

**NEW!**  
KTS 670



**Innovative and reliable:**  
professional ECU diagnostics  
from Bosch



**BOSCH**

Invented for life

Bosch Diagnostics

ES[tronic]  
Software

Test  
Equipment

Service  
Training

Technical  
Hotline

# ECU diagnostics from Bosch

- NEW!** ▶ KTS 670 – Multimedia compatible, mobile testing system
- NEW!** ▶ KTS 200 – Entry into mobile control unit diagnostics
  - ▶ KTS 570 – The wireless convenience solution with top-class measuring technology for all ECU diagnosis requirements
  - ▶ KTS 540 – Wireless add-on for FSA, BEA, standard PCs or laptops
  - ▶ KTS 530 – Entry level access to comprehensive ECU diagnostics
  - ▶ KTS 115 – Entry level access to onboard diagnosis (OBD)



# Professional test equipment for modern vehicle electronics



With its KTS series, Bosch offers professional, workshop-oriented introductory and convenience solutions for ECU diagnostics.

The digital revolution in the automotive industry has not bypassed the workshop. Increasingly more complicated vehicle components and their networking to systems are turning vehicles into "mobile computers". This results in professional repairs and maintenance requiring qualified diagnosis.

## Continued success in service: with powerful ECU diagnostics from Bosch

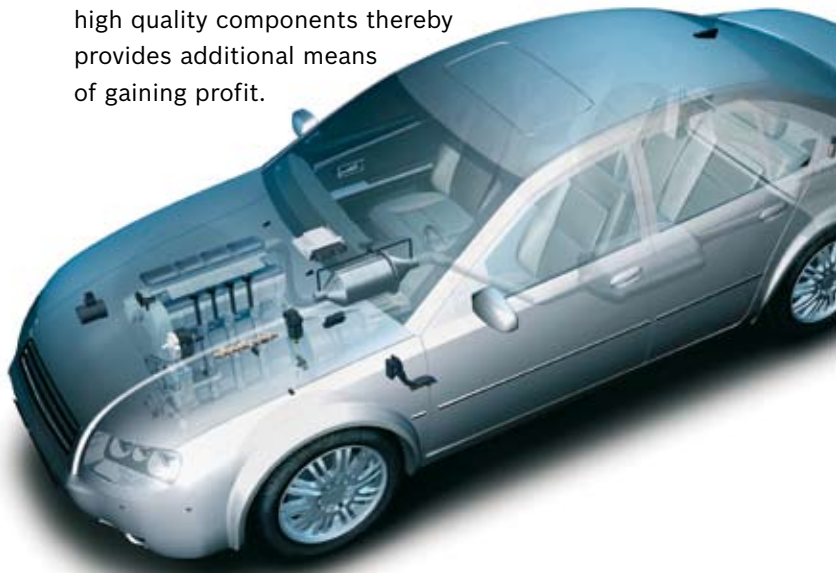
The increasing share of electronics in motor vehicles makes ECU diagnostics standard practice in the workshop. This also applies to simple maintenance work on modern cars, or resetting the service interval display. Even tasks that were purely mechanical up to now, such as brake repair or brake fluid changing, now require diagnostics of great depth. To compete successfully in the service field, the workshop needs modern diagnostics technology, such as the ECU diagnostics tester from the KTS series from Bosch. In combination with the comprehensive workshop software ESI[tronic], they recognize control units automatically, read out actual values and compare them with setpoint values.

## New possibilities for turnover with modern diesel technology

A good example is the triumphant progress of the diesel engine: high pressure systems, such as common rail or unit injectors from Bosch make vehicle diagnosis essential. The KTS series, in combination with the specially designed ESI[tronic] software, provide you with optimal opportunities to check these systems in the vehicle.

As an extension of the testing opportunities, professional test parameters, such as basic settings, volume comparison, compression test, idling speed comparison and adaptation functions are available. These enable troubleshooting and repairs to be carried out in shorter time and profitably. Not only with Bosch systems, but also for systems of other manufacturers! The renewal of high quality components thereby provides additional means of gaining profit.

Modern control unit diagnostics makes the latest technology transparent



# ESI[tronic] software: the **basis of information** for diagnosis, technology, repair and service



The complete ESI[tronic] software on two DVD-ROMs

## ESI[tronic] – perfectly geared for diagnostics, technology, maintenance and service

It is only with professional diagnostics and information systems that a workshop will be able in future to offer all services for innovative vehicles. ESI[tronic] is perfectly tuned to the Bosch test technology, which permits introduction to ECU diagnostics if a workshop PC is available.

The large number of software modules can be adapted to the specific workshop requirements. They are activated individually depending on requirements. Updates for the subscription data mean that the information is always at the latest stage of development.

## ESI[tronic]-A: access to the full range of Bosch automotive equipment

Additional benefit through comparison of Bosch codes with order numbers of vehicle manufacturers.

## ESI[tronic]-C: modular system for ECU diagnostics and SIS troubleshooting instructions

Professional software for ECU diagnostics via CAS[plus] linked with the Service Information System (SIS) for repairing engine management systems (gasoline and diesel), car brake, safety and convenience systems.



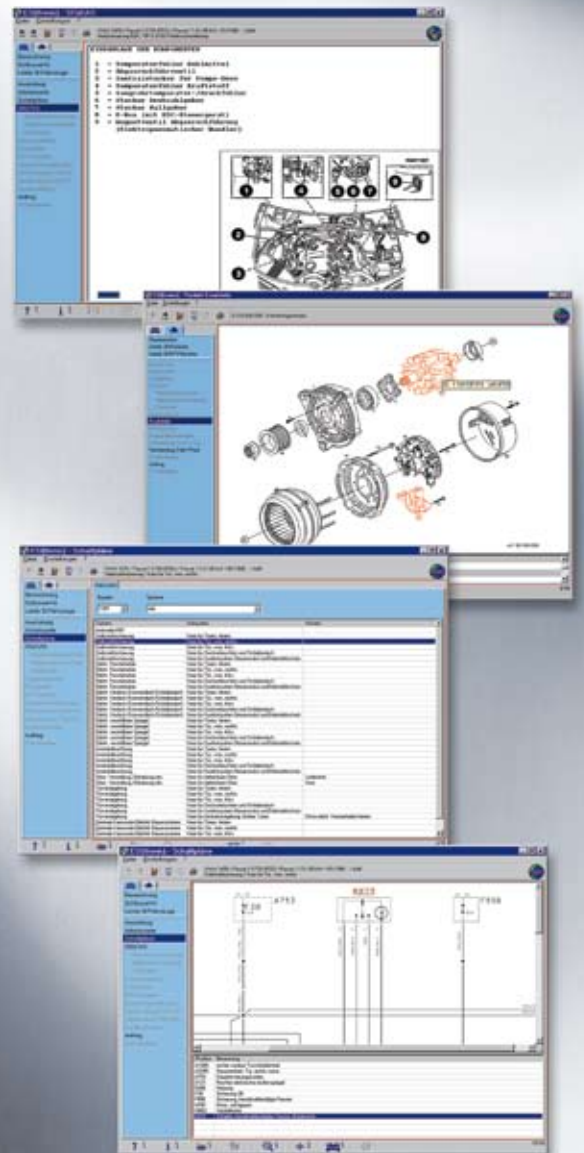
### SD (ECU diagnostics software)

Links Bosch test equipment or the workshop PC with information from the control unit



### SIS (Service Information System)

SIS troubleshooting instructions can be used on any standard PC



ESI[tronic] software with guided troubleshooting for fast and simple diagnostics

## ESI[tronic]-M: mechanical work procedures and functions throughout the vehicle

Technical data for gasoline and diesel vehicles, e.g. wheel settings, maintenance schedules, data and information on changing toothed belts.

## ESI[tronic]-P: circuit diagrams for all important areas of comfort and convenience electronics

Most comprehensive selection of vehicle convenience circuit diagrams, covering all manufacturers, under a single user interface.

# Simple, timesaving and efficient Vehicle diagnostics with CAS[plus]



CAS[plus] creates connection for practical diagnostics

CAS[plus] (Computer Aided Service) links ECU diagnostics and SIS faultfinding instructions to achieve even more effective troubleshooting. The values that are decisive for diagnostics and repair appear immediately on a screen.

### CAS[plus] simply speeds up diagnosis

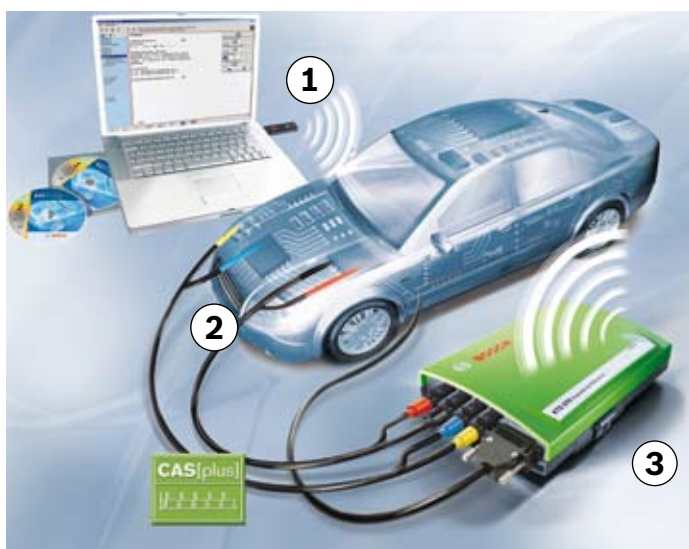
The actual values from the ECU diagnostics are automatically compared with the target values in the SIS fault finding instructions, color-coded and logged in line with customer needs. Without changing over, all additional information for fault rectification and the measured URI values of the multimeter function are immediately available.

### All ESI[tronic] information on DVD

This software on DVD is activated individually depending on the workshop requirements – e.g. the ESI[tronic]-C for modern vehicle repair including ECU diagnostics. The ESI[tronic] subscription provides regular updates to insure your information is always up to date.

### KTS 670, KTS 570/540 wireless, KTS 530 and KTS 200: diagnostic professionals– Powered by ESI[tronic]

Bosch's new KTS diagnosis equipment, together with the ESI[tronic] software presents the perfect combination of hardware and software for efficient error analysis on the vehicle and professional repairs.



### Simple connection and operation at the vehicle

Connection of the KTS tester with ESI[tronic] software is very easy and quick.

### PC/laptop connectivity

- ▶ Radio connection with KTS 570/540 wireless
- ▶ USB connection with KTS 200, KTS 530, KTS 540, KTS 570

### Connection to the diagnosis socket

OBD diagnostics cable (directly or via new adapter concept "Easy Connect" or via the Uni 4 adapter and the existing adapter concept)

### Multimeter and oscilloscope connection via measuring cable

One KTS ECU diagnostics tester is sufficient and you can already begin profiting on your PC from comprehensive diagnosis opportunities and information

- ① Bluetooth USB adapter
- ② Measurement cables, 2-core
- ③ Exchange adapter integrated in housing (KTS 570/540/530)

# **NEW! KTS 670** for efficient diagnosis and complex measurements



## **KTS 670: the new convenience system for complete control unit diagnostics**

- ▶ Fast and efficient due to improved multimeter and new 2-channel oscilloscope measuring technology
- ▶ Better signal evaluation due to significantly higher sampling rate, accelerated frame frequency and more detailed resolution of the x-deflection
- ▶ Simplified troubleshooting due to higher input resistance
- ▶ The most powerful module (KTS 570) from the Bosch range, integrated in the new housing
- ▶ Simple adaptation to future protocol changes due to new internal OBD-exchange adapter and new adapter connection concept

State-of-the-art technology in the KTS 670 makes professional diagnosis particularly simple.

# NEW! KTS 670: multimedia-capable, mobile diagnostics tester for automotive workshops



Mobile diagnostics with the new KTS 670



KTS 670: top model for control unit diagnostics

More and more workshops are using the KTS series from Bosch to make diagnosis of complex vehicle systems efficient. The mobile and multimedia-capable KTS 670 diagnostics tester meets the highest demands for depth of testing and ease of operation. It provides with practical functions for every diagnostics case and offers a full set of equipment for complex measurements and displays the results clearly.

## Maximum functionality for practical diagnostics

- ▶ The KTS 670 masters all current diagnosis protocols:
  - ISO systems of European vehicles
  - SAE systems for American and Japanese vehicles
  - OBD-CAN protocols for testing state-of-the-art CAN bus systems in new vehicles
  - High speed to middle speed to low speed and single-wire CAN
- ▶ Software-controlled, integrated OBD-exchange adapter (box 01) means that even CAN protocols outside the OBD standard can be diagnosed
- ▶ The system automatically detects the control unit, reads out actual values, fault memory and control unit specific data

## Network and multimedia-capable

- ▶ The KTS 670 is network-capable (LAN integrated and WLAN can be upgraded via commercial-type PC card).
- ▶ AWN capability
- ▶ Built-in loudspeaker and headset connection
- ▶ State-of-the-art connectivity options are provided (e.g. DVD drive, video output, PS/2 keyboard)

## Full range of equipment for complicated measurements

- ▶ The KTS 670 comes with a convenient 2-channel oscilloscope. Advantage: the mechanic can view and evaluate, for example, both lambda sensors on one screen
- ▶ The tester comes with a 2-channel multimeter for performing voltage, resistance and current measurements
- ▶ Diagnostics oscilloscope: in ECU diagnostics, parallel to each test step, the signals of the diagnostics cables such as K and L line, CAN and J 1850 can be tested using the diagnostics oscilloscope.
- ▶ Range of functions same as KTS 570

## Workshop-compatible equipment for everyday use

- ▶ Effective protection against impact and water splashes
- ▶ High mobility by means of practical carrying handle and power supply from vehicle battery or rechargeable batteries during road testing

## Greater mobility in the workshop and on the vehicle

- ▶ Together with ESI[tronic], the KTS 670 is the professional diagnostic system for vehicles in your workshop and during road tests
- ▶ Screen with ideal resolution for a brilliant display, even where light conditions are poor (high brightness and large angle of view, and a touchscreen)
- ▶ Switch on and off and call up a virtual keyboard via a touch-sensitive key

## Order number

KTS 670 (including DVD drive)

0 684 400 670

# KTS 670: modular concept, simply conceived



KTS 670: core element of a professional diagnostic system

## Optimized connection

The OBD-exchange adapter (box 01) is now integrated on the KTS 670. It connects the communications line to the relevant pin of the OBD diagnostics connector. The range of functions corresponds to that of the KTS 570.

## Modular concept

- ▶ The KTS 670 is portable thanks to a lithium ionic rechargeable battery, e.g. for use during road tests
- ▶ Keeping the KTS 670 in the charging station insures the rechargeable battery is constantly charged
- ▶ The KTS 670 is ideal for use in the workshop when mounted on the trolley
- ▶ Can be upgraded to the comprehensive vehicle system analysis component test FSA 750

## Convincing advantages for the workshop

- ▶ New adapter concept "Easy Connect" is supported by the KTS 670.  
(More information, see Page 11.)
- ▶ Automatic recognition of the control unit and reading of error messages
- ▶ All newer passenger car and commercial vehicle models can be tested – even with CAN protocols outside of the OBD CAN standard
- ▶ Guided test and repair instructions from the workshop software ESI[tronic]

# KTS 670: top model with full set of equipment and features



## Technical data KTS 670

<b>PC board</b>	Operating system Windows XP, 1 GB main memory, 40 GB hard drive capacity
<b>Display</b>	12.1" TFT color display with touchscreen, industrial standard, resulting in outstanding brilliance and wide angle view; resolution SVGA 800 x 600 dpi
<b>Equipment</b>	Multimedia, built-in speaker and headset connection, installed LAN network card (10/100 Mbit), PCMCIA standard connection enables WLAN connection
<b>Status indicator</b>	Via 4 LEDs: On/Off, mains operation, battery charge status, hard-drive access
<b>Operation</b>	Touchscreen, 2 touch-sensitive keys; On/Off button, special menu key (backlighting control, virtual keyboard, etc
<b>Lithium ionic battery</b>	Service life depending upon charge status and application approx. 1 to 2 hours
<b>Housing</b>	Stable plastic housing, integrated impact protection
<b>Operating temperature</b>	0 to 40 °C
<b>Weight</b>	approx. 4 kg
<b>Diagnostics protocols</b>	ISO 9141-2, K/L lines, flashing code SAE-J1850 VPW (GM, etc.) } corresponds to SAE-J1850 PWM (Ford) } ISO 11 519-4 CAN ISO 11898 ISO 15765-4 (OBD) Highspeed, Middlespeed, Lowspeed and Singlewire CAN
<b>2-channel multimeter</b>	Accuracy 1% of measured value Voltage, minimum resolution: 0.1 mV, maximum measurement range: 200 V Current, minimum resolution: 0.1 mA, maximum measurement range: 1000 A (special accessories) Resistance, minimum resolution: 100 mOhm, maximum measurement range: 1 MOhm
<b>2-channel oscilloscope</b>	With 1-channel operation: 10 mega-samples /sec With 2-channel operation: 2 x 5 mega-samples / sec
<b>Connections for</b>	OBD diagnostics cable, adapter concept "Easy Connect", Uni 4 adapter and existing adapter concept Multimeter: channel 1: socket yellow (+), blue (-), channel 2: red (+) and black (ground), 2 x USB 2.0, LAN connection, port jacks for contacts for stationary charger, PS/2 for pointing device or keyboard, VGA for external monitor, PCMCIA 2 x type 2 or 1 x type 3, micro-in, line-out, headset

## Reliable application throughout

- ▶ Intelligent and with a secure future due to OBD-exchange adapter
- ▶ Software-controlled by ESI[tronic]
- ▶ Simple connection to the vehicle
- ▶ Clear communication via multiplexer and cable adapter recognition: K and L line, SAE and CAN can be connected to all terminals on the OBD connector
- ▶ New: OBD-exchange adapter integrated in the unit.
- ▶ Simulation mode can be adjusted individually
- ▶ Continuity tester for locating faults
- ▶ Diode measurement for testing in components
- ▶ Voltage measurement with enhanced measurement functions
- ▶ Current measurement with additional adaptation option of FSA current clamps
- ▶ Universal application for passenger cars and commercial vehicles by means of universal OBD connector, for 14 V and 28 V vehicle electrical systems

## Order number

Trolley	1 688 003 198
Trolley with charging tray	1 688 003 192
Upgrade kit (for KTS 670 to FSA 750)	1 687 001 593



KTS 670: equipped with connections for a secure future

# KTS 570/540/530: safe, convenient and quick



KTS 570 wireless: top-of-the-range model of the new series and workshop all-rounder



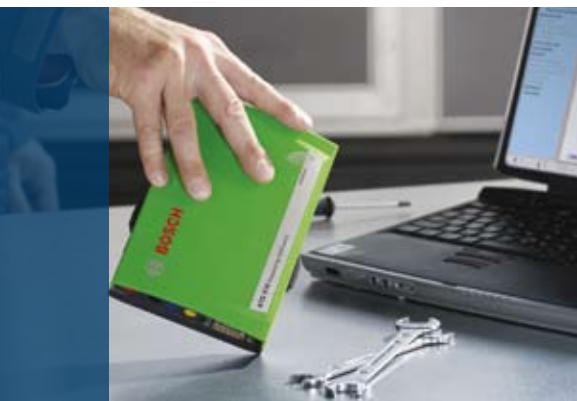
KTS 540 wireless: mobile workshop deployment for fast workflows

Rapid troubleshooting with reliable results is and will continue to be required for all vehicles brought to the workshop today and in the future. With KTS technology, you are well equipped to meet the demands placed on workshops today by modern vehicle technology. The performance, ergonomics and ease of use of the new KTS series have been further improved especially with complex electronic vehicle systems in mind.

## The easier way to test complex electronics

- ▶ Intelligent and with a secure future due to internal OBD-exchange adapter
- ▶ Software-controlled by ESI[tronic]
- ▶ Simple connection of the KTS series to vehicles
- ▶ Clear communication via multiplexer and future cable adapter recognition: K and L line, SAE and CAN can be connected to all possible terminals on the OBD connector

- ▶ Intelligent adapter cable guarantees for the future:
  - reliable control of the multiplexer
  - automatic ECU search function
- ▶ OBD-exchange adapter integrated in device, for simple replacement later with an updated version
- ▶ Simple fastening and releasing by means of a module mounting bracket
- ▶ Visual and acoustic status identification/monitoring of the wireless connection
- ▶ Simulation mode can be adjusted individually via DDC
- ▶ Resistance measurement with enhanced measurement ranges
- ▶ Continuity tester for locating faults
- ▶ Diode measurement for testing in components
- ▶ Voltage measurement with enhanced measurement functions
- ▶ Current measurement with additional adaptation option of FSA current clamps
- ▶ Universal application for passenger cars and commercial vehicles by means of universal OBD connector, for 14 V and 28 V vehicle electrical systems



The KTS series from Bosch: KTS 570/540/530



Upgradeable thanks to an integrated exchange adapter



Wireless technology: flexible at the vehicle

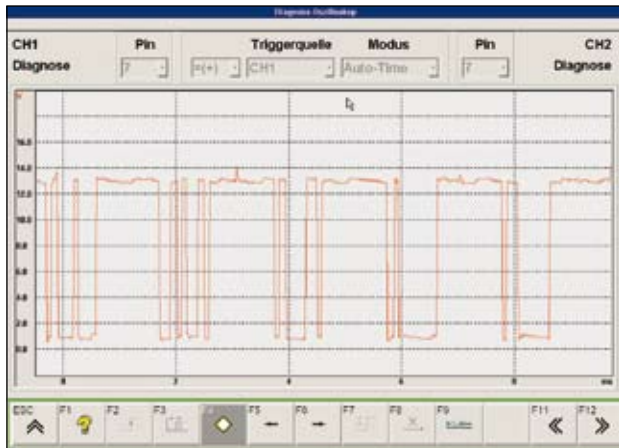


# Curves say more than diagnostics signals

## New diagnostics oscilloscope in the KTS 570 wireless

Within ECU diagnosis, parallel to each test step, the signals of the diagnostics cables – such as K and L line, SAE and CAN – can be diagnosed via the 2-channel diagnostics oscilloscope.

- ▶ Analysis of the signals on the diagnostics cables
- ▶ Adaptation via the OBD diagnostics cable
- ▶ In this application, the two channels are identical and potential-bound

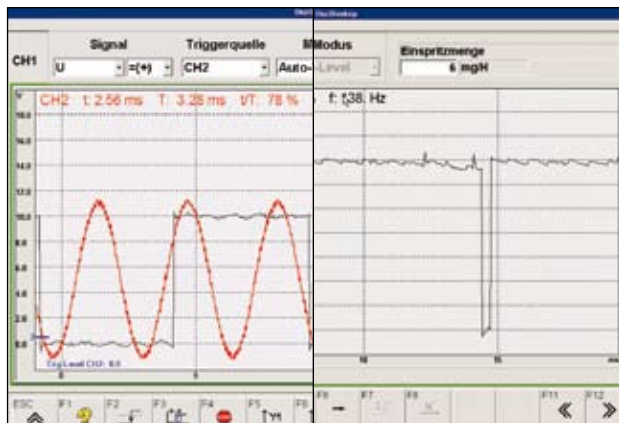


Better error evaluation with the diagnostics oscilloscope

## Improved 2-channel measurement oscilloscope

As long as communication with the ECU is functioning properly, direct analysis of the components with the oscilloscope quickly insures for clarity.

Adjustment of the trigger period is improved.



2-channel oscilloscope for optimum troubleshooting

Component signal and actual value at a glance

## Oscilloscope specifications

<b>Input resistance</b>	1 MΩ
<b>Channel 1 and 2</b>	Potential-bound
<b>Sample rate</b>	10 mega-samples with 1-channel display 5 mega-samples with 2-channel display
<b>Trigger</b>	Different sources
<b>Memory</b>	50 signal curves with 2 channels

# All functions fully in view



Status indications by means of LEDs on the KTS housing

## Standby indicators on the KTS 570/540 and 530

Know at a glance precisely what's going on. To this end, all units of the new KTS series are equipped with two multicolor LEDs:

- ▶ LED A indicates the status of the connection to the vehicle
- ▶ LED B indicates the standby status
- ▶ Clear status information: these LEDs are also used to indicate various errors by flash sequences or static light (red)
- ▶ During installation and operation, the status of the wireless connection is constantly indicated in the task bar on the screen
- ▶ If the wireless connection is lost, an acoustic signal sounds



Communication No communication Connection OK ... not OK

## Indicator for Bluetooth connection to PC

The connection status is constantly indicated by the installation and field strength indicator.

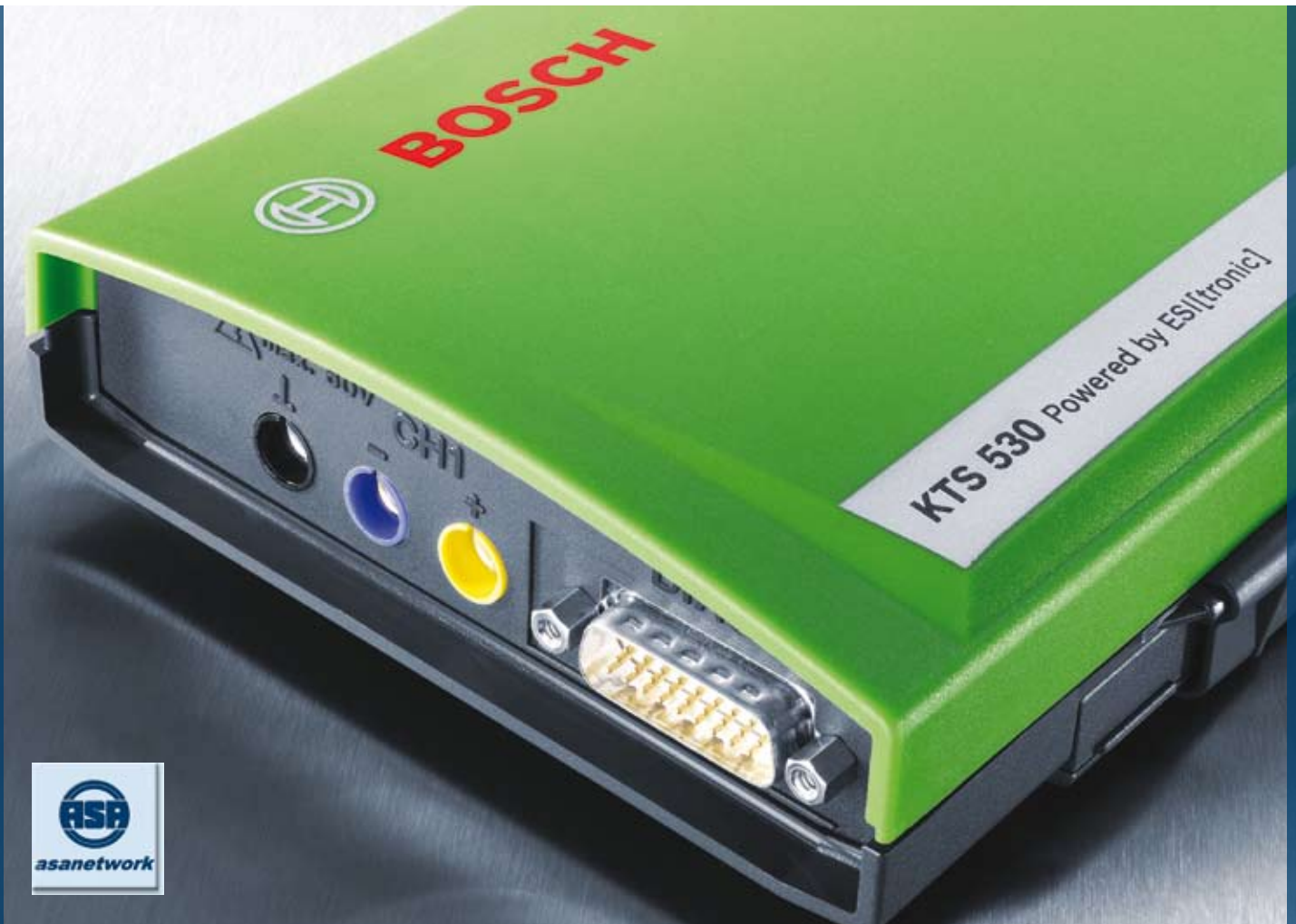
## KTS 570/540 wireless: mobile and flexible with Bluetooth

Super practical: Bluetooth USB adapter with its own software for easy initial installation. Then simply select the wireless connection and the system is ready to run. Reliable and fast log-on is guaranteed, even if there are several testers being used in the workshop.



Bluetooth USB adaptor

# KTS 530: entry level access to ECU diagnostics



KTS 530: even the entry level variant has full asanetwork capability

## KTS 570/540/530

- ▶ Operating system supported:  
MS Windows XP
- ▶ Wireless Bluetooth transmissions with KTS 570 and KTS 540
- ▶ The USB interface means that the KTS 570, KTS 540 and KTS 530 can be connected to all common laptops / PCs
- ▶ Quickly and easily adaptable
- ▶ Case and connector cables suited to a workshop environment
- ▶ Integrated interchangeable exchange adapter
- ▶ Integrated 1-channel multimeter for troubleshooting
- ▶ Mounting bracket included

## KTS 530: Features of a bigger unit

The features of the KTS 530 are the same as those of the KTS 540; the only difference is the lack of wireless function. It has been designed for use in workshops which do not require this function.

### Order number

KTS 530

0 684 400 530

# From **module** to diagnostics center



The KTS series can be upgraded in

modules to create a diagnostics center.

## Testing and repairing all makes with Vehicle System Testing from Bosch

Existing test equipment can be put to good, profitable use if one can upgrade it on a modular and custom basis to suit the needs of the workshop. Bosch test equipment offers this possibility through the ability to expand the KTS series to enable comprehensive vehicle system testing. A great many diagnosis cases cannot be solved with ECU diagnostics alone. Vehicle component testing is often indispensable when testing complex equipment fitted in modern vehicles. Bosch system testers (e.g. FSA 720/740) permit the exact localization of faults and testing of vehicle components even when they are installed in the vehicle.

## Modular expansion in the Bosch system: the KTS series is totally combinable

- ▶ With the universal measurement module FSA 720 as an inexpensive entry level solution
- ▶ With the complete system, the FSA 740, for comprehensive component testing, ECU diagnostics and convenient troubleshooting with ESI[tronic]
- ▶ With the Bosch Emission Analysis system, BEA 850, for statutory exhaust-gas testing and diagnosis of gasoline and diesel vehicles

# **NEW! KTS 200:** as if made for the tough workshop environment



The workshop pro KTS 200: Compact, fast and tough

## **Easier to check, target achieved faster**

ECU diagnostics directly at the vehicle becomes easier than ever before: at a weight of less than one kilogram, the compact KTS 200 combines extremely high performance with almost completely intuitive handling. Operation requires only one hand, which is a particular advantage in many work situations.

For reliable, fast and comprehensive ECU diagnostics of all electronic systems in modern vehicles, the workshop has all necessary interfaces and data at its disposal. The KTS 200 offers a simple and inexpensive introduction to the ECU diagnostics from Bosch.

## **KTS 200 from Bosch: the right testing device for every workshop**

Today's daily workshop operation is impossible without an efficient and easily handled testing device. The new KTS 200 is light, robust and compact and, at the same time, provides complete ECU diagnostics. Its strength lies in fast and reliable testing of modern vehicle technology.

**Particularly practical:** the KTS 200 can be connected directly at the vehicle. This facilitates and accelerates the vehicle receiving inspection. This type of mobility alone makes it an ideal secondary device for every workshop. For workshops with tight work processes, in particular, such as immediate service, oil service, light service, tire services, etc., it proves to be perfect test equipment.

# Comprehensive software packages for individual workshop requirements

## Oil check

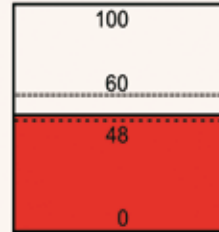
Oil quality 1.0 - 2.8: OK  
Oil quality 2.9 - 6.0: not OK

Eng. oil sensor: oil temp.  
39 °C

Eng. oil sensor: oil level  
50 mm

Eng. oil sensor: oil qual.  
1.0

Eng. oil sensor:  
oil level



△ Cancel

○ Continue

Oil check: Level and quality always under control

## Litronic (Master) 4.1D

Selection of required funktion  
Continue with ○

Identification ▲

Error memory

Erase error memory

Actual values

**Actuators**

Basic setting, automatic LWR

Variant encoding ▼

△ Menu

○ Continue

Precise adjustment of the automatic headlamp leveling control

### Perfectly tailored to your Service profile

For systematic Service and cost-effective repair, whether in tire service or mechanical operation, every workshop needs important information from the vehicle's control units.

Bosch knows automotive technology and is aware of the continuously growing proportion of electronic components.

To enhance workshop skills and efficiency, KTS 200 is provided with software packages which comprehensively cover the various workshop focal points:



Without ECU diagnostics, the modern workshop would come to a standstill.

### Professional package

The ideal package for allrounders with the complete scope and range of ECU diagnostics.

### Service package

The ideal package for light daily activities in the workshop:

- ▶ **Service interval reset**
- ▶ **Oil change**
- ▶ **Tire change**
- ▶ **Headlight service**
- ▶ **Air conditioning service**
- ▶ **Brake service**
- ▶ **Initializing sensors after chassis examination**
- ▶ **Installation of accessories (trailer hitch, radio, navigation systems, luggage racks, etc.)**

# Powered by ESI[tronic]

## Software for the KTS 200



ESI[tronic] software: specially developed for the KTS 200

### Powered by ESI[tronic] software

The KTS 200 is supplied with the preinstalled, specially further developed ESI[tronic] software. This makes operation of the KTS 200 particularly simple and fast. Key functions are displayed on the screen. For each of the Service package, all essential information about the control units and special functions, e.g. engine/brake systems, are available.

### Order number

**KTS 200**

0 684 400 210

### Technical data KTS 200

<b>Computer</b>	Embedded System
<b>Display</b>	3.5" color LCD display ¼ VGA with 320 x 240 pixels
<b>Operation</b>	Keyboard with 5 selection keys, duplicated for left/right operation, 2 function keys
<b>Housing</b>	Plastic housing with rubber coating
<b>Operating temperature</b>	Functional range 5° - 40 °C
<b>Weight</b>	600 g
<b>Supported diagnostics protocols</b>	ISO 9141-2, K/L lines flashing code SAE-J1850 VPW (GM,..) SAE-J1850 PWM (Ford) CAN-ISO 11898 ISO 15765-4 OBD, Highspeed, Middlespeed, Lowspeed and Singlewire CAN
<b>Connections</b>	OBD diagnostics cable, USB, Supply voltage
<b>Dimensions</b>	220 x 40 x 140 mm (WxHxD)
<b>Voltage supply</b>	12-24 V via plug, OBD socket or 100-240 V power component
<b>Languages</b>	all 23 ESI[tronic] languages

# Scope of delivery of the KTS series



Scope of delivery KTS 670

## **KTS 670: the complete diagnostics device for the workshop and on test drives**

- ▶ Mobile test system
- ▶ Optimized interplay of hardware and software
- ▶ Short access times for rapid diagnoses
- ▶ Brilliant, bright display with large read-off angle
- ▶ User friendly in every way
- ▶ Improved measuring technology of the KTS 570 integrated
- ▶ Optimized measuring technology for complex troubleshooting
- ▶ New adapter concept "Easy Connect", can be connected directly
- ▶ Can be upgraded to FSA 750
- ▶ ESI[tronic] info type A, C and M preinstalled



Accessory kit included with the KTS 570

## **KTS 570: the convenient wireless solution with top measuring technology for even more diagnosis**

The control unit diagnostics device with 2-channel measuring technology for multimeter / oscilloscope

- ▶ Complete ECU diagnostics
- ▶ 2-channel oscilloscopes
- ▶ 2-channel multimeter
- ▶ Diagnostics oscilloscope
- ▶ Other ESI[tronic] info types possible
- ▶ New adapter concept "Easy Connect", can be connected directly



Accessory kit included with the KTS 200

## **KTS 200: entry level version for comprehensive ECU diagnostics**

The proven entry into ECU diagnostics with new menu guidance for simple and rapid diagnoses.

- ▶ Complete ECU diagnostics
- ▶ New adapter concept "Easy Connect", can be connected directly

# Data and facts

## Equipment supply

Designation	KTS 200 <sup>1)</sup>	KTS 530 <sup>1)</sup>	KTS 540 <sup>1)</sup>	KTS 570 <sup>1)</sup>	KTS 670 <sup>1)</sup>
Power supply (15 V/1 A)	✓	✓	✓	✓	...
Power supply (15 V/4 A)	...	...	...	...	✓
Power cable	✓	✓	✓	✓	✓
OBD-exchange adapter, interchangeable	...	✓	✓	✓	✓
OBD diagnostics cable 1.5 m	✓	...	✓	✓	...
OBD diagnostics cable 3 m	...	✓	...	...	✓
Uni 4 adapter	...	✓	✓	✓	✓
Measurement cable, 2-wire (red, black) 3 m	...	...	...	✓	✓
Measurement cable, 2-wire (blue, yellow) 3 m	...	...	...	✓	✓
Measurement cable, blue	...	✓	✓	...	...
Measurement cable, yellow	...	✓	✓	...	...
Ground line, black	...	✓	✓	✓	✓
Test probe, red	...	✓	✓	2x	2x
Connection terminal, black	...	✓	✓	✓	✓
DVD drive	...	...	...	...	✓
USB connecting cable 1 m	✓	...	...	...	✓
USB connecting cable 3 m	...	✓	✓	✓	...
Bluetooth USB adapter	...	...	✓	✓	...
Touchpen	...	...	...	...	✓
Carrying case	✓	✓	✓	✓	✓
Mounting bracket	...	✓	✓	✓	...

<sup>1)</sup> Device only functional with ESI[tronic] enabling / licensing

## Accessories

Designation	Order number	KTS 200	KTS 530/540/570	KTS 670
Tire valve activator	1 687 200 663	✓	✓	✓
Monitor / VGA connecting cable	1 684 465 385	...	...	✓
****)Printer PDR 371	1 687 023 435	✓	✓	✓
USB connecting cable 1.0 m	1 684 465 491	✓	✓	✓
USB connecting cable 2.0 m (necessary in conjunction with trolley)	1 684 465 507	✓	✓	✓
USB connecting cable 5 m	1 684 465 563	✓	✓	✓
Touchpen (3 units)	1 683 083 004	...	...	✓
Wireless LAN PCMCIA connection	commercial-type	...	...	✓
DVD drive with USB connection	1 687 022 932	...	...	✓
Charging tray	1 687 022 898	...	...	✓
Trolley with charging tray	1 688 003 192	...	...	✓
Modem PCMCIA board	commercial-type	...	...	✓
Upgrade kit FSA 750 (requirement KTS 670 in the trolley)	1 687 001 593	...	...	✓
***) USB Bluetooth extension 1 m for Bluetooth PC stick	1 684 465 564	...	✓	...
***) USB Bluetooth extension 3 m for Bluetooth PC stick	1 684 465 565	...	✓	...
FSA current clamp 30 A	1 687 224 969	...	✓	✓
FSA current clamp 1000 A	1 687 224 968	...	✓	✓
Adapter for FSA current clamp of FSA 450 (adapter 1 684 480 125 also required)	1 684 463 522	...	✓	✓
Test shunt 0 to 600 mA	1 684 503 103	...	✓	✓
AC/DC trigger clamp 100/600 A with banana connector	1 687 224 864	...	✓	✓
Mounting bracket	1 681 320 082	✓	...	...

\*\*\*) Not used on KTS 530

\*\*\*\*) Order USB connecting cable



### Suitable for the asanetwork

Workshops that use the asanetwork to network workshop information and commercial data can access diagnostics data directly with all units of the KTS series.

# Data and facts

## Accessories

Designation	Order number	KTS 200	KTS 530/540/570	KTS 670
<b>Adapter cables "Easy Connect" (new adapter concept)</b>				
Adapter cable BMW 20-pin	1 684 463 631	✓	✓	✓
Adapter cable Audi/Seat/VW	1 684 463 611	✓	✓	✓
Adapter cable Citroën 2-pin (PSA 2)	1 684 463 612	✓	✓	✓
Adapter cable Fiat-Group 3-pin	1 684 463 613	✓	✓	✓
Adapter cable Hyundai/Mitsubishi 12-pin	1 684 463 638	✓	✓	✓
Adapter cable Nissan 14-pin	1 684 463 639	✓	✓	✓
Adapter cable PSA	1 684 463 612	✓	✓	✓
Adapter cable Toyota Avensis	1 684 463 686	✓	✓	✓
Adapter cable Toyota 17-pin	1 684 463 642	✓	✓	✓
Other adapter cables are in preparation				
<b>Adapter cables (existing adapter concept)</b>				
*) Adapter cable Daewoo	1 684 463 489	✓	✓	✓
*) Adapter cable Ford	1 684 463 440	✓	✓	✓
*) Adapter cable Ford EEC4	1 684 463 496	✓	✓	✓
*) Adapter cable Ford (adaptation PSG-5 pump unit via CAN)	1 684 463 652	✓	✓	✓
*) Adapter cable MAN 37-pin (EDC, MS 5)	1 684 463 498	✓	✓	✓
*) Adapter cable MAN 12-pin (EDC, MS 6.1, MS 6.4, CR, EDC7C)	1 684 463 499	✓	✓	✓
*) Adapter cable Mercedes-Benz	1 684 447 032	✓	✓	✓
*) Adapter cable Mercedes-Benz (Sprinter, Atego)	1 684 463 494	✓	✓	✓
*) Adapter cable Opel Multec	1 684 463 410	✓	✓	✓
*) Adapter cable Opel Vauxhall	1 684 463 464	✓	✓	✓
*) Adapter cable PSA (+/- clip)	1 684 460 182	✓	✓	✓
*) Adapter cable PSA 3-pin for e.g. ABS (requirement is 1 684 463 399)	1 684 463 400	✓	✓	✓
*) Adapter cable Renault	1 684 463 468	✓	✓	✓
*) Adapter cable Rover	1 684 463 439	✓	✓	✓
*) Adapter cable Scania 16-pin (R 124, R144)	1 684 463 497	✓	✓	✓
*) Adapter cable for power supply connection to cigarette lighter	1 684 460 202	✓	✓	✓
*) Adapter cable (10-branch) for engine management systems	1 684 463 399	✓	✓	✓
**) Power supply banana connector and power supply socket	1 684 460 231	✓	✓	✓
Uni 4 adapter	1 684 463 539	✓	✓	✓
OBD diagnostics cable 1.5 m	1 684 465 555	✓	✓	✓
OBD diagnostics cable 3 m	1 684 465 557	✓	✓	✓
OBD diagnostics cable 5 m	1 684 465 567	✓	✓	✓
OBD adapter box	1 684 462 346	✓	✓	✓
OBD adapter box with OBD connector	1 684 462 514	✓	✓	✓
Level adaptation 12 V/5 V	1 684 463 495	✓	✓	✓
*) Test adapter Mercedes-Benz 38-pin	1 684 485 382	✓	✓	✓
Test cable set	1 687 011 208	✓	✓	✓
KTS cable set consisting of: Universal connector set and adapter cables for MB, Ford EEC4, Opel Vauxhall, Opel Multec, BMW and VW	1 687 001 855	...	✓	✓
KTS cable set consisting of: Uni 4 adapter Universal connector set and adapter cables for MB, Ford EEC4, Opel Vauxhall, Opel Multec, BMW and VW	1 687 001 875	✓	...	...
KTS cable set comprising: Adapter cables for Fiat, MB, Peugeot, PSA 10-pin and 3-pin Renault	1 687 011 361	✓*)	✓	✓
KTS cable set comprising: Adapter cable for Fiat, Ford, MB, Opel Multec, PSA 10-pin and 3-pin Renault	1 687 011 362	✓*)	✓	✓
*) Only in conjunction with Uni 4 adapter 1 684 463 539 (4-way KTS 200, 530, 540, 570, 670) **) Only in conjunction with 1 684 460 182 or 1 684 460 202 ***) Not used with KTS 530 *****) Add USB connecting cable to order				



### Connection to the vehicle depends on the diagnostics socket

Connection possibilities are the OBD diagnostics cable or OBD diagnostics cable plus "Easy Connect" or the OBD diagnostics cable plus Uni 4 adapter with vehicle-specific cable.

# OBD: European On Board Diagnostics



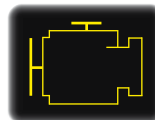
With OBD (On Board Diagnostics), a Europe-wide standard for emission values and their correct testing was introduced.

## **Bosch test equipment makes the perfect diagnosis possible**

- ▶ Standardized diagnosis interface
- ▶ Standardized diagnosis protocol
- ▶ Standardized diagnosis statements
- ▶ Uniform diagnostics connector
- ▶ Since 01.01.2001, new vehicles in Europe fitted with a gasoline engine and since autumn 2004 those with a diesel engine can only be registered if they are equipped with the European On Board Diagnostics system

## **Aims of OBD**

- ▶ Continuous monitoring of components relevant to emissions on all vehicles
- ▶ Immediate detection and display of important emissions increases over the entire service life of each and every vehicle
- ▶ Permanently low exhaust emissions
- ▶ Protection of vehicle components at risk (e.g. catalytic converter)
- ▶ Storage of information regarding faults that have occurred
- ▶ Transmission of stored fault information to the KTS 115/200/530/540/570/670



## **Malfunction indicator (MI)**

The malfunction indicator is a yellow indicator lamp with the symbol of an engine. In accordance with the OBD

guideline (as of EURO 3), the indicator lamp lights up if:

- ▶ A fault occurs that leads to cylinder shutoff to protect the catalytic converter (misfire detection). In this case, the lamp flashes as long as the error is present.
- ▶ An exhaust-gas-related fault occurs in two successive driving cycles
- ▶ The engine management / transmission management detects a "control unit self-test" fault
- ▶ The ignition key is in the ON position without the engine running (lamp monitoring function)

## **OBD operating data**

Mode 1	Exhaust-gas-related actual values, system diagnosis data
Mode 2	Data from the engine environment (environmental conditions during fault detection)
Mode 3	Exhaust-gas-related error codes (debounced)
Mode 4	Deleting exhaust-gas-related error codes
Mode 5	Lambda control loop circuit values
Mode 7	Non-debounced, current error codes
Mode 9	Identification features
Mode 6 + 8	Can be read out, contents are vehicle-manufacturer-specific

# KTS 115: entry level access to onboard diagnosis (OBD)



Simple, fast and workshop-oriented testing of emission values in accordance with the OBD standard: the KTS 115 is the perfect entry level solution for this task, providing connection to an existing PC or laptop. All OBD modes and P0 codes are displayed. When the OBD standard is added to, all that's needed is a software update.

## The ideal OBD solution for the diagnosis of exhaust-gas-related systems

- ▶ Reads out OBD modes 1-9  
(current range of functions of the OBD standard)
- ▶ Display of standardized P0 codes
- ▶ Supports all four communication protocols (see "Technical Data KTS 115")
- ▶ OBD module for retrofitting Bosch exhaust-gas analyzers
- ▶ The usual, straightforward operator guidance
- ▶ Software update option with extension of the OBD standard

## Equipment supply

Module, OBD diagnostics cable, PC module connecting cable (serial and USB), software and exhaust test OBD with KTS 115 PC program, power supply unit

## Technical data KTS 115

Weight	0.33 kg
Dimensions (W x H x D)	170 x 35 x 120 mm
Functional temperature range	0 °C to 45 °C
Power supply	via automobile battery 12/24 V, power supply unit
Printout	on commercial printer (via PC)
Languages:	ger, eng, fra, it, esp, fin, dk, ned, cs, por, sv, pol, rum, hun, gr, tr
<b>Diagnosis protocols supported</b>	
– ISO* 9141-2	
– ISO* 14 230-4 (KWP 2000)	
– SAE** J 1850 VPW	} conforms to ISO 11 519-4
– SAE** J 1850 PWM	
– CAN***	conforms to ISO 15 765-4
Connections for OBD cable, USB/serial, power supply unit and operational display	

\* ISO protocol installed predominantly by European vehicle manufacturers.

\*\* SAE protocol installed predominantly by Ford (EU), and American and Japanese vehicle manufacturers.

\*\*\* CAN protocol implemented in an increasing number of vehicles.

## Accessories

- ▶ Longer PC connecting leads
  - Serial 3 m 1 684 465 371
  - USB 2 m 1 684 465 507
- ▶ Carrying case 1 685 438 145
- ▶ OBD adapter car / comm. veh. on request

## Order number

KTS 115 OBD module 0 684 400 115

*For operation of the KTS 115, a PC or laptop with the following requirements is necessary: CD drive, Win 98 SE to Win XP, minimum 128 MB main memory, a free USB or serial interface and at least 600 MB hard disk capacity for the software installation*

# Our **knowledge**, your **success**

## Bosch Diagnostics

### Diagnostics – the key to the automotive workshop of the future

Motor vehicle systems are becoming increasingly complex; the demands placed on qualified diagnosis in workshops are rising. For professional service on modern vehicles, Bosch provides everything at one stop, perfectly coordinated: test equipment, software, technical training and hotline, supplemented by parts in initial equipment quality.



#### **ESI[tronic] – software for diagnostics and service**

- ▶ Simple operation
- ▶ Rapid access
- ▶ Modular structure
- ▶ Comprehensive market coverage
- ▶ Continually updated
- ▶ Universal operation regardless of manufacturer



#### **Test equipment – matched to each workshop type**

- ▶ Optimized combination of hardware and software for rapid troubleshooting, qualified repair and high time savings
- ▶ PC-based, test equipment of the latest generation with extendable modules



#### **Service training: knowledge as a factor of success**

- ▶ Comprehensive training program for automotive workshops
- ▶ Practical training courses
- ▶ Highly qualified trainers with a great deal of practical experience



#### **Technical hotline: support from the system developer**

- ▶ Support in difficult technical situations
- ▶ Skills covering all brands and manufacturers

# Bosch: **skilled partner** for workshop business

## Developments from Bosch stand for innovative progress in automobile manufacturing

Geared to the growing proportion of electronics in the vehicle, Bosch offers workshops the suitable test equipment for all sizes of company and service concepts. Sturdy, innovative, state-of-the-art automobile technology: computer-assisted diagnosis systems help in finding any fault more quickly and more reliably. The modular layout – using future-oriented technologies – enables broad networking and efficient use of comprehensive information from the ESI[tronic] software. Mobility and user-friendly user guidance support the workshop in reliable and timesaving diagnosis.



ECU Diagnostics KTS



Engine System Testing FSA



Emission Analysis BEA



Diesel System Testing EPS



Battery Service BAT



Air Conditioning Service ACS



Wheel Alignment FWA

Where to find Original Bosch Quality:

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