



**BOSCH**

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**ANALYSES**



**Innovative solutions for  
a clean environment**  
Exhaust gas measurement systems

# 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. Even today, 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 carry out fast and precise emission measurements on passenger cars, motorcycles, commercial vehicles and buses. This helps carry out emissions tests more efficiently.

## Bosch exhaust gas measurement systems: the right fit for any workshop profile

**BEA 950 S1 UNI:** the premium exhaust gas station for the highest demands

**BEA 950 S2 UNI:** the all-round exhaust gas station for universal use

**BEA 550 UNI:** mobile emissions diagnosis for variable testing demands

**BEA 750 UNI:** new technology combined with proven engineering

**BEA 030 und 040:** reliable rotational speed and temperature measurement

**BEA PC Software:** efficient networking with asanetwork, BNet, Connected Workshop, AU Plus



# BEA 950 S1 UNI: the premium exhaust gas station for the highest demands

The user-friendly exhaust gas measurement system BEA 950 S1 UNI offers everything needed to quickly and cost-effectively test gasoline, gas and diesel vehicles. It is the perfect solution to current and future demands of workshops.

All measurement modules, control unit testers (optional), PC, 19" monitor, keyboard (optional) and A4 printer come in a compact package in a trolley. To make the system even more future-ready, supplementary options

from the Bosch FSA device range including control unit diagnosis, troubleshooting instructions and vehicle system analysis are available.

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

In short, it is a premium solution designed for more efficient working processes, satisfying even the highest demands.



 **BEA 950 S1 UNI order number:**  
**0 684 120 360**

## The system includes:

BEA 030, rotational speed measurement module, Bluetooth (B+/B-, TN/TD, temperature (optional))

BEA 055, 4/5 gas measurement module (CO, CO<sub>2</sub>, HC, O<sub>2</sub>, NO option)

BEA 070, smoke opacity measurement module, Bluetooth, option: battery and charging station

PC, monitor, A4 color printer

Remote control

BEA PC UNI software

## BEA 950 S1 UNI benefits at a glance

Premium emissions test station for demanding workshops

Premium trolley with room for all the measuring components

Ideally suited to workshop use thanks to its sturdy construction

Great usability due to radio connection between PC, BEA 070, BEA 030 and KTS 5XX

Optional battery operation with the BEA 070

Quickly readied for use thanks to short setup and warmup times

System can be rounded off by control unit diagnosis, ESI[tronic] troubleshooting instructions and FSA vehicle system analysis options

Supports the Bosch workshop networking concept Connected Workshop

# BEA 950 S2 UNI: all-round exhaust gas station for universal use

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

The powerful all-round solution BEA 950 S2 UNI shows its strengths particularly in everyday testing procedures. It can be comfortably connected to an

existing DCU 100 or laptop by radio and boasts easy and fast usability.

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



 **BEA 950 S2 UNI order number:**  
**0 684 120 359**

## The system includes:

BEA 030, rotational speed measurement module, Bluetooth (B+/B-, TN/TD, temperature (optional))

BEA 070, smoke opacity measurement module, Bluetooth, option: battery and charging station

BEA 055, 4/5 gas measurement module (CO, CO<sub>2</sub>, HC, O<sub>2</sub>, NO option)

A4 color printer

DCU 100/laptop<sup>1</sup>

BEA PC UNI software

## BEA 950 S2 UNI benefits at a glance

Ease of use in connection with DCU 100 or any commercially available laptop or netbook

Generous laptop shelf on the trolley

All cables for DCU 100/laptop included

Ideally suited to workshop use thanks to its sturdy construction

Quickly readied for use thanks to short setup and warmup times

User-friendly due to wireless radio connection between DCU 100 / laptop, BEA 070, BEA 030 and KTS 5XX

System can be rounded off by control unit diagnosis, ESI[tronic] troubleshooting instructions and FSA vehicle system analysis options

Space-saving – all measurement components are stored in the trolley

<sup>1</sup> Not included in the scope of delivery.

# BEA 030 and 040: reliable rotational speed and temperature measurement

## BEA 030:

The BEA 030 is a practical module for quick and easy engine speed measurement via B+/B- and TN/TD and for reading oil temperature.

 **BEA 030 order number: 0 684 440 000**



| Technical data                      | BEA 030             |
|-------------------------------------|---------------------|
| Dimensions (W x D x H)              | 17 x 12 x 3.5 cm    |
| Weight                              | 0.35 kg             |
| Power supply unit operating voltage | 100–240 V, 50–60 Hz |
| Operating temperature range         | 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:

The BEA 040 is a measurement module for quick engine speed measurement by way of structure-borne and airborne noise from the engine.

 **BEA 040 order number: 1 687 023 673**



| 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 range         | 5 °C to 45 °C                                                |

| Designation         | Measuring range  |
|---------------------|------------------|
| Diesel engine speed | 400 to 9,500 rpm |
| Diesel engine speed | 400 to 8,000 rpm |

## BEA 030 features at a glance

- Operation from a PC via Bluetooth or USB
- BEA 040 connection
- Voltage supply for BEA 040
- BEA 040 readings transmission to PC

## BEA 040 features at a glance

- Time-saving when used with both passenger car and commercial vehicle engines thanks to easy adaptation
- Engine speed measurement of diesel and gasoline engines
- Efficient: no need to lower the cab on commercial vehicles



## BEA 550 UNI benefits at a glance

Ideal for mobile emissions testing, especially for inspection organizations

Great usability due to radio connection between DCU 100 / laptop, BEA 070, BEA 030 and KTS 5XX

Ease of use in connection with DCU 100 or any commercially available laptop/netbook

Flexibility thanks to compact and portable measurement modules

Battery operation of BEA 070 (optional)

# BEA 550 UNI: mobile emissions diagnosis for variable testing demands

The portable exhaust gas measurement system BEA 550 UNI was specially developed for mobile emissions testing and offers all the tools needed to meet the specific demands of inspection organizations.

In both mobile and workshop use, its wireless radio and battery technology help the system get ready for use quickly to conduct precise examinations of and adjustments to gasoline, gas and diesel vehicles.

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



## BEA 550 Kombi UNI

BEA 060, 4/5 gas measurement module  
(CO, CO<sub>2</sub>, HC, O<sub>2</sub>, NO option)

BEA 070, smoke opacity measurement module,  
Bluetooth, option: battery and charging station

BEA 030, rotational speed measurement module,  
Bluetooth (B+/B-, TN/TD, temperature (optional))

BEA PC UNI software

Accessory case

 **BEA 550 Kombi UNI order number:**  
**0 684 105 506**

## BEA 550 Diesel UNI

BEA 070, smoke opacity measurement module,  
Bluetooth, option: battery and charging station

BEA 030, rotational speed measurement module,  
Bluetooth (B+/B-, TN/TD, temperature (optional))

BEA PC software

Accessory case

 **BEA 550 Diesel UNI order number:**  
**0 684 105 179**

## BEA 550 Otto UNI

BEA 060, 4/5 gas measurement module  
(CO, CO<sub>2</sub>, HC, O<sub>2</sub>, NO option)

BEA 030, rotational speed measurement module,  
Bluetooth (B+/B-, TN/TD, temperature (optional))

BEA PC UNI software

 **BEA 550 Otto UNI order number:**  
**0 684 105 279**

## BEA 060 UNI

BEA 060, 4/5 gas measurement module  
(CO, CO<sub>2</sub>, HC, O<sub>2</sub>, NO option)

BEA PC UNI software

 **BEA 060 UNI order number:**  
**0 684 105 288**

# BEA 750 UNI: new technology combined with proven engineering

No one knows more about the special needs of workshops than the people working in one. That is why the BEA 750 UNI was developed in a collaboration with mechanics and optimized for everyday workshop use.

The closed system with its high-value components – such as the SSD drive or the fine-resolution touchscreen – shows the current state of the engineering.

The BEA 750 UNI exhaust gas measurement system by Bosch is especially ergonomic to use and offers all the tools needed to inspect gasoline, gas and diesel vehicles quickly and easily.



**BEA 750 Kombi UNI order number:  
0 684 750 304**



## BEA 750 Kombi UNI

- Main unit incl. gasoline (BEA 065), diesel (BEA 070) and trolley
- Touchscreen monitor and thermal paper printer
- B+/B- connection cable for battery or cigarette lighter socket
- WLAN card for A4 printer
- Exhaust gas sampling probes and hoses for passenger cars
- Remote control
- BEA 750 UNI software

## BEA 750 Otto UNI

- Main unit incl. gasoline (BEA 065) and trolley
- Touchscreen monitor and thermal paper printer
- B+/B- connection cable for battery or cigarette lighter socket
- WLAN card for A4 printer
- Exhaust gas sampling probes and hoses for passenger cars
- Remote control
- BEA 750 UNI software

## BEA 750 UNI benefits at a glance

- Modern and ergonomic design
- Closed Windows-based system
- Optimum cost effectiveness

- Preconfigured plug-and-play system
- Easy operation

# Optimized for everyday workshop



## Top

- Tray for the OBD module KTS 515
- Slot for vehicle registration and clipboard
- Tray for touch pen

## Remote control

## Printer

- Integrated thermal paper printer
- Integrated WLAN card for A4 printer

## Monitor

- 10" capacitive touchscreen

## Four-gas meter

- Technology from the proven 4/5 gas measurement module BEA 055

## Computer

- Integrated Bluetooth
- Integrated network card
- Integrated HDMI output port
- USB ports on the back
- Hard drive (SSD)

## Software

- New BEA 750 UNI-software
- Improved configuration, e.g. Bluetooth setup

## Rotational speed and temperature measurement

- Proven and familiar technology from the engine speed module BEA 030 fitted to the top
- Engine speed measurement by means of +/- battery terminals or cigarette lighter socket
- BEA 040 (engine speed measurement by means of structure-borne or airborne noise signal) available as optional accessories

## Trolley

- Modern and ergonomic

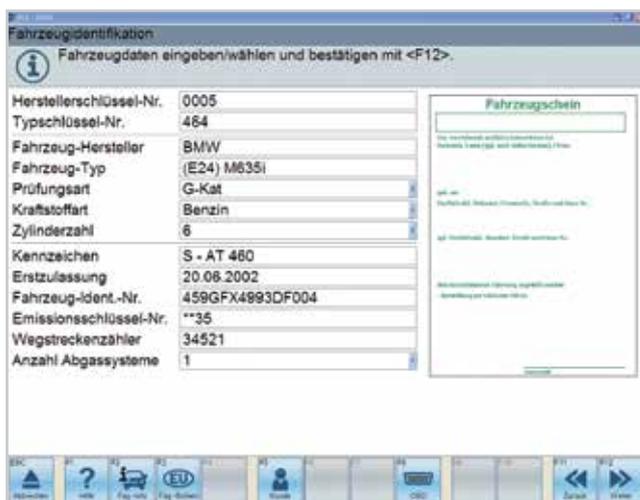
## Opacimeter

- Familiar smoke opacity measurement module BEA 070

# BEA PC software: efficient networking with asanetwork, BNet, Connected Workshop, AU Plus

## For fast data exchange – BEA PC software

We have made it our goal to make legally required emissions tests 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.



## Compatible with Beissbarth software – BNet

The BEA PC software can be connected to BNet, the network technology by Beissbarth GmbH.

## Intelligent integration – Connected Workshop

Under the name Connected Workshop, Bosch offers a server-based software solution. The central communication platform simplifies and accelerates work processes on all devices connected. Customer and vehicle data as well as job orders and measurement results are available at all times from a centralized database to all work stations connected. Once entered, all information can be retrieved as needed.



## 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 analyzer receives the job information automatically.

## Your benefits at a glance

Transparent vehicle and customer information at a glance

Asanetwork, BNet and Connected Workshop networking

User-friendly and intuitive operation

Mostly automatic and fast test sequences

Networking of diagnostic devices for more efficient workshop processes



## Minimum requirements for laptops or notebooks running the BEA PC software

Min. 2-GHz CPU or 1.6-GHz dual core

Min. 2 GB of RAM

Windows XP operating system or newer

Min. 160 GB of hard drive space

2 free USB ports

**Adaptation options:** BEA PC software can also be used with the DCU 100 and DCU 220

# The right solution for any need

| Scope of delivery                  | BEA 950 S1 UNI | BEA 950 S2 UNI | BEA 750 Kombi UNI |
|------------------------------------|----------------|----------------|-------------------|
| Order number                       | 0 684 120 360  | 0 684 120 359  | 0 684 750 304     |
| BEA 030                            | x              | x              | 1)                |
| Four-gas meter                     | x              | x              | x                 |
| BEA 060                            |                |                |                   |
| BEA 070                            | x              | x              | x                 |
| Premium trolley                    | x              |                |                   |
| Medium trolley                     |                | x              |                   |
| BEA 750 trolley                    |                |                | x                 |
| PC, monitor, keyboard, mouse       | x              |                |                   |
| A4 color printer                   | x              | x              |                   |
| Strip printer                      |                |                | x                 |
| KTS 560                            |                |                |                   |
| KTS 515                            |                |                |                   |
| BEA 040                            |                |                |                   |
| Remote control                     | x              |                | x                 |
| BEA PC UNI or BEA 750 UNI software | x              | x              | x                 |

| Scope of delivery                  | BEA 750 Otto UNI | BEA 550 Kombi S2 | BEA 550 Otto UNI | BEA 550 Diesel UNI | BEA 060 UNI   |
|------------------------------------|------------------|------------------|------------------|--------------------|---------------|
| Order number                       | 0 684 750 204    | 0 684 105 506    | 0 684 105 279    | 0 684 105 179      | 0 684 105 288 |
| BEA 030                            | 1)               | x                | x                | x                  |               |
| Four-gas meter                     | x                |                  |                  |                    |               |
| BEA 060                            |                  | x                | x                |                    | x             |
| BEA 070                            |                  | x                |                  | x                  |               |
| Premium trolley                    |                  |                  |                  |                    |               |
| Medium trolley                     |                  |                  |                  |                    |               |
| BEA 750 trolley                    | x                |                  |                  |                    |               |
| PC, monitor, keyboard, mouse       |                  |                  |                  |                    |               |
| A4 color printer                   |                  |                  |                  |                    |               |
| Strip printer                      | x                |                  |                  |                    |               |
| KTS 560                            |                  |                  |                  |                    |               |
| KTS 515                            |                  |                  |                  |                    |               |
| BEA 040                            |                  |                  |                  |                    |               |
| Remote control                     | x                |                  |                  |                    |               |
| BEA PC UNI or BEA 750 UNI software | x                | x                | x                | x                  | x             |

<sup>1</sup> Built-in BEA 030 rotational speed technology

# Technical data overview

## BEA 950 S1 UNI

| Technical data         | BEA 950 S1/S2    |
|------------------------|------------------|
| Dimensions (H x W x D) | 178 x 68 x 80 cm |
| Weight                 | 110 kg           |
| Operating temperature  | 5 °C – 45 °C     |

## BEA 950 S2 UNI

| Technical data         | BEA 950 S3/S4    |
|------------------------|------------------|
| Dimensions (H x W x D) | 135 x 68 x 80 cm |
| Weight                 | 95 kg            |
| Operating temperature  | 5 °C to 45 °C    |

## 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 | 100–240 V, 50–60 Hz |
| Operating temperature range         | 5 °C to 45 °C       |

## 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            | 100–240 V, 50–60 Hz |
| Operating temperature range                    | 5 °C to 45 °C       |
| Exhaust gas sampling probe maximum temperature | 250 °C              |
| Measurement input maximum temperature          | 200 °C              |

## BEA 060/065

| Designation     | Measuring range | Resolution |
|-----------------|-----------------|------------|
| CO              | 0–10 vol%       | 0.001 vol% |
| CO <sub>2</sub> | 0–18 vol%       | 0.010 vol% |
| HC              | 0–9,999 ppm     | 1.0 ppm    |
| O <sub>2</sub>  | 0–22 vol%       | 0.010 vol% |
| NO              | 0–5,000 ppm     | 1.0 ppm    |
| Lambda          | 0.5–1.8         | 0.001      |
| COvrai          | 0–10 vol%       | 0.010 vol% |

| Sensor                 | Measuring range      | Resolution             |
|------------------------|----------------------|------------------------|
| Opacity                | 0–100%               | 0.1%                   |
| Absorption coefficient | 0–10 m <sup>-1</sup> | 0.01 min <sup>-1</sup> |

## BEA 750

| Technical data         | BEA 750                                       |
|------------------------|-----------------------------------------------|
| Dimensions (H x W x D) | 160 x 80 x 70 cm                              |
| Weight                 | 70 kg - BEA 750 Kombi<br>60 kg - BEA 750 Otto |
| Operating temperature  | 5 °C to 45 °C                                 |

## Rotational speed measuring technology

| Designation     | Measuring range   | Resolution |
|-----------------|-------------------|------------|
| Battery voltage | 9–32 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     |

## Accuracy classes and approvals

OIML class 0

MID (Measuring Instruments Directive)

# Special accessories

## Special accessories specifically for BEA 750



Keyboard tray  
 1 685 438 658



Keyboard  
 1 687 023 710



TN/TD rotational speed line  
 L = 4 m  
 1 684 460 292



Mounting for BEA 040  
 1 681 332 332



Cover  
 1 685 439 535



Diesel extension set  
 1 687 001 989

## Special accessories for 4/5 gas and temperature measurement



Connection cable (2 m)  
 for BEA 060 to cigarette  
 lighter socket  
 1 684 465 584



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  
 see table

| 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 | 1,000 cm     | 150 cm       | Commercial vehicles,<br>buses |
| 1 687 230 050 | 600 cm       | 210 cm       | Commercial vehicles,<br>buses |

## Special accessories for smoke opacity measurement



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

1 680 790 046



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



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

1 685 510 232



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

1 688 040 258



Spiral hose (1.5 m) for connecting BEA 070 to the exhaust gas extraction system

1 680 707 118



Battery extension set for BEA 070

1 687 001 626



Charging station for BEA 070 battery

1 687 023 619



Diesel extension set for BEA 550 Otto to BEA 550 Kombi

1 687 001 976

## Special accessories for professional emissions analysis and OBD



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



OBD adapter box with OBD interface

1 684 462 514



Wall mounting for BEA 060 or BEA 070

1 687 001 973



BEA 040

1 687 023 673



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



Test cable case

1 687 011 208

# Driven by efficiency

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

Therefore, we have dedicated the last 125 years of pioneering spirit and expertise in research and manufacturing to achieving this.

We continue to work on our unique combination of solutions for spare parts, diagnostic devices, workshop equipment and services:

Solutions for efficient vehicle repairs

Innovative workshop equipment and software

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Competent hotline support

Comprehensive educational and training offers

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