

Questions and Answers About the BlueDig System

1. What is the BlueDig measurement system used for and how does it help at work

BlueDig is a measurement system that displays the bucket position, height, and tilt angles to the operator in real time on the screen.

It saves time during level and slope excavation work by showing the current excavation height/depth without the need to leave the excavator for manual measurements or hire an additional worker to continuously perform measurements.

2. How does the BlueDig system work

BlueDig is software for an Android tablet or smartphone that wirelessly connects to sensors mounted on the excavator arm.

Based on the dimensions entered during the initial installation and the sensor data, the system calculates the bucket position.

3. Is the BlueDig software paid or does it require a subscription

No.

BlueDig software is free and does not require any additional fees to maintain full functionality throughout its entire service life.

4. What is included in the kit

The kit for an excavator with a 2-piece boom includes:

- 4 Sensors
- 4 Self-adhesive sensor mounts
- Sensor storage case
- Charging and data transmission cable
- Sensor user manual

The kit for an excavator with a 3-piece boom includes:

- 5 Sensors
- 5 Self-adhesive sensor mounts
- Sensor storage case
- Charging and data transmission cable
- Sensor user manual

Additional mounts for extra buckets can be ordered.

All sensors are identical.

A kit for a 3-piece boom excavator can also be used on a 2-piece boom excavator.

A kit for a 2-piece boom excavator can be used on a 3-piece boom excavator after purchasing one additional sensor and mount.

5. How are the sensors installed

Installation is non-invasive.

It does not require drilling, threading, wiring, or external power supply.

Self-adhesive mounts are attached to the excavator.

The sensors are then clipped into the mounts with a single quick motion.

6. Can the sensors be installed in any location and orientation?

No.

Arm sensors must be installed on the left side of the boom with the arrow facing upward. The rotation and bucket sensors must be installed in the orientation specified during installation.

7. What should I do if there is no space to install the sensor in the required location or if another location would be more convenient?

Sensor installation is not arbitrary and cannot be interpreted or modified freely.

Installation must be performed exactly as described in the manual and application.

If you have any doubts, contact the distributor/manufacturer from whom you purchased the kit.

8. On what machines can the BlueDig system be installed

BlueDig is a universal system designed for installation on a digging arm.

It supports both 2-piece and 3-piece booms.

It supports both standard and tilt buckets.

The system supports multiple machines and multiple buckets.

The same sensor kit can be used on multiple machines.

9. Can I install the BlueDig system on a dozer blade or loader bucket?

No. BlueDig is a 2D system based on measuring the bucket height relative to a defined reference plane.

It does not determine absolute spatial position and therefore does not support operation while the machine is moving.

10. Does BlueDig support a telescopic arm on a backhoe loader?

Changes in the length of any boom segment cannot be measured contactlessly using inertial methods — therefore BlueDig does not support variable boom length.

However, the system can still be used on an excavator with a telescopic arm.

Two separate machine configurations must be created: one for the extended telescope position and one for the retracted position.

The appropriate configuration should then be selected depending on the current working mode.

11. Does BlueDig support a horizontally offset boom?

No.

Absolute horizontal rotation cannot be measured using inertial methods.

BlueDig can still be used with an offset boom, but the boom must remain in the straight position.

Measurements may become inaccurate when the boom is offset.

12. Does BlueDig support a tilt bucket or power/tilt system?

Yes. BlueDig supports hydraulic tilt buckets and buckets mounted on a power tilt system.

This functionality is included as standard and does not require any additional sensors.

13.Does BlueDig support a swing boom on a mini excavator?

The system cannot continuously measure boom swing angle on the kingpost. However, separate machine configurations can be created for the straight and swung boom positions (for example, by marking the swing position on the kingpost). When working with the swung boom, simply select the corresponding configuration from the list.

14.Does BlueDig support a rotating/tilting coupler?

No.

The system can still be used on an excavator equipped with a rotating coupler, but for accurate measurements the coupler must be set to the zero rotation position.

15.Why is a laser level used with the system and is it necessary?

A laser level is used for automatic excavation height calibration.

The distance from the laser line to the target excavation plane can be measured, and after selecting laser detection in the system, BlueDig will automatically calculate the height and maintain the excavation plane at the desired level.

After repositioning the excavator, the laser allows automatic height recalibration.

A laser level is not mandatory.

The system can operate without a laser level by placing the bucket on the excavation surface and manually setting the height reference.

16.What type of laser level is supported by the system?

The system supports rotary laser levels with a red laser beam and a rotation speed of 600 RPM.

17.Is installation of the BlueDig system difficult?

No.

If you can read instructions and follow procedures correctly, installation of the system will not be difficult.

18.How long does installation of the system take?

If you read the installation manual, watch the installation video, and prepare the required tools, installation should take no more than one hour.

If you hate reading manuals, it may take up to 3 days :)

19.What does installation of the system look like?

First of all, start by reading the installation manual and watching the installation video.

DO NOT RELY ONLY ON THE VIDEO OR ONLY ON THE WRITTEN MANUAL.

During installation, the mounts and sensors are installed according to the instructions provided by the configuration wizard in the application.

All actions must be performed exactly as described in the manual and application. Do not improvise or attempt alternative methods.

All measurements must be performed with maximum precision and care.

20. What is the measurement accuracy of the BlueDig system?

The practical working accuracy of the system depends on the precision and care taken during configuration, the size and mechanical play of the machine, the condition of the tools (worn buckets, bent boom, etc.), and other factors.

With careful installation and a properly maintained machine, the system achieves an accuracy of up to 1 cm.