

PowerDigger Plus Main Functions

A PowerDigger Plus control panel will clearly guide you to:

- A preset reference depth or slope
- A reference surface sloping in both directions (MRS 300 required)
- A complex profile of up to 11 combined surfaces
- You can offset your reference surface
- Use a point or a string line as height reference
- Use a laser (plane or slope) as reference
- You can measure distances and slopes
- Do blind cuts under water
- Position sheet piles easily in vertical position
- Drill cored holes to preset depth
- Detect underground services while digging

Increased Flexibility

- Simple to use system for all digging applications
- Upgradeable from basic system up to 3D GPS guidance as your jobs demands
- Dig under water with full guidance
- Use Driller function to perform piling and drilling applications
- Set the display information to fit your needs

Reduced Costs

- Faster job cycles reduce operation costs
- No more overcuts
- Less labour cost by reducing or eliminating grade checks



Total Quality Management – our commitment to total customer satisfaction.

Ask your local Leica Geosystems dealer for more information about our TQM program.



Leica Rugby 320 SG and 410/420 DG
Single and dual grade construction lasers for machine control



Leica Depthmaster
Depth Indication System



Leica PowerBox
Easy and flexible site positioning



Leica PowerDigger 3D
Advanced 3D excavator guidance system

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- when it has to be right



Leica PowerDigger Plus

The new enhanced excavator control system

Enhanced Digging Accuracy of ± 10 mm



SitePOWER
by Leica Geosystems



- when it has to be right



Leica PowerDigger Plus

The most versatile, efficient excavator control system

PowerDigger Plus Features

- Most accurate system on the market – 1 cm (0.5") or 0.2% of the reach
- Fits any machine ranging from 1 to 600 plus tons, dual booms or long reach machines with a reach of more than 25m (80')
- 4" Colour Graphic display
- Simple menu structure, very easy to use
- Remote display supported
- Holds 20 different bucket settings
- 100% waterproof (IP68) – no special sensors or cables needed for underwater use
- Upgradeable from single grade to dual grade and 3D guidance
- Upgrade with tilt bucket sensor
- Bucket sensor can be mounted on the dog bone
- Selectable bucket reference point
- Often used function keys can be activated from the joystick
- Interface to EZiDIG Buried Services Detector
- New PowerDriller function for easy vertical positioning of sheet piles or drilling

Key Benefits

The PowerDigger Plus guidance system improves the overall performance of your machine:

Increased Productivity

- Eliminate down time to make grade level checks
- Reach better results with less passes! PowerDigger Plus provides you the real-time information you need.
- Save time, setup and go in minutes
- Increase digging safety and streamline the working process. The integrated cable avoidance functionality of PowerDigger Plus enables to locate buried services while digging



Leica PowerDigger Plus

The next generation of excavator guidance is right here!

PowerDigger Plus means better performance

The constant development of sensors and software has made it the most accurate and reliable system on the market, improving your daily work, and securing excellent productivity for users.

PowerDigger Plus means flexibility

The PowerDigger Plus is a truly upgradeable system. You can start with a single grade system that will allow you to do most operations such as fixed depth, slopes, trenching, blind cuts, grading etc.

PowerDigger Plus upgrade

Adding on the MRS300 Sensor will upgrade your system to dual grade system. It will give you the freedom of movement in any direction on a sloping surface as the system will compensate for machine, pitch, roll and rotation. Mounting a tilt bucket sensor will add a further dimension to your machine control.

Upgrade to 3D guidance

A growing number of our customers have also chosen to upgrade their PowerDigger Plus to a 3D capable system. This can be done by adding PowerDigger Plus 3D computer as the control panel for the RTK GNSS receiver.

Extend your common applications

The new PowerDriller function of PowerDigger Plus enables you precise vertical positioning of sheet piles and drilling applications at a right angle and preset depth.

Durable sensors

All sensors are fully waterproof down to at least 20m (70') head of water – and so are the cables – so there is no need for expensive special equipment for backhoe dredgers. The hermetically sealed sensors will also withstand the stress and vibration on a hydraulic hammer.

CAN bus equals quick installation

The CAN bus system makes installation extremely simple. We know that minimizing downtime is important for your business. Therefore all sensors come with special welding plates or easy mounts to speed up the installation. The typical installation and calibration time for a basic system is less than three hours.

User-friendly menu structure

A simplified menu structure makes for easier setup and higher productivity. Incorporating the feedback and suggestions from our huge user community, we offer you a system "designed by operators for operators". All frequently needed settings are arranged for fast access.

PowerDigger Plus Specifications	
Graphic Display	4" LCD
Size (WxHxD)	12x16x5cm (4.7x 6.3x2.0 in)
Supply	9-28V full polarity and load dump protected
Operating temperature	-20 to 70°C (-4 to 160°F)
Seal	Dust and waterproof (IP66)

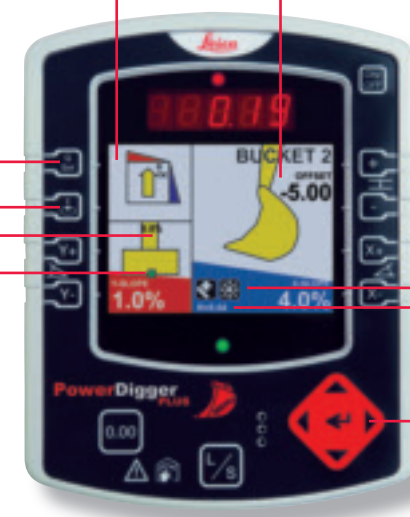
Cross Slope display in Single slope mode
Monitor the cross slope of the bucket – either if a Roll sensor has been mounted on the chassis of the machine or if a Tilt Bucket sensor is part of the system.

Quick key – multiple settings recalled
With the "Quick Key" 10 different user defined settings can be saved and recalled by the push of just one button.

Shortcut keys
These shortcut keys allow access of the most commonly used functions.

Actual bucket slope displayed
See the actual slope of tilt bucket for quick check of the correctness of the constructed slope, or to measure existing slopes.

Selectable Bucket Reference point
With PowerDigger Plus it is now possible to select the reference point on the bucket. You can toggle through 4 settings – Left, Middle, Right or Lowest Point. This is particularly useful in confined digs where it is not always possible to use the middle of the bucket as reference point.



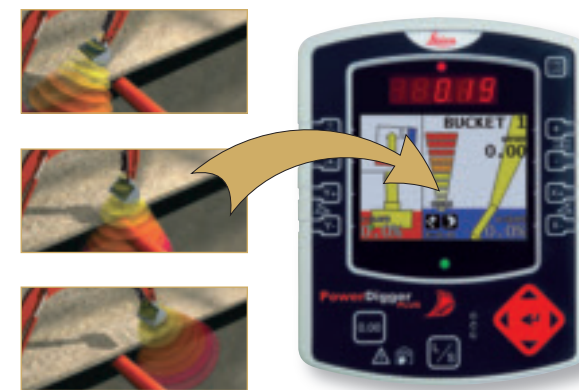
Multiple bucket displays
A multi-color bucket display visualizes the bucket position. Essential when digging under water, in deep trenches or whenever the bucket is out of sight.

Reference method displayed
Reference height used is clearly displayed, with offset now linked to the reference method used.
 1 Local reference (e.g. benchmark, hub)
 2 Laser reference
 3 3D reference

Offset direction displayed
Ideal for adding offsets to the surface – e.g. if the operator is adding a finishing layer of dirt on a slope.
 1 Surface is offset vertically
 2 Surface is offset along the Surface Normal (90deg to the surface)

Reach measurement displayed
The horizontal reach from the reference point is displayed on screen. Project dimensions from a drawing can be set-out directly using the machine. The operator no longer has to get out of the cab to do manual measurements.

Easy navigation through menus
A QuickNav™ multifunction button has been added. This button will aid the driver to quickly navigate through the PowerDigger Plus menus.



EZIDIG cable avoidance tool is now integrated in the PowerDigger Plus

The EZIDIG cable locator provides a real time warning of presence of a buried metallic service, EZIDIG works with the operator rather than against the workflow, keeping him alert to threats so safety and productivity are both maximized. The sensor is magnetically mounted to the excavator stick. To ease the installation we have designed a combined Power Supply and CAN interface box called the CX7-PSU. This box is mounted right

next to the stick sensor and provides power for the cable detection sensor and interface to the PowerDigger Plus CAN connection.

Increase your on-site safety

Striking underground services (e.g. electricity cable, gas pipes...) can result in serious personal injury and property damage, and can involve very high cost for the originator. The integrated cable avoidance in PowerDigger Plus increases digging safety and can avoid costly damages.

PowerDriller simplifies pile driving and drilling applications

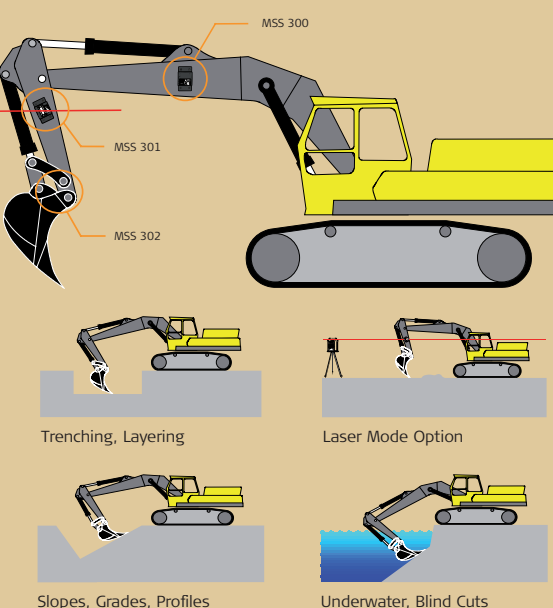
An auger can be mounted to all common hydraulic excavators as well as mini excavators. The auger drive can be applied for ground release drilling, ground investigation, soldier pile installation, displacement augering, CFA piles, injection and soil improvement for foundations.

is often very important to do so vertically. The angle of the pile or drill normally has to be measured manually but with the special PowerDriller mode the operator can stay in the cab as the slope information is displayed to him on the control panel, even as he drills.

An add-on vibratory pile driver is used for piling sheet piles, trench sheet piles, steel beams and girders, pipes, casings, etc. When drilling or piling it

If a basic PowerDigger Plus system is mounted on the machine it will also be possible for the operator to drill to a preset depth. A laser plane or a local reference point can be used for benching.

PowerDigger Plus

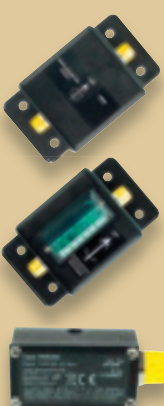


Basic System Sensors

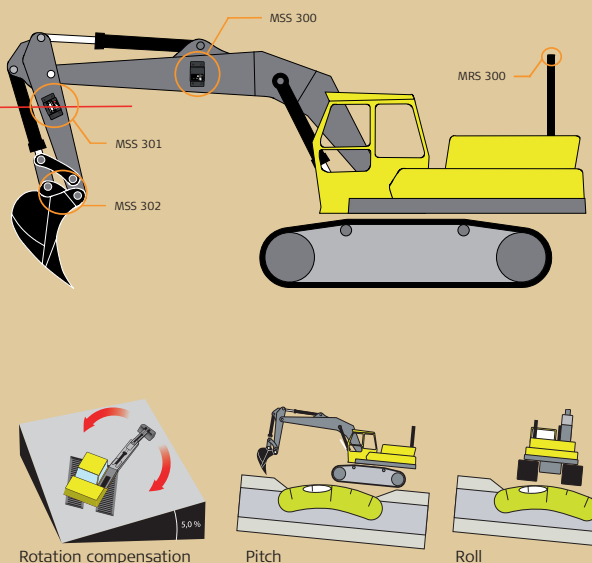
MSS 300 Angle Sensor
Can be used as boom, stick or bucket sensor. Normally it is only used as the boom sensor.

MSS 301 Angle Sensor incl. Laser Catcher
Why mount two sensors when you can combine everything in one? The MSS 301 is a combined stick angle and laser sensor. It's compact and easy to position in the right spot.

MSS 302 360°
This 360° bucket sensor can be mounted on the bucket, in the quick coupler or on the dog bone. The small size allows for it to be "hidden" in a protected location to avoid damage to cable or sensor.



PowerDigger Plus Pro

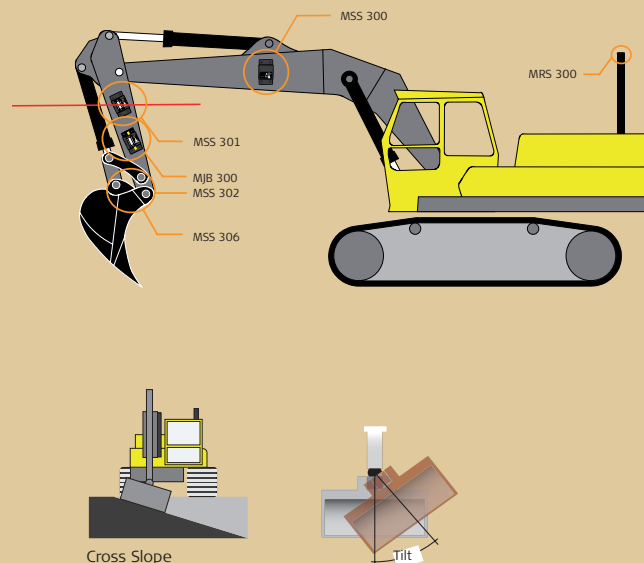


PowerDigger Pro senses complete machine attitude – pitch, roll, and rotation (heading).

MRS 300 Rotation Sensor
The MRS 300 is a pitch, roll and direction sensor used to determine the attitude of the excavator. While working, the accurate roll and pitch measurement from the MRS 300 easily compensates for the rolling and pitching motion of the machine to give the required cm-accuracy (sub-inch level).



PowerDigger Plus Pro with Cross Slope Option



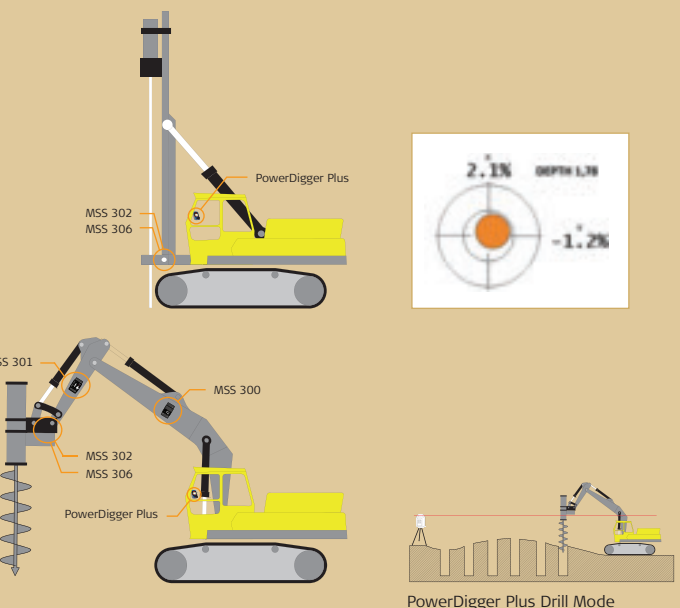
Add dual-axis bucket angle sensing for ultimate performance.

MSS 306 Tilt bucket sensor
You can also update your PowerDigger Plus to include a sensor for a tilt bucket. The compact size makes it easy to hide in the quick coupler.

MJB 300 Junction Box
The MJB 300 Junction Box is expanding the CAN-lines for the cross-slope functionalities.



PowerDriller System



The PowerDriller Basic System consists of:

- PowerDigger Plus control panel
- One MSS 302 360° sensor
- One MSS 306 360° sensor
- MJB 300 junction box and cables

