, and tells you that you can install them on your device if you wish.

What's more, with UP&GO on your PC, you can record and search through all previous diagnoses done with your scantool.



## // B-TP 1000

### The wireless scantool for TPMS – an absolute must for your workshop:

The B-TP 1000 was developed to manage, activate and service the active valves of tyre pressure monitoring systems. Since November 2014, TPMS have to be installed in newly registered vehicles in the European Union (Regulation (EU) 523/212). The range of application covers everything from changing a wheel, whose position has to be detected and programmed into the control unit, to troubleshooting and repair in complex electronic systems.

### Lightweight, handy yet very powerful:

The supplied database enables easy and effective work, both on original and programmable universal valves. Display readability is always guaranteed, even in sunlight, for example.

### Valve activation:

This takes place via RADIO and is necessary in order to read out parameters.

### Reading out parameters – (P/T/V):

The tyre pressure, temperature, battery and ID number are read out via wireless communication. This provides you with information on valve function.

### Technical information on sensor programming of universal sensor:

If a damaged or used valve (empty battery) is replaced with an original valve, no further work is necessary as the valve has already been correctly programmed at the factory. The disadvantage here, however, is the large stock of valves required. Therefore, universal valves that can be programmed with the right code are also available on the market. Universal valve programming consists of copying log records and programming the ID number (of the faulty valve) into the new valve. An up-to-date database is essential for correct functioning and the availability of all options.

### Control unit diagnosis (sensor setup):

Connection to the control unit (with BRAIN BEE autodiagnostic tool or B-TP 1000 EOBD unit) enables you to perform diagnosis and store the sensor IDs (the sensor positions are stored in the control unit). This procedure is only necessary for vehicles without self-learning.

### B-TP 1000 KIT:

The kit is used in combination with TOUCH LINE and CONNEX.



Wireless readout of parameters



## // TECHNICAL DATA

AUTODIAGNOSIS	B-TOUCH	F-TOUCH
Communication protocols	ISO 14230 (ISO 9141-2) ISO 11519 – J1850 PWM ISO 11519 – J1850 VPW ISO 11898-2 – high-speed CAN bus ISO 11898-3 – low-speed CAN bus SAE J2411 – single-wire CAN bus RS485 (SAE J1708) SAE J2610 Blink code	ISO 14230 (ISO 9141-2) ISO 11519 – J1850 PWM ISO 11519 – J1850 VPW ISO 11898-2 – high-speed CAN bus ISO 11898-3 – low-speed CAN bus SAE J2411 – single-wire CAN bus RS485 (SAE J1708) SAE J2610 Blink code
SAE J2534 PASS-THRU	Compliant	Compliant
Connections	D-SUB 20-pin diagnostic connector High-speed USB 2.0	OBD-II SAE J1962 diagnostic connector USB V 2.0 Mini-B
Wireless connection	Diagnostic Connector OBD-II SAE J1962	Bluetooth v2.0 with 100m range in free field
Internal cache memory	64 MB DDR RAM, 128 MB Flash, 2 GB MicroSD or over	2 GB MicroSD
Keypad	Capacitive, 6 keys, QTouch	–
Display	TFT 7", 800 x 480 mm with 262,144 colours and touchscreen	–
Multiplexer	Built-in electronic converter with power-off protection	Integrated electronic relay with overload protection
Supply via vehicle battery	12 V DC and 24 V DC (8 – 35 V DC)	12 V DC and 24 V DC (8 – 35 V DC)
Battery	Built-in lithium-ion battery pack, 7.4 V, 2,200 mAh, rechargeable, charging time: 3 hours	–
Operating temperature	0 – 45 °C	0 – 45 °C
Power	12 W max	6 W max
Dimensions (L x H x W)	315 x 220 x 55 mm	150 x 25 x 48 mm
Weight	1,500 g	200 g



AUTODIAGNOSIS	B-TP 1000
Display	LCD 3.5", 320 x 240 mm, 700 NIT (cd/m <sup>2</sup> )
Keypad	Soft touch keypad
Battery	Lithium-ion, rechargeable
Communications	– 315 mhz and 433,92 mhz Radio Transmission – Data transmission via USB 2.0 or Bluetooth
Dimensions (L x H x W)	100 x 200 x 30 mm
Weight	385 g

IT SIMPLY WORKS.



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