- MID247

This MID is used to provide different initialization operation to the module. Use command 0 to initialize coil if the module is close to a strong magnetic field and the output measurement becomes abnormal. Use command 1 to re-start auto-calibration. As soon as this command is issued, the calibration status field in measurement report 1($PLSR,245,1) is cleared to 0 automatically. The calibration status is set to 7 when calibration is complete. The application software should provide interfaces to access command "$PLSC,247,1" to allow end users to calibrate the module when needed.

◆ Input Command Parameters:

Field Name	Value	Description	Remark
MID	247	Message ID	
Command	0..1	0: Coil reset to recover module from high magnetic field environment 1: Reset auto-calibration	
CheckSum			
<CR><LF>			

◆ Output Command Parameters:

Field Name	Value	Description	Remark
MID	247	Message ID	
Valid	0..1	1:command valid 0:command invalid	
Result	0..255	0: success else command failed	
CheckSum			
<CR><LF>			

◆ Example

Input	Output	Description
$PLSC,247,0*0D	$PLSR,247,1,0*01	Reset Coil
$PLSC,247,1*0C	$PLSR,247,1,0*01	Reset auto-calibration. Start to swing the module until calibration complete.

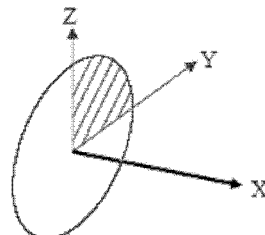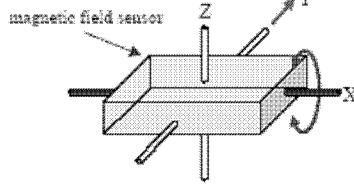There are two calibration methods for the module.

- ## Basic method

(a)
Rotate the sensor around the Z axis.
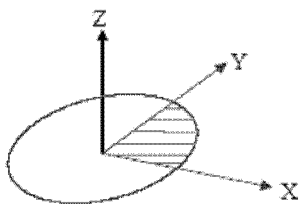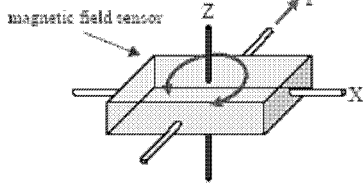
Calibration on the X-Y plane

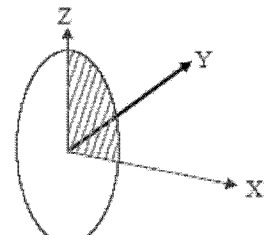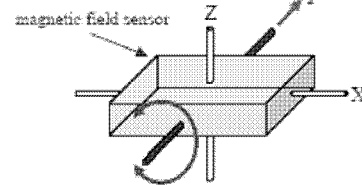The offset values for the X and Y directions are calculated.

(b)
Rotate the sensor around the X axis.

Calibration on the Y-Z plane

The offset values for the Y and Z directions are calculated.

(c)
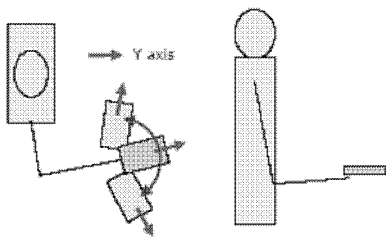Rotate the sensor around the Y axis.

Calibration on the X-Z plane

The offset values for the X and Z directions are calculated.

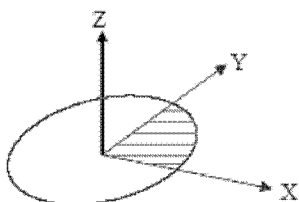Two completions of the above three actions are enough to calculate the offset values for the three directions.

- ## Swing and twist

(a)
Hold the device horizontally against the ground, and swing it slowly left and right.
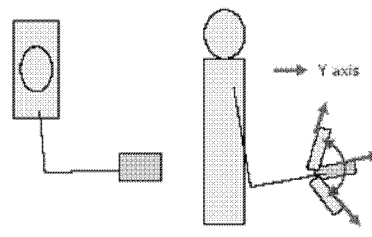

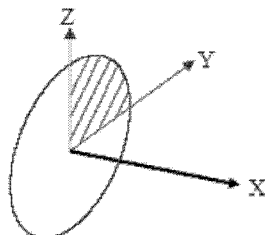Top View   Side View

Calibration on the X-Y plane

(b)
Hold the device vertically against the ground, and swing it slowly up and down.
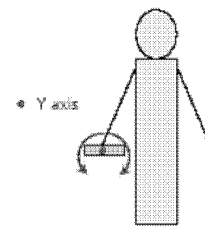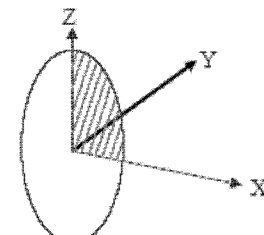

Top View   Side View

Calibration on the Y-Z plane

(c)
Hold the device horizontally against the ground, and rotate it with the Y axis centered.

Front View

Calibration on the X-Z plane