BPS III Machine Control System

Robotics for Crawler and Wheeled Excavators, Front Shovel and Backhoe

Reliable, rugged and easy-to-use

Efficient and flexible use of contractor's equipment

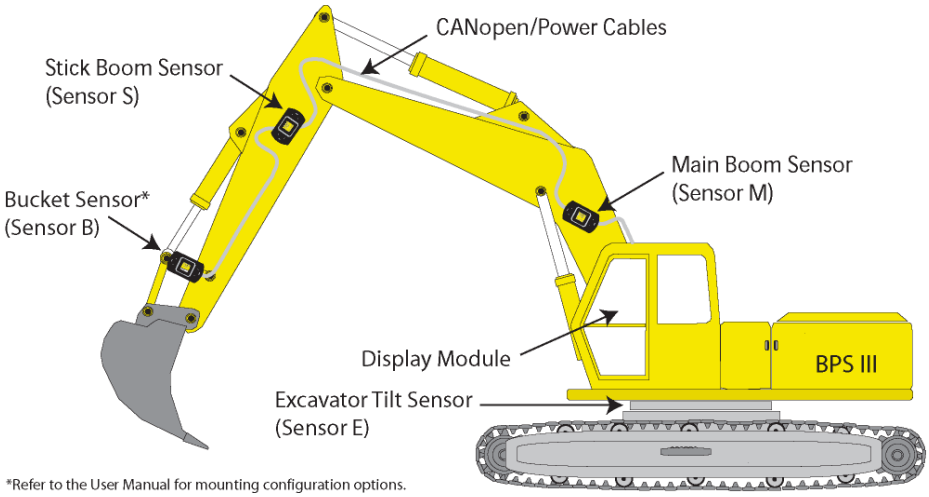
Reduces labour costs and idle time

Provides accurate material requirements

Safer working environment

Simplifies jobs in water-filled sites and underwater

Permits working after dark



*Refer to the User Manual for mounting configuration options.

A BPS system provides a continuous assessment of actual machine position compared to site design.

- Quick installation with modular, quick-connect BPS
- Flexible system configuration with 8 bucket sizes
- Single cable CAN networked connections
- Rugged packaging, cabling and shock resistance
- Designed for -30 to +85 degrees C operation
- 2D operation
- Precise control for digging on the long and cross slope
- View in real-time the bucket vertical and horizontal position relative to an original site reference elevation
- Colour display is user-friendly
- USB port for configuration and software updates
- Additional CAN port, CANopen®
- Includes main boom sensor, stick boom sensor and a dual slope bucket sensor (360 degree configuration is programmable)
- Pitch/roll sensor for mounting on excavator frame included in the base system

Note: CANopen® is a registered community trade mark of CAN in Automation e.V.

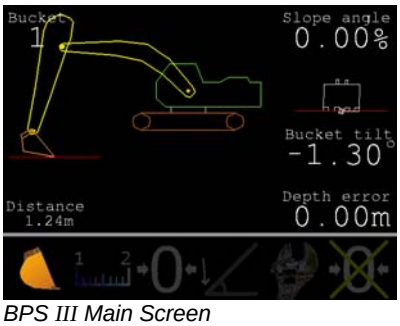
In Europe:
Axiomatic Technologies Oy
Höytämöntie 6
33880 LEMPÄÄLÄ - Finland
Tel. +358 103 375 750
Fax. +358 3 3595 660
www.axiomatic.fi

In North America:
Axiomatic Technologies Corporation
5915 Wallace Street
Mississauga, ON Canada L4Z 1Z8
Tel. 1 905 602 9270
Fax. 1 905 602 9279
www.axiomatic.com

BPS III Machine Control System Components

Display for BPS III System

Colour Display is located in the cab for reliable data collection and master machine control.



BPS III Main Screen

The main screen with excavator view shows the current position of the boom and the bucket together with the parameters of selected bucket, distance (bucket teeth from the main boom pin), slope angle, bucket tilt and current depth error. Or, the operator can view the parameters in large characters. Menus in the lower part of the screen, permit system set up. The bucket menu (highlighted) permits configuration of 8 buckets.

Triaxial Sensors

Inclinometers based on MEMS sensor technology provide accurate angle measurements. They are mounted on the excavator, main boom, stick boom and bucket. A 2nd bucket sensor can be used for resolving both angle and tilt in 360 degrees or for clamshell buckets. An excavator sensor is also included.

Ordering P/Ns	Description	
AX180200	**BPS III System (KIT)**	Basic Kit includes:
AX180201	**Main Boom Sensor (M)**	**x**
AX180202	**Stick Sensor (S)**	**x**
AX180203	**Bucket Sensor with internal CAN bus termination (B)**	**x**
AX180205	**Excavator Sensor (E)**	**x**
AX180220	**Display with BPS III Software and Cable and RAM-B-102**	**x**
AX180401	**Laser Receiver, CANopen (Optional)**	**Option**
RAM-B-102	**RAM Mounting Bracket**	**x**
AX180241	**3 m Power Cable from Battery to T-Coupler**	
AX180242	**T-Coupler Cable Assembly**	
AX180230	**3 m Cable from Display to T-Coupler**	
AX180243	**4 m Cable from T-Coupler to Excavator Sensor**	
AX180236	**4 m Cable from Excavator Sensor to Main Boom Sensor**	
AX180231	**8.5 m Cable from Main Boom Sensor to Stick Sensor**	
AX180232	**3 m Cable from Stick Sensor to Bottom of Boom**	
AX180238	**3 m Cable from Bottom of Stick Boom to Bucket Sensor**	
AX180204	*Bucket Sensor #2 for Clamshell Bucket (B2)*	*Option*
AX180237	*3 m Cable for 2nd Bucket Sensor*	*Option*
AX180239	*1.5m Cable from Stick Sensor to Laser Receiver*	*Option*
AX180240	*1.5m Cable from Laser Receiver to Bottom of Stick Boom*	*Option*
AX180233	*1 m Extension Cable*	*Option*
AX180234	*USB Programming Cable*	*Option*

General Specifications – BPS III System	
Operating voltage	12V, 24VDC nominal (9…43 VDC power supply range)
Operating temperature range	-30...+85°C (-22…+185°F)
Display – Dimensions	5.6" (115 x 86 mm active area), 640 x 480 pixels, LED Backlight Plastic enclosure 181.93 x 139.00 x40.00 mm 7.16 x5.47 x 1.57 inches (W x H x D excluding connectors and RAM mount bracket) Includes RAM mount (RAM-B-102) for mounting in the cab
Inclinometer Main Boom, Stick Boom, 2nd Bucket Sensor – Dimensions	Anodized cast aluminum enclosure, 2 M12 5-pin integral connector(s), Encapsulated, IP67 Dimensions: 4.40 x 2.25 x 1.32 inches 111.87 x 57.09 x 33.50 mm (L x W x H)
Inclinometer Bucket – Dimensions	Anodized cast Aluminum enclosure, 1 Deutsch IPD DT15-4P connector, Encapsulated, IP67 Dimensions: 3.34 x 3.14 x 2.18 inches 84.8 x 79.8 x 55.5 mm (L x W x H)
CAN communications	2.0B (CANopen®)