# **Bosch**: bringing you the workshop of the future

For over 125 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 knowhow. For consolidating Diesel business today and in the future.

#### Robert Bosch GmbH

Automotive Aftermarket Business Unit Diagnostics

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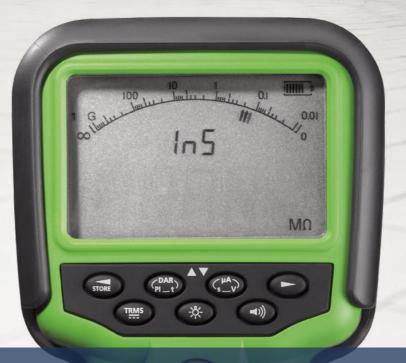


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#### The world of Bosch

- ▶ Diagnostics
- ▶ Diesel systems
- ▶ Petrol systems
- ▶ Braking systems
- Spark plugs
- ► Energy systems
- Batteries
- ► Filters
- ▶ Wiper systems
- ► Lighting technology
- ► Convenience electronics
- ► Technical hotline
- ► Knowledge database
- ► Service Training
- ► Workshop concepts



Electric Drive Systems
Future-Proof Testing: FSA 050







## FSA 050: Electric and hybrid vehicles

## convenient, wireless testing



#### 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 measure-

As an individual solution, the FSA 050 offers insulation and high-voltage testing for electric and hybrid drives.

#### 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 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.

#### 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
- ▶ Documentation of the measured results in conjunction with FSA 500, FSA 720/740/760 or with the software CompacSoft[plus]

Bosch offers the necessary course of instruction for "Professional work on high-voltage, intrinsically safe vehicles". Safety gloves recommended there are available from specialized trade outlets.

Details are available in the current training program.

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

- ► Hand-held unit with radio connection to Windows operating systems<sup>1</sup>
- ► Testing of vehicles with electric and hybrid drive
- ► High-voltage tests
- ► Insulation tests
- ► Multimeter function: Voltage, resistance, capacity, continuity test
- ▶ 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 or PC with Windows operating system<sup>1</sup>

#### **Equipment details FSA 050**

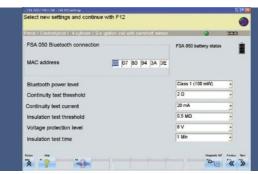
- ► 2 Measuring cables
- ► High-voltage probe
- ▶ DVD CompacSoft[plus]
- ▶ Bluetooth stick
- ▶ Storage case

#### Technical data FSA 050

Function	Range
High-voltage analysis	up to 600 V (TRMS)
Insulation analysis	Measuring modes: t, PL, DAR or INS
Resistance measurement	0.01 ΚΩ - 1,000 kΩ
Continuity test	0.01 $\Omega$ - 99.9 $\Omega$ with test current 20 mA/205 mA
Capacity measurement	100 pF - 10 μF
Data transmission	Bluetooth Class I/II (range up to 30 m/10 m)

Insulation analysis	
Measuring range	Test voltages
200 GΩ	1,000 V
100 GΩ	500 V
50 GΩ	250 V
20 GΩ	100 V
10 GΩ	50 V
Test current	1 mA

<sup>&</sup>lt;sup>1</sup> System requirements: Windows XP SP2, Windows Vista™ Home Premium, Windows Vista™ Business, Windows 7



Gasoline / Electric hybrid / 4						)股	
Test Voltage		V 551,40		Test config Basic (Ins)			
Leakage Current	µА 0,0		Timed (t)				
Insulation Resistance	GO	78,60	PI DAR				
Test time	•	59	DAR	1.06			
Test Voltage	I-Leakage				Insulatio	n Resistance	
Ag 0,03 00,000		-				100,690	
450,00 975	_	_				90,00	
303,0325.0						50,00	
acoporação						40,00	
150,0012,5						20.00	
		42		42	-	40	

CompacSoft[plus] offers numerous options in conjunction with the FSA 050:

- Graphical display
- ▶ Saving
- Documenting
- ► Printing out test data

FSA initial menu Insulation measurement