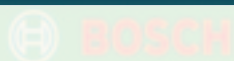


**NEW**  
product  
range



# A yardstick in innovative **technology**: Vehicle system analysis FSA



FSA 740  
Powered by CS[tronic]



**BOSCH**

Invented for life

# Modern **vehicle system analysis** from Bosch

- ▶ FSA 760 – the professional system for measurement and diagnostics
- ▶ FSA 740 Edition – the complete system for measurement and diagnostics
- ▶ FSA 720 – the efficient measuring and diagnosis module
- ▶ FSA 050 – the measurement module for electric and hybrid drives
- ▶ Small tester
- ▶ Adaptations
- ▶ Special accessories





# Forward-looking: Vehicle system analysis **for every requirement**



Modern vehicle system analysis at the vehicle from Bosch



FSA 050: measurement module for electric and hybrid drives

It has to be fast, perfect, but still inexpensive. Workshop customers have high demands. Furthermore, vehicle systems and components are becoming more and more complex and diverse. Apart from vehicles with internal-combustion engines, more and more hybrid and electric vehicles are on the roads. How can repairs and maintenance be carried out in the future in a fast and profitable manner?

## **Equipped for success with Bosch**

Reliable analysis and diagnostics form the basis of economic solutions to repair problems. This allows workshops to shine in the eyes of their customers, to prove their competence and to win new customer groups.

## **Precisely gauged and safe investment in the future**

The modular diagnostics system from Bosch perfectly meets the individual requirements of the workshop. The vehicle system analysis can be set up and expanded as required. Existing diagnostics devices can still be used. Step-by-step upgrading to a measurement and diagnostics system is possible. A safe investment that pays off quickly. (See calculation example on page 7)

## **The new, innovative analysis and diagnostics technology from Bosch offers workshops five clear advantages:**

- ▶ Effective and precise search for faults
- ▶ More competence in fault analysis
- ▶ Finding faults in the vehicle system that are not entered in the fault memory
- ▶ Innovative technology from Bosch as a safe investment in the future
- ▶ Ideal supplement to ECU diagnosis

## **The FSA generation for efficient troubleshooting**

New, further developed, high-modern diagnostics systems from Bosch allow an even faster and more efficient search for sources of faults. Always one step ahead with the vehicle system analysis from Bosch thanks to:

- ▶ Preset component tests for checking electrical and electronic vehicle components when still installed
- ▶ The display of actual values from the ECU diagnosis in the FSA software
- ▶ Optional diagnostics of electric and hybrid vehicles

# New! FSA 760: The professional system for the future

## FSA 760

Completely equipped for the wide variety of test requirements in the workshop



## FSA 760: Efficient and innovative for the toughest diagnostic requirements

The FSA 760 is the expert for all types of test operations. The complete system consists of the FSA measurement module, sensor system, trolley and PC system. Equipped with a 19" touchscreen monitor and with the option of combining all modules with additional diagnostic devices at any time, the workshop is ideally equipped for the future. Comprehensive equipment details, such as sensor and component testing when installed, make troubleshooting even faster and more profitable.

## Equipped for professional diagnostics

- ▶ Innovative operation via the touchscreen
- ▶ Complete system in the trolley with measurement module and PC, 19" touchscreen monitor, remote control and printer
- ▶ Powerful oscilloscope
- ▶ Software with test steps and component tests for the vehicle electronics and electrical system
- ▶ Menu-guided test steps for effective diagnostics
- ▶ Timesaving testing of components when still installed
- ▶ Simulation of signals for testing sensors when installed
- ▶ Battery peak-coil current measurement up to 24 hours
- ▶ Test of vehicle bus systems (e.g. CAN bus)
- ▶ Importing and saving comparative curves



A tidy matter: Practical and fast operation of the PC system via the touchscreen

### A look into the future

The 19" touchscreen of the FSA 760 heralds a new era of comfortable handling of the PC system. The diagnostics expert FSA 760 proves its sustainability with the test options for electric and hybrid drives and for exhaust measurements. Clear menu-guided test steps with vehicle-specific setpoint values and display of the actual values from the ECU diagnostics in the FSA software are two further positive features contributing to a simple, profitable test procedure.

### Equipment details FSA 760

- ▶ Dimensions approx. 1,785 x 680 x 670 mm (H x W x D)
- ▶ Weight approx. 91 kg
- ▶ System tester KTS 540 wireless
- ▶ Sensor equipment as the FSA 740 Edition, plus:  
Fluid-pressure kit
- ▶ Power unit (90 – 264 VAC/47 – 63 Hz)
- ▶ Operating temperature range 5 °C to 40 °C

### Benefits to the workshop

#### Comfortable operation, versatile and professional fault diagnosis thanks to

- ▶ 19" touchscreen
- ▶ Measurement module with extensive sensor equipment
- ▶ Efficiency through fast and simple software sequences
- ▶ Concise and clearly arranged menu structure through test steps with vehicle-specific reference values
- ▶ Around 50 preset component tests
- ▶ New! Practical display of actual values from the ECU diagnosis in the FSA software in conjunction with the KTS module

#### High investment safety, universal use

- ▶ Modular diagnostic system in the trolley
- ▶ New! Optional testing of electric and hybrid vehicles in conjunction with FSA 050
- ▶ Can be extended by exhaust-gas measurement modules for gasoline and diesel vehicles



# New! FSA 740 Edition: The complete system with extended application range

## The complete system FSA 740 Edition

- ▶ FSA measurement module
- ▶ ECU diagnostics
- ▶ PC system
- ▶ Trolley



## Benefits to the workshop

### Versatile, efficient and reliable fault diagnosis

- ▶ Measurement module with extensive sensor equipment
- ▶ Concise and clearly arranged menu structure through test steps with vehicle-specific reference values
- ▶ Around 50 preset component tests
- ▶ New! Practical display of actual values from the ECU diagnostics in the FSA software in conjunction with the KTS module

### Universal use

- ▶ For vehicles with internal-combustion engine and electric/hybrid drive (optional by adding the FSA 050)
- ▶ Can be extended by exhaust-gas measurement modules for gasoline and diesel vehicles

## FSA 740 Edition: A new dimension in troubleshooting

The FSA 740 Edition is the universal system comprising modules perfectly tuned to one another. Additional new and existing diagnostic devices can be combined with the FSA 740 Edition. The all-rounder consists of a measurement module, sensor system, PC system and trolley.

The diagnosis is carried out in menu-guided test steps and by the component test and the signal generator. Testing the sensors when they are installed makes targeted fault correction of the relevant components possible.

## Equipped for comprehensive diagnostics

- ▶ Complete system in the trolley with measurement module, PC, 19" TFT monitor, remote control and printer
- ▶ Powerful oscilloscope
- ▶ Software with test steps and component tests for the vehicle electronics and electrical system
- ▶ Menu-guided test steps for effective diagnostics
- ▶ Timesaving testing of components when still installed
- ▶ Simulation of signals for testing sensors when installed
- ▶ Battery peak-coil current measurement up to 24 hours
- ▶ Test of vehicle bus systems (e.g. CAN bus)
- ▶ Importing and saving comparative curves



#### Reliable operation and precise test results

- ▶ Component tests
- ▶ Test steps
- ▶ Vehicle-specific reference values

#### Future-proof and convenient

The Bosch FSA 740 Edition is perfectly suited for future requirements with 10 sensor slots and a free slot for a possible new sensor system. Furthermore, the system can be extended easily with test modules for electric and hybrid drives and for exhaust-gas tests.

#### Equipment details FSA 740 Edition

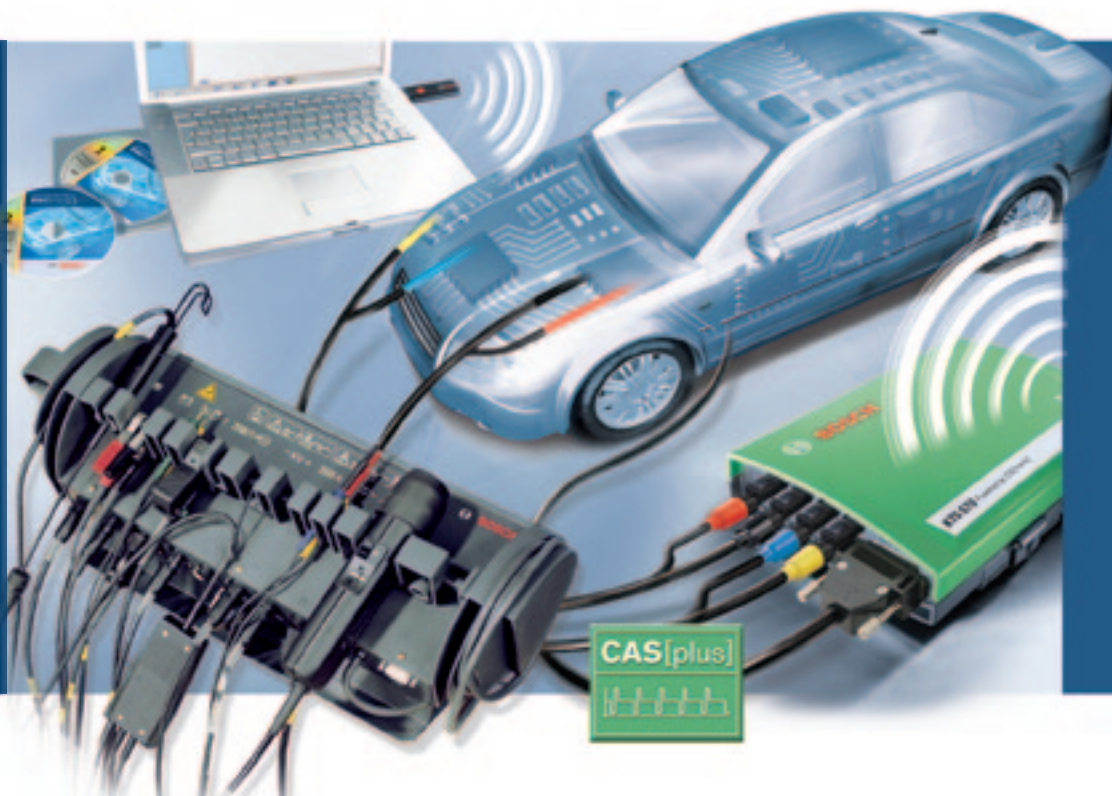
- ▶ Dimensions approx. 1,785 x 680 x 670 mm (H x W x D)
- ▶ Trolley, weight approx. 91 kg
- ▶ Measurement module with sensor carrier
- ▶ Power unit with mains connection cable
- ▶ PC, monitor, mouse, keyboard (D/AT), printer
- ▶ Remote control (transmitter and receiver)
- ▶ System tester KTS 540 wireless (optional)
- ▶ System software SystemSoft[plus]
- ▶ Connecting cable Multi 1/Multi 2 and B+/B-
- ▶ Connecting cable for term. 1/15 (Uni-line IV)
- ▶ Measurement transmitter 3 x KV+/Rt and 3 x KV-/Sw
- ▶ Trigger clamp and clamp-on probe 1,000 A/30 A
- ▶ Stroboscope
- ▶ Oil temperature sensor
- ▶ Air pressure measurement with hose line
- ▶ 2 x Y-adapter
- ▶ Power unit (90 – 264 VAC/47 – 63 Hz)
- ▶ Operating temperature range 5 °C to 40 °C
- ▶ Universal secondary measurement transmitter

#### Amortization calculation example: FSA 740 Edition

<b>Net catalog price</b>	10,200.00 EUR
<b>Training</b>	500.00 EUR
<b>Software</b>	300.00 EUR
<b>Total price</b>	<b>11,000.00 EUR</b>
<hr/>	
▶ <b>Timesaving approx. hr/week</b>	1 hr.
▶ <b>Additional turnover through "Error found" approx. hr./week</b>	2 hrs.
<hr/>	
▶ <b>Diagnostics hourly charge rate</b>	60.00 EUR
▶ <b>Additional turnover of diagnosis time/week</b>	180.00 EUR
▶ <b>Additional turnover of parts through "error found" approx. per week</b>	50.00 EUR
▶ <b>Additional turnover of parts approx. per month</b>	200.00 EUR
<hr/>	
<b>Annual additional turnover of parts and calculated diagnosis time</b>	10,120.00 EUR
<b>Amortization time in years*</b>	<b>1.09 years</b>

\* 1 year corresponds to 44 weeks

# FSA 720: The efficient **measuring and diagnosis module**



## **Timesaving and precise troubleshooting**

- ▶ Signal generator for testing sensors when installed
- ▶ For testing components when installed

## **Benefits to the workshop**

### **Fast, simple and flexible diagnosis at the vehicle**

- ▶ Measurement module with extensive sensor equipment
- ▶ Concise and clearly arranged menu structure through test steps with vehicle-specific reference values\*
- ▶ Around 50 preset component tests
- ▶ New! Practical display of actual values from the ECU diagnosis in the FSA software in conjunction with the KTS module
- ▶ New! Optional testing of electric and hybrid vehicles in conjunction with FSA 050

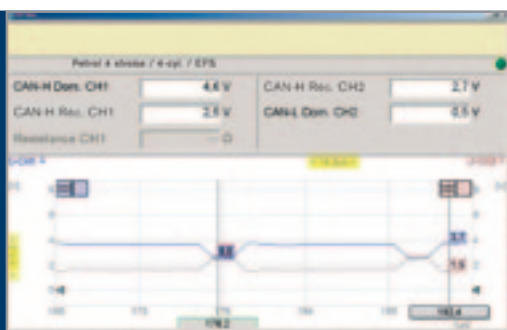
\* CompacSoft[plus] subscription required

## **FSA 720: The comfortable system tester for universal diagnostics**

The measurement module FSA 720 is the diagnostics platform of the future. From the classic engine test to component testing, the basic device with innovative software and new application masters present-day and future troubleshooting tasks. The modular system structure permits connection to existing and new diagnostics systems. With a device from the KTS series and a PC, the Bosch FSA 720 can be extended step by step to a complete measuring and diagnostic system.

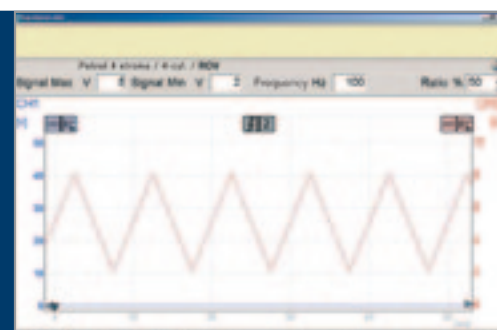
### **Equipped for a wide range of diagnostics**

- ▶ Measurement module with USB connection to the PC system
- ▶ Powerful oscilloscope with high sample rate (2 x 50 MS/s)
- ▶ Software with test steps and component tests for the vehicle electronics and electrical system



### **CAN bus: Practical functional test**

The workshop can perform a physical functional test of the fast CAN-bus systems in the vehicle.







#### Clever features for effective work

- ▶ No constant sensor changing due to extensive sensor equipment
- ▶ One free slot for additional sensor system

- ▶ Menu-guided test steps for effective diagnostics
- ▶ Timesaving testing of components when still installed
- ▶ Simulation of sensor signals for testing sensors when installed
- ▶ Battery peak-coil current measurement up to 24 hours
- ▶ Test of vehicle bus systems (e.g. CAN bus)
- ▶ Importing and saving comparative curves

#### Tried and tested technology and new applications

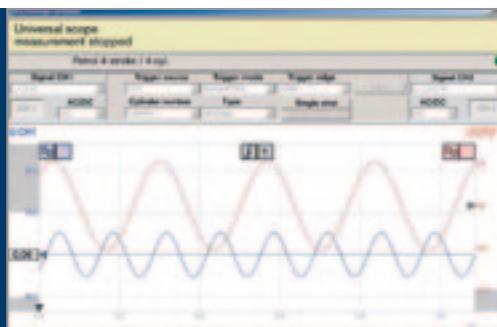
Apart from the actual measurement module, the Bosch system tester FSA 720 also includes an extensive range of sensors. Ten sensor slots, and a free slot provided for an additional sensor system allow trouble-free work without continuous sensor changing. Even more comfort during troubleshooting is offered by the menu-guided test steps with vehicle-specific setpoint value and display of the actual values from the ECU diagnostics in the FSA software.

#### Equipment details FSA 720

- ▶ Dimensions approx. 210 x 550 x 220 mm (H x W x D)
- ▶ Weight approx. 5 kg
- ▶ Measurement module with sensor carrier
- ▶ Installation angle
- ▶ Power unit with mains connection cable
- ▶ System software SystemSoft[plus]
- ▶ Connecting cable Multi 1/Multi 2 and B+/B-
- ▶ Connecting cable for term. 1/15 (Uni-line IV)
- ▶ Measurement transmitter 3 x KV+/Rt and 3 x KV-/Sw
- ▶ Trigger clamp
- ▶ Clamp-on probe 1,000 A
- ▶ Stroboscope
- ▶ Oil temperature sensor
- ▶ Air pressure measurement with hose line
- ▶ Power unit (90 – 264 VAC/47 – 63 Hz)
- ▶ Operating temperature range 5 °C to 40 °C

#### Versatile signal generator

For testing sensors, including feeds and plug-in connections when installed. In this way, it is possible to tell whether an ECU, a feed, a plug-in connection or a sensor is defective. This allows efficient fault elimination without replacing parts "on suspicion".



#### Powerful universal oscilloscope

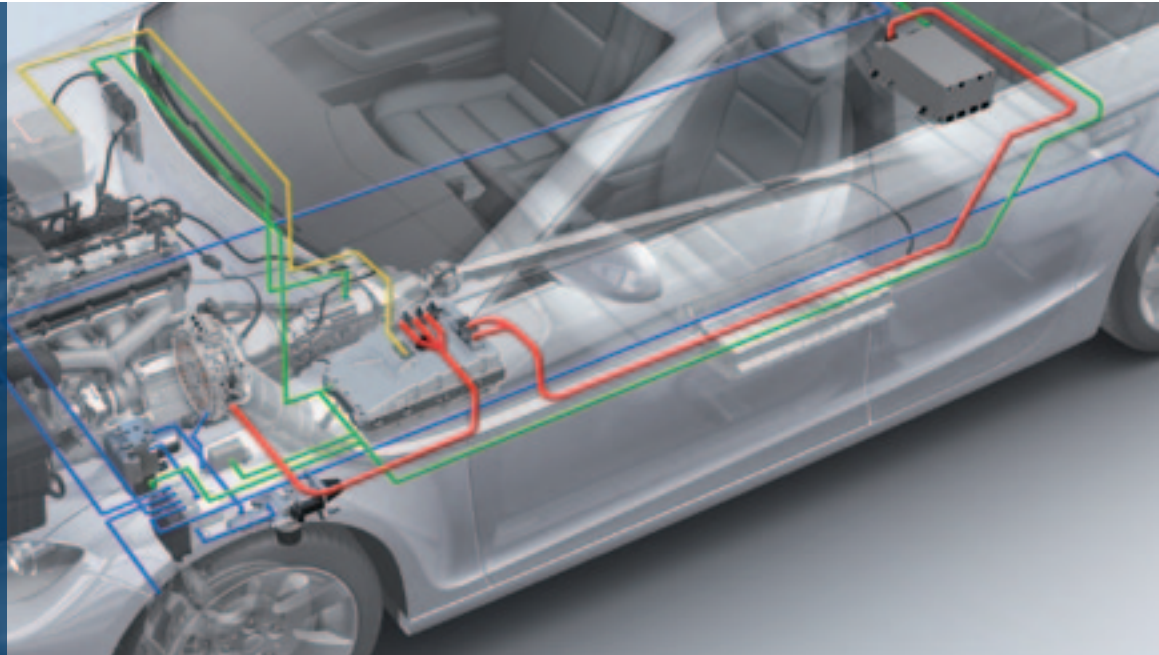
The sample rates with the new universal oscilloscope of the FSA 720/740 reach up to 50 MSamples. The provides sufficient reserves even for testing future vehicle components.

# FSA 050: Electric and hybrid vehicles

## convenient, wireless testing

### Hybrid technology

- Current supply 12 V
- Communication
- High-voltage supply
- Hydraulic line / brake systems



### **New! FSA 050: Future-proof as a standalone device or as a special accessory**

The new diagnostics module for testing vehicles with electric and hybrid drive. The hand-held device be linked wirelessly to the PC system or, optionally, to the FSA 500 or FSA 720/740/760 for documentation of the measurement results. As an individual solution, the FSA 050 offers insulation and high-voltage testing for electric and hybrid drives.

### **Equipped for professional diagnostics of electric and hybrid vehicles**

- ▶ Hand-held device with radio connection to the PC system
- ▶ Testing of vehicles with electric and hybrid drive
- ▶ High-voltage tests
- ▶ Insulation tests
- ▶ Use as a standalone device
- ▶ Special accessories for FSA 500, FSA 720/740/760
- ▶ Wireless data transmission from FSA 050 to FSA 500, FSA 720/740/760

### **In front right from the start with new vehicle drives**

Electric and hybrid drives are on the march. The FSA 050 allows workshops to perform all diagnosis tasks without any problems and thus win new profitable customer groups. The hand-held device is designed for fast use in the workshop and can also be connected by radio to existing systems. For step-by-step expansion to a comprehensive workshop system.

### **Equipment details FSA 050**

- ▶ 2 Measuring cables
- ▶ High-voltage probe



The advantages are obvious. Competent troubleshooting on electric and hybrid vehicles with the FSA 050:

- ▶ Simple and profitable usage
- ▶ As an individual solution
- ▶ As special accessory

#### Benefits to the workshop

##### More versatility and competence during troubleshooting

- ▶ Cost-effective entry to diagnostics of electric and hybrid vehicles
- ▶ Flexible as a standalone device or as a special accessory
- ▶ Documentation of the measurement results in conjunction with FSA 500 or FSA 720/740/760





# Equipment supply and special accessories

		Trolley	Storage case	Measurement module with sensor carrier	Aufstellwinkel	Power unit with mains connection cable	PC with operating system XP	Monitor, mouse	Keyboard	Printer	Remote control	System tester KTS 540 wireless	System software SystemSoft [plus]	Connecting cable for Multi 1	Connecting cable for Multi 2	Connecting cable for B+/B-
Equipment supply	Order number															
FSA 050	available in 2011	●														
FSA 720	0 684 010 500		●	●	●							●	●	●	●	
FSA 740 Edition (w/o KTS 540, with german keyboard)	0 684 010 740	●	●	●	●	●	●	●	●	●		●	●	●	●	
FSA 740 Edition (with KTS 540 and german keyboard)	0 684 010 742	●	●	●	●	●	●	●	●	●		●	●	●	●	
FSA 740* Edition (w/o KTS 540, w/o keyboard)	0 684 010 744	●	●	●	●	●		●	●	●		●	●	●	●	
FSA 740* Edition (with KTS 540, w/o keyboard)	0 684 010 745	●	●	●	●	●		●	●	●		●	●	●	●	
FSA 760 (with german keyboard)	0 684 010 760	●	●	●	●	●	●	●	●	●		●	●	●	●	
FSA 760* (w/o keyboard)	0 684 010 761	●	●	●	●	●		●	●	●		●	●	●	●	

		Clampon probe 30 A: 3 m cable length Order number: 1 687 224 969	Infrared temperature sensor Order number: 1 687 230 061	Air-temperature sensor Order number: 1 687 230 060	Connecting line for air temperature sensor Order number: 1 684 465 517	Supplementary equipment set BEA 050 (function only in conjunction with BEA 050) Order number: 1 687 001 865	Secondary measurement set RTM 430 Order number: 1 687 001 577	Package: Primary ignition Connecting cables: BMW, Opel Order number: 0 688 100 017
Special accessories	Order number							
FSA 720	0 684 010 500	●	●	●	●		●	●
FSA 740 (w/o KTS 540, with german keyboard)	0 684 010 740		●	●	●	●	●	●
FSA 740 Edition (with KTS 540, and german keyboard)	0 684 010 742		●	●	●	●	●	●
FSA 740 Edition* (w/o KTS 540, w/o keyboard)	0 684 010 744		●	●	●	●	●	●
FSA 740 Edition* (with KTS 540, w/o keyboard)	0 684 010 745		●	●	●	●	●	●
FSA 760 (with german keyboard)	0 684 010 760		●	●	●	●	●	●
FSA 760* (w/o keyboard)	0 684 010 761		●	●	●	●	●	●

Connecting cable term. 1/15 (Uniline IV)	Measurement transmitter 3 x KT-7Sw	Measurement transmitter 3 x KV+Rt	Trigger clamp	Clamp-on probe 1000 A	Clamp-on probe 30 A	Stroboscope	Oil temperature sensor	Measuring cables	High-voltage probe	Air pressure measurement with hose line	Y-adapter	Universal secondary measurement transmitter	Fluid pressure kit	Dimensions (H x W x D)	Weight	Power unit supply voltage	Operating temperature range
•	•	•	•	•	•	•	•	•	•	•	•	•	•	approx. 210 x 550 x 200 mm	approx. 5 kg	90 - 264 VAC/47 - 63 Hz	5 °C to 40 °C
•	•	•	•	•	•	•	•	•	•	•	•	•	•	approx. 1,785 x 680 x 670 mm	approx. 91 kg	90 - 264 VAC/47 - 63 Hz	5 °C to 40 °C
•	•	•	•	•	•	•	•	•	•	•	•	•	•	approx. 1,785 x 680 x 670 mm	approx. 91 kg	90 - 264 VAC/47 - 63 Hz	5 °C to 40 °C
•	•	•	•	•	•	•	•	•	•	•	•	•	•	approx. 1,785 x 680 x 670 mm	approx. 91 kg	90 - 264 VAC/47 - 63 Hz	5 °C to 40 °C
•	•	•	•	•	•	•	•	•	•	•	•	•	•	approx. 1,785 x 680 x 670 mm	approx. 91 kg	90 - 264 VAC/47 - 63 Hz	5 °C to 40 °C
•	•	•	•	•	•	•	•	•	•	•	•	•	•	approx. 1,785 x 680 x 670 mm	approx. 91 kg	90 - 264 VAC/47 - 63 Hz	5 °C to 40 °C
•	•	•	•	•	•	•	•	•	•	•	•	•	•	approx. 1,785 x 680 x 670 mm	approx. 91 kg	90 - 264 VAC/47 - 63 Hz	5 °C to 40 °C

Package: Secondary ignition connecting cables: Audi, BMW, MB test adapters: A, B, C/D, E, F/X, Y	Order number: 0 688 100 002	Fluid pressure kit	Order number: 1 687 430 008	Hybrid tester FSA 050 (available in 2011)
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•

#### Minimum requirements for external PCs (desktop and notebook):

**Hardware:** CPU Intel/AMD 1,800 MHz or higher RAM min. 1 GB; at least 5 GB free hard-drive space; DVD drive; 1 free USB port for FSA 720 (a direct connection is recommended without an interposed USB hub); please refer to the specifications of the PC/notebook manufacturer in the manual. In some circumstances, an additional special adapter cable is necessary. Vehicles can produce special electromagnetic radiation. Bosch PCs have been tested in this environment. To guarantee perfect operation, we recommend that the FSA 720 is run with a Bosch PC.

**Software:** Operating systems: Windows XP SP2, Vista™ (32 bit) Home Premium and Business), Windows 7 (32 bit), Home Premium and Professional

\* order additionally: Keyboard CH (1 687 022 355)

# Small tester and adaptations.

## The right equipment

	Designation	Order number	Description
	Stroboscopic lamp ETZ 005.01	0 684 100 501	Stroboscopic lamp ETZ 005.01 with xenon. Flashing lamp measures and tests exactly: Basic setting of the ignition distributor, ignition angle, centrifugal force adjustment and vacuum advance mechanism.
	Pocket sensor ETZ 003.09	0 684 100 309	For adjusting the moment of ignition for higher performance and longer service life. Xenon light flash visible even in bright rooms. Housing made of sturdy plastic, insensitive to engine oil and fuel. Clip-on sensor can be clamped over the ignition cable in any desired form; independent of direction.
	Pressure-loss tester EFAW 210 A	0 681 001 901	Pressure-loss tester with high pressure test hose, crankshaft TDC detector and test nozzle for adjusting the tester
	Test cable case	1 687 011 208	Case with vehicle-specific adaptations for simple, fast adaptations; more than 90 adaptations, providing very high coverage
	Test point set	1 684 485 362	3 flexible test points in red, black and grey. 4.8 mm banana jacks
	Test cable set	1 687 011 314	11-piece set of adaption cables with blade terminals and pin terminals, test point, test and clip terminals



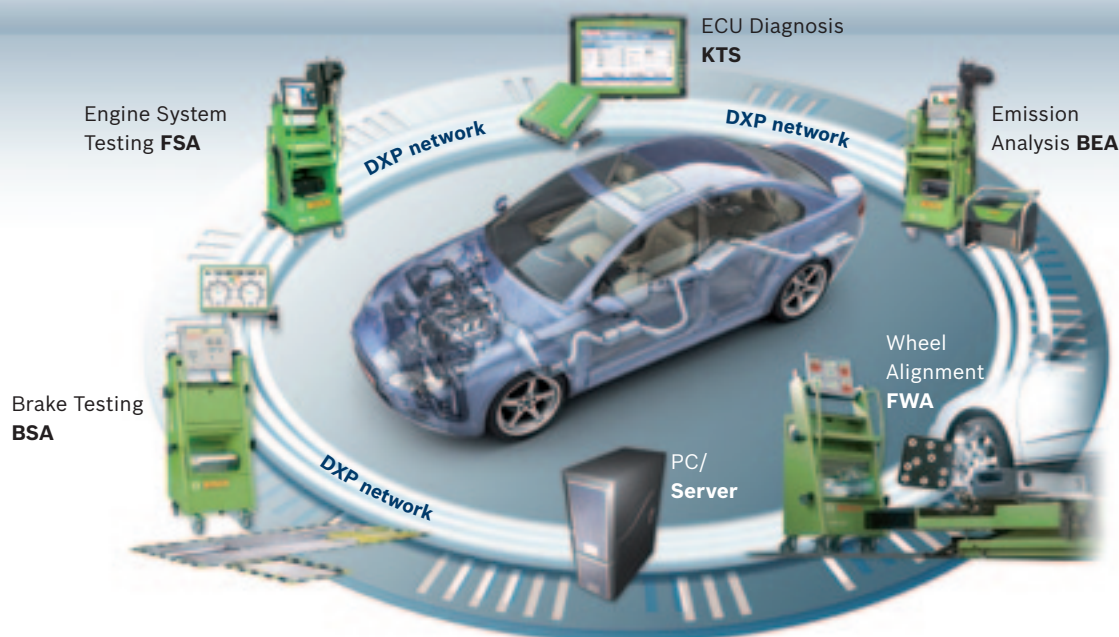
	Designation	Order number	Description
	Needle contact	1 684 480 118	Needle contact with test point protection. Moves back when connecting to cables and allows a test point to enter the cable. This needle contact allows you to set up an electrical connection to a cable if there is no other adaptation option.
	Universal adapter 2/3/4/5-pin Blade terminal, Y-shaped with banana jacks	1 684 463 093	2-pin Injection nozzles, lambda sensors
		1 684 463 342	3-pin induction-manifold pressure sensor, camshaft sensor, Speed reference mark sensor
		1 684 463 343	4-pin
		1 684 463 344	5-pin
	Universal adapter 3/4/5/6-pin blade terminal, Y-shaped, oval plug housing with banana jacks	1 684 463 447	3-pin Camshaft sensor, crankshaft sensor, Pressure sensor
		1 684 463 448	4-pin lambda sensors, primary adapter line with oval ignition coil connection in conjunction with Uni-adapter cable (1 684 462 211)
		1 684 463 478	5-pin air-mass sensor, as primary adapter in conjunction with primary adapter line (1 684 462 374)
		1 684 463 449	6-pin throttle-valve positioning motor, as primary adapter in conjunction with Uni-adapter cable (1 684 462 374) for testing ignition rails
	Universal adapter 2/3/4/5-pin Blade terminal, Y-shaped with banana jacks  ditto oval plug housing	1 684 463 379	2-pin (universal)
		1 684 463 380	3-pin (universal)
		1 684 463 381	4-pin (universal)
		1 684 463 382	5-pin (universal)
	Universal adapter 3 x 1/4 x 1-pin  Pin terminal, Y-shaped	1 684 463 236	3 x 1-pin: 2.1 mm (lambda sensors)
		1 684 463 237	4 x 1-pin: 1.6 mm (lambda sensors)
		1 684 463 238	4 x 1-pin: 2.1 mm (lambda sensors)
		1 684 463 239	4 x 1-pin: 2.3 mm (lambda sensors)
		1 684 463 240	4 x 1-pin: 2.5 mm (lambda sensors)

# Small tester and adaptations.

## The right equipment

	Designation	Order number	Description
	Universal secondary measurement transmitter	1 687 224 973	Secondary measurement transmitter for measurement on ignition systems
	Secondary measurement transmitter pencil coil	1 687 224 987	Secondary measurement transmitter for measurement on pencil coils
	Primary package	0 688 100 017	For vehicle-specific primary adaptation, with connecting cables for BMW and Opel. Image similar to equipment supply.
	Secondary package	0 688 100 002	For vehicle-specific secondary adaptation with connecting cables for Audi, BMW, Mercedes-Benz. Image similar to equipment supply.

# Data Exchange Platform DXP. For even more economical processes in the workshop



## New! Data Exchange Platform DXP – the efficient workshop software from Bosch

- Networking of all diagnostic devices
- Fast, simple, reliable data exchange between all PC-based testers in the workshop
- Direct activation of the ECU diagnostics (KTS) from every DXP-networked test system
- Central storage of identification data and result records and exchange with the Workshop Management System (WMS)

## Once recorded – accessible at any time, and everywhere

DXP from Bosch transfers all vehicle data recorded by a system to all other diagnostic systems integrated in the DXP network. Once identified, input of the license plate number or VIN (vehicle identification number) is sufficient to call up the vehicle data at all workstations. This saves time. All testers from Bosch, Beissbarth and Sicam have networking-capability.

## The technical requirements

Any modern PC can be used as a server. Bosch recommends the use of a separate preconfigured server. An interface makes connection to many Workshop Management Systems (WMS) possible.

## Benefits to the workshop

- More efficient due to simplified processes and short setup times
- No duplicated work thanks to one-time vehicle identification
- Easier subsequent identification saves time
- Central access to ECU diagnosis from every test system
- Customer-friendly through rapid processing of order data and results
- Transparent and service-oriented, standardized test records
- A database for the entire vehicle history with all test results

## Minimum requirements for PC or notebook

The software can be installed on every PC in the workshop.

- Dual Core processor
- At least 2 GB main memory
- At least 150 GB hard-disk memory



# Parts & bytes.

## Practical examples of application



### Performance test of wheel sensor

KTS 5xx diagnoses via ECU diagnosis "Speed sensor rear left no signal"

#### Possible causes of fault

- ▶ Speed sensor defective
- ▶ Plug-in connection or feed from ECU to speed sensor faulty

#### Localization of the fault via the vehicle system test

- ▶ Simulation of the sensor signal with the signal generator
- ▶ If the KTS 5xx no longer diagnoses the fault, the speed sensor is faulty; otherwise a plug-in connection or feed is faulty.

### Component test of CAN bus

Via ECU diagnosis at the central control unit, the KTS 5xx diagnoses a faulty communication with one of the satellite electronic control units

#### Possible causes of fault

- ▶ Defective satellite ECU
- ▶ Fault in the CAN-bus connection between central ECU and satellite ECU
- ▶ Signal interference

#### Localization of the fault via the vehicle system test

- ▶ Performance test of the CAN bus connection indicates that the CAN bus is in working order
- ▶ Cause of fault: defective satellite ECU



### Component testing, boost-pressure control

The KTS 5xx diagnoses via ECU diagnosis "Boost-pressure control outside range"

#### Possible causes of fault

- ▶ Exhaust-gas turbocharger not working
- ▶ Fault in the piping
- ▶ Defective air-mass sensor

#### Localization of the fault via the vehicle system test

- ▶ Charge-air pressure measurement in intake manifold
- ▶ Pressure at idle 0 bar, at gas surge 0.8 bar  
Cause of fault: Defective air-mass sensor
- ▶ Pressure at push of accelerator 0 bar  
Cause of fault: Turbocharger or piping defective

### Component test Battery peak-coil current measurement

Vehicle has problems starting after long periods stationary, KTS 5xx does not diagnose a fault via ECU diagnosis

#### Localization of the fault via the vehicle system test

- ▶ The battery peak coil current is measured
- ▶ Diagnosis: Battery peak coil current is clearly above the value specified by the vehicle manufacturer
- ▶ Cause of fault: The supply voltage was incorrectly wired at the vehicle radio – continuous supply and switched supply were interchanged

# 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 diagnoses 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: bringing you the workshop of the future

For over 120 years, Bosch innovations have been keeping vehicles on the road and getting people to and from their destinations while improving safety and peace of mind along the way.

Bosch Automotive Aftermarket offers workshops and retailers a comprehensive portfolio of products that is unmatched worldwide:

- ▶ Efficient diagnostics
- ▶ Innovative workshop equipment
- ▶ Quick, reliable delivery
- ▶ The world's most comprehensive range of spare parts – including both new and remanufactured
- ▶ Workshop concepts to meet every requirement
- ▶ Comprehensive training
- ▶ Targeted sales and marketing support
- ▶ A competent service hotline
- ▶ 24-hour online workshop services
- ▶ Affordable leasing services for workshop equipment and software

From parts to scheduling, organization and results, our solutions are combined with additional services to ensure your needs will be perfectly met, helping you to maximize your potential.

## Workshop tip:

With its expertise from original equipment, Bosch offers all diesel specialists a holistic range of workshop test equipment, software, training and know-how. For consolidating diesel business today and in the future.

**Diagnostics and parts: you only find both at Bosch.**

## Robert Bosch GmbH

Automotive Aftermarket  
Business Unit Diagnostics

73201 Plochingen  
Germany

[www.bosch-diagnostics.com](http://www.bosch-diagnostics.com)



The right to make changes of a technical nature and to alter the range on offer is reserved.

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Fuel-injection pump and ignition coil



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