

Invented for life



Quick and precise analysis with exhaust gas measurement units from Bosch





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Emission analysis for future-ready exhaust gas testing

Modern vehicles with gasoline and diesel engines provide mobility for the people and goods of today – and tomorrow. For sustainable environmental protection efforts involving the steady reduction of emissions, technological innovations in touch with current trends are essential.

An important contribution is made by precise emission measurements and adjustments happening every day. This is highly relevant for workshops and inspection organizations.

Measurement, diagnosis or testing: Bosch provides you with a complete range of offerings from basic emissions testing to sophisticated emission system analysis. The various measurement modules allow you to execute fast and precise emission measurements on passenger cars, motorcycles, commercial vehicles and buses. This helps carry out emissions tests more efficiently.

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26 Drehzahl im vorgegebenen Bereich halten.

Detail	Wert	Einheit	Ergebnis
OS	1000	U/min	1000
OS	1000	U/min	1000
OS	1000	U/min	1000

 **BOSCH**
BEA 950
Powered by ES[tronic]



BEA 950 S1 UNI benefits at a glance

- Premium emissions test station for the professional workshop environment
- Robust trolley with room for almost all measuring components
- Great usability due to wireless radio connection between PC, measurement modules, and KTS 5XX
- High mobility during inspections thanks to optional battery operation with the BEA 070
- Flexibility with Windows PC which can be used for additional applications
- Good visibility on 24" screen and high availability thanks to short setup and warmup times
- System can be upgraded by control unit diagnosis, ESI[tronic] 2.0 troubleshooting instructions and FSA vehicle system analysis options
- Remote control for comfortable operation during the inspection process
- Supports the workshop networking concept Bosch Connected Repair
- Configurable for 4 gas measurement and opacity measurement, particle counting, or as a combination



Watch video!



BEA 950 S1 UNI

the premium exhaust gas station for the highest demands

The user-friendly exhaust gas measurement system offers everything needed to quickly and cost-effectively test gasoline, gas, hybrid and diesel vehicles. It is the solution to current and future demands of workshops and inspection organizations.

All measurement modules, control unit testers (optional), Windows PC, 24" screen, keyboard (optional) and A4 color laser printer come as a compact package in a trolley. To make the system even more future-ready, supplementary options from the Bosch equipment range including control unit diagnosis, troubleshooting instructions and vehicle system analysis are available.

Thanks to its robust design, the BEA 950 S1 UNI is well-equipped for tough everyday workshop use.

Remote control

- Easy navigation within the BEA PC Software during the measurement process, even from the distance
- For comfortable operation during the inspection process

Keyboard tray

Various language versions of keyboards are optionally available

Printer

A4 color laser printer

Computer

- Integrated Bluetooth
- Integrated network card
- Integrated HDMI output port
- USB ports on the back
- Hard drive (SSD)
- Possibility to upgrade with further workshop software such as ESI[tronic] 2.0, vehicle systems analysis, etc.



Can be upgraded with the **BEA 090 measurement module** for particle counting

Variants of the BEA 950 series		Order number
BEA 950 Gasoline	4 gas measurement station	0 684 123 357
BEA 950 S1 with KTS 560	4 gas and opacity measurement station with diagnostics	0 684 123 350
BEA 950 S2	4 gas and opacity measurement station	0 684 123 352
BEA 950 S3	4 gas measurement station with particle counting	S P09 000 034

**24" screen**

Good visibility

BEA PC UNI Software

- Easy vehicle identification
- User-friendly step-by-step guidance through the testing process

Rotational speed and temperature measurement (BEA 030)

Engine speed measurement BEA 030 by means of +/- battery terminals or cigarette lighter socket

Opacimeter (BEA 070)

- Smoke opacity measurement module with Bluetooth for flexible usage
- Optionally available with battery and charging station

4/5 gas measurement (BEA 055)

- Module on-board
- To measure CO, CO₂, HC, O₂, option for NO

Trolley

Robust, ergonomic with room for all the measuring components

BEA 950 S2 UNI

allround exhaust gas station for universal use



From simple exhaust gas tests to demanding emission system analyses, the BEA 950 S2 UNI is tailored to everyday workshop operations and simplifies emission measurements.

The powerful allround solution BEA 950 S2 UNI shows its strengths particularly in everyday testing procedures. It is the right choice for workshops that want to connect an existing DCU device/Laptop by radio and boast easy and fast usability.

With BEA 950 S2 UNI, you get a comfortable allround solution for all typical workshop duties involving the testing and adjustment of emission values for gasoline, gas, hybrid and diesel vehicles.



Order number

BEA 950 S2 UNI: 0 684 123 359

BEA 950 S2 UNI benefits at a glance

- Robust trolley with space for all modules and accessories
- Spacious shelf on the trolley, e.g. for laptop
- Prepared for easy connection with DCU 120/DCU 220/laptop
- High availability thanks to short setup and warmup times
- User-friendly due to wireless radio connection between DCU 120/DCU 220/laptop as well as BEA 070, BEA 030 and KTS 5XX
- Expandable: System can be rounded off by control unit diagnosis, ESI[tronic] 2.0 troubleshooting instructions and FSA vehicle system analysis options
- Can be upgraded with the BEA 090 for particle counting

BEA 030 and BEA 040

reliable rotational speed and temperature measurement



BEA 030

The BEA 030¹ is a practical module for quick and easy engine speed measurement via B+/B- and TN/TD and for reading oil temperature. It is used to measure both diesel and gasoline vehicles. It is designed to upgrade existing computer-based emissions testers from Bosch, and can be connected via USB or bluetooth.

BEA 040

The BEA 040 is a measurement module for quick engine speed measurement by way of structure-borne and airborne sound from the engine. The BEA 040 is used as an addition to BEA 030. It must be connected to the BEA 030 for power supply and data transmission to a PC.

Order number

BEA 030: 0 684 440 000

Order number

BEA 040: 1 687 023 673

Benefits at a glance

BEA 030

- Flexibility in measurement process: Measure engine speed via B+/B- or TN/TD
- Precise measurement thanks to adjustable length of oil temperature sensor
- Mobility during operation thanks to bluetooth connection to the PC
- Easy connection and measurement in the driver's cabin via TN/TD without opening the engine bay

BEA 040

- Quick rotational speed measurement on motors via structure-borne and air-borne sound
- Time-saving when used with both passenger car and commercial vehicle engines thanks to easy adaptation
- Easy and quick usage by simply connecting the magnetic sensor to the engine
- Efficient: no need to lower the cab on commercial vehicles

¹ functionalities included in BEA 950 S1, BEA 950 S2, BEA 550



BEA 550 UNI at a glance

- Ideal for mobile emissions testing, e. g. for inspection organizations
- Compact, space saving, light weight
- Great usability due to radio connection between a DCU device/Laptop as well as BEA 070, BEA 030 and KTS 5xx
- Flexible working thanks to battery operation of BEA 070 (optional)
- Ease of use in connection with a DCU device/Laptop
- Flexibility thanks to compact and portable measurement modules
- Can be upgraded with the BEA 090 for particle counting



Watch video!



BEA 550 UNI

mobile emissions diagnosis for varying operating places



The portable exhaust gas measurement system BEA 550 UNI is designed for mobile emissions testing and offers all the tools needed to meet the specific demands of inspection organizations. It can be used with an existing DCU 220/Laptop, and comes in combination with the rotational speed measurement module BEA 030.

In both mobile and workshop use, its wireless radio and battery technology help the system get ready for use quickly to conduct precise inspections to gasoline, gas, hybrid and diesel vehicles. For workshops who already have an existing rotational speed measurement module the BEA 060 for mere 4/5 gas measurement is the right solution.

This is what makes the BEA 550 UNI with its compact shape and low weight – at full performance – a reliable companion for flexible inspection work.



Order number

BEA 550 Combi UNI: 0 684 105 506

BEA 550 Gasoline UNI: 0 684 105 279

BEA 550 Diesel UNI: 0 684 105 179


BEA 060 Standalone UNI: 0 684 105 288

Particle counter BEA 090 - equipped for the future

The Bosch particle counter supplements the exhaust emission test with particle counting. This will become mandatory for all diesel vehicles of emission class Euro 6/VI with the introduction of Guideline 6 in Germany. The BEA 090 utilizes the CPC measurement method (Condensation Particle Counting).



Video about
CPC measurement method:
bit.ly/CPC-Animation-EN

 **Order number**
BEA 090: S P09 000 030

Benefits of the CPC measurement method

- CPC is an sophisticated measurement method
- High accuracy of the measurement due to precise particle counting: Measurement method independent of particle size and -distribution
- Device is insensitive to charged particles in the exhaust gas, such as those produced during exhaust gas aftertreatment
- CPC has no signal noise, and therefore doesn't interfere during the zero adjustment
- Simple test of the measurement functionality by means of ambient air measurement
- Future proof measurement method
 - Capable of measuring to tighter limits if required by future legislation
 - Reliable measurement of the small gasoline particles produced by direct injection is possible if required by future legislation
- The only consumable required is isopropanol



BEA 090 is controlled using the DCU 120



Operation

The BEA 090 is controlled through the familiar BEA PC software. It guides the operator intuitively through the exhaust gas inspection procedure. The data is transferred via Bluetooth or USB to the Bosch exhaust gas measuring system or any suitable workshop PC. With a short warm up time the BEA 090 is always quickly ready to use.



Certification and calibration

In Germany the BEA 090 is certified before delivery, during the initial factory calibration. In other regions the requirements of the local accreditation body (e.g. DAkkS for Germany) will apply to the initial calibration and ongoing regular calibrations. These calibrations can be carried out by Bosch Technical Service or an approved wholesaler.

Note: A calibration of the BEA 090 is also possible with charged particles thanks to the CPC measuring method.



For additional information on the particle counter BEA 090, see the website (German):

bit.ly/bosch-partikelzaehlung



Maintenance

The BEA 090 is particularly easy to maintain. The device has no wearing parts, apart from standard filters on the outside. Thanks to the measuring fluid used, the internal measuring technology does not need to be cleaned. This saves time and effort, and no additional calibration is required.

A simple functionality testing of the BEA 090 can be executed by the workshop by measuring the ambient air. The measuring fluid isopropanol required for the measurement can be renewed by simply replacing the bottle. Therefore, no tools are needed, and changing the bottle is easy and safe as operators have no direct contact with the isopropanol.

Complete package for particle counting:

DCU 120 Tablet PC + BEA 090 Measurement module + KTS 515 OBD module



Order number

S P09 000 033

BEA PC Software

efficient and connected with asanetwork

For fast data exchange – BEA PC software

We have made it our goal to make legally required emissions tests and inspections even faster and more cost-effective. The result: BEA PC software by Bosch.

Fully automatic test sequences, simple operation with an intuitive user interface and networking options enable you to perform even faster and more cost-effective emissions testing in the future.

Bosch test equipment, networked by asanetwork

Asanetwork connects the entire test equipment to the rest of the workshop. All information collected from the job order, the workshop itself and centralized database storage is available anytime at all working stations. When a new order is created in the system, the exhaust gas tester receives the job information automatically.





Minimum requirements for laptops or PC running the BEA PC software

- Min. 2 GHz CPU or 1.6 GHz dual core
- Min. 4 GB of RAM
- Windows 10 operating systems or newer
- Min. 160 GB of hard drive space
- 2 free USB ports
- Adaptation options: BEA PC software can also be used with a DCU device

The right solution for any need

Scope of delivery	BEA 950 S1	BEA 950 S2	BEA 950 S3	BEA 950 S4	BEA 950 Gasoline
Order number	0 684 123 350	0 684 128 352	S P09 000 034	0 684 123 301	0 684 123 357
BEA 030	✓	✓	✓	✓	✓
BEA 055	✓	✓	✓	✓	✓
BEA 070	✓	✓		✓	
Premium trolley	✓	✓	✓		✓
Medium trolley				✓	
PC, monitor, keyboard, mouse	✓	✓	✓		✓
A4 color laser printer	✓	✓	✓	✓	✓
KTS 560 (optional)	✓				
BEA 040 (optional)	✓	✓			
Remote control	✓	✓			
BEA PC Software	✓	✓	✓	✓	✓
BEA 090			✓		

Scope of delivery	BEA 550 Combi with KTS	BEA 550 Combi without KTS	BEA 550 Gasoline	BEA 550 Diesel
Order number	0 684 105 500	0 684 105 502	0 684 105 277	0 684 105 177
BEA 030	✓	✓	✓	✓
BEA 060	✓	✓	✓	
BEA 070	✓	✓		✓
KTS 515	✓			
BEA PC Software	✓	✓	✓	✓

Technical data overview

BEA 030

Technical data	BEA 030
Dimensions (W x D x H)	17 x 12 x 3.5 cm
Weight	approx. 0.35 kg
Power supply unit operating voltage	100 to 240 V, 50 to 60 Hz
Operating temperature	5 °C to 45 °C

Designation	Measuring range	Resolution
Battery voltage	9 to 32 V	0,1 V
Oil temperature	-20 °C to 150 °C	0.16 °C
B+/B-	450 to 9,500 rpm	20 rpm
TN/TD	100 to 12,000 rpm	10 rpm

BEA 040

Technical data	BEA 040
Dimensions (W x D x H)	22.5 x 18.5 x 5 cm
Weight	approx. 0.8 kg
Power supply unit operating voltage	230 VAC / 50 Hz via 12 VDC or power supply via OBD interface
Operating temperature	5 °C to 45 °C

Designation	Measuring range
Diesel engine speed	400 bis 9,500 rpm
Diesel engine speed	400 bis 8,000 rpm

Technical data overview

BEA 950 Serie

Technical data	BEA 950 S1/S2	BEA 950 Gasoline	BEA 950 S4	BEA 950 S5
Dimensions (H x W x D)	1,780 x 800 x 800 mm	1,780 x 800 x 740	1,400 x 800 x 800	1,780 x 800 x 740
Weight	115 kg	100 kg	60 kg	115 kg
Operating temperature	5 °C to 45 °C	5 °C to 45 °C	5 °C to 45 °C	5 °C to 45 °C

BEA 090

Technical data	BEA 090
Measurement method	CPC (Condensation Particle Counting)
Heated measuring hose	2 m (in scope of delivery) Optional: 3.5 m
Weight incl. measurement hose (without measurement fluid)	approx. 11.5 kg
Measurement fluid	Isopropanol in handy bottle for self-exchange
Dimensions (H x W x D)	380 x 420 x 270 mm
Operation	via BEA PC Software
Supply voltage	230 VAC/50 Hz
Cable length	4 m
Detected particle sizes	23 to 200 nanometers

BEA 070

Technical data	BEA 070
Dimensions (W x H x D)	414 x 330 x 280 mm
Weight	approx. 10 kg
Power supply unit operating voltage	100 to 240 V, 50 to 60 Hz
Operating temperature	5 °C to 45 °C
Exhaust gas sampling probe maximum temperature	250 °C
Measurement input maximum temperature	200 °C

Sensor	Measuring range	Resolution
Opacity	0–100%	0.1%
Absorption coefficient	0–10 m ⁻¹	0.01 min ⁻¹

BEA 060

Technical data	BEA 060
Dimensions (W x H x D)	414 x 330 x 280 mm
Weight	approx. 10 kg
Power supply unit operating voltage	100 to 240 V, 50 to 60 Hz
Operating temperature	5 °C to 45 °C

BEA 055/060/065

vol%	Measuring range	Resolution
CO	0–10 vol%	0.001 vol%
CO ₂	0–18 vol%	0.010 vol%
HC	0–9,999 ppm	1.0 ppm
O ₂	0–22 vol%	0.010 vol%
NO	0–5,000 ppm	1.0 ppm
Lambda	0,5–9,999	0.001
COvrai	0–10 vol%	0.010 vol%

Accuracy classes and approvals

- OIML Class 0
- MID (Measuring Instruments Directive)
- Guideline 6
- Initial factory calibration in accordance with DAkkS specifications
- Factory calibration in accordance with initial calibration legislation in Germany

Special accessories

Special accessories for 4/5 gas and temperature measurement



NO extension set

1 687 001 972



Silicon hose extension set for 2-stroke engines

1 687 001 283



Active carbon filter

1 687 432 014



Gasoline passenger car exhaust gas sampling probe (part load up to 500°C)

1 680 790 052



Probe sealing for leak test

1 680 706 040



Temperature measurement probes also for commercial vehicle

see table



Four gas measuring extension set for FSA 740

1 687 001 975

Oil temperature sensors for passenger cars, commercial vehicles, and buses

Probe	Cable length	Probe length	Comments
1 687 230 068	120 cm	90 cm	Passenger cars
1 687 230 036	300 cm	90 cm	Passenger cars
1 687 230 042	600 cm	90 cm	Passenger cars
1 687 230 045	600 cm	150 cm	Commercial vehicles
1 687 230 051	10 m	150 cm	Commercial vehicles, buses
1 687 230 050	600 cm	210 cm	Commercial vehicles, buses

Special accessories for professional emissions analysis and OBD

Sensor accessories for particle counting



KTS 515 – OBD module

0 684 400 515



KTS 560 – control unit diagnosis with 1-channel multimeter

0 684 400 560



KTS 590 – control unit diagnosis with 2-channel multimeter/2-channel oscilloscope

0 684 400 590



Exhaust gas sampling hose for BEA 090 – 3.5 m

1 685 510 247

Special accessories



Rotational speed measurement module BEA 040

1 687 023 673



Mounting for BEA 040

1 681 332 332



BEA 040 connection cable to BEA 030 and BEA 060

1 684 463 810



Remote control

1 687 201 985



Trolley for BEA 550

1 688 003 255

Special accessories for smoke opacity measurement



Commercial-vehicle exhaust gas sampling probe for BEA 070

1 680 790 041



Exhaust gas sampling hose (BEA 070) for commercial-vehicle exhaust gas sampling probe (1 m)

1 680 712 195



Exhaust gas sampling hose (BEA 070) for commercial-vehicle exhaust gas sampling probe (3.5 m)

1 680 712 201



Clamping fixture with telescopic rod for BEA 070 (for commercial vehicles with an elevated exhaust)

1 688 040 258



Passenger car full-load exhaust gas sampling probe for BEA 070 (measurement at the performance/engine test bench)

1 680 790 046



Heated exhaust gas sampling hose (BEA 070) for commercial-vehicle probe (5 m)

1 685 510 232



Battery extension set for BEA 070

1 687 001 626



Charging station for BEA 070 battery

1 687 023 878



Wall mounting for BEA 060 or BEA 070

1 687 001 649



Diesel extension set for FSA 740

1 687 001 648



Diesel extension set for BEA 550 Otto

1 687 001 989

Special accessories for BEA 950



Cover for BEA 950

1 685 439 025



Keyboard for BEA 950

1 687 023 810



Keyboard tray for BEA 950

1 687 010 632

What drives you, **drives us**

Bosch technologies are used in most vehicles worldwide.
People, and assuring their mobility, is what we are focused on.

Therefore, we have dedicated over 130 years of pioneering spirit
and expertise in research and manufacturing to achieving this.

We provide the aftermarket and workshops worldwide with modern diagnostic and workshop
equipment and a wide range of spare parts for passenger cars and commercial vehicles:

- solutions for efficient vehicle repairs
- innovative workshop equipment and software
- one of the world's most comprehensive ranges of new and exchange parts
- large network of wholesale customers, for quick and reliable parts supply
- competent hotline support
- comprehensive educational and training offers
- targeted sales and marketing support

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