Mini-Line® Grade and Slope Control System
HS301 Quick Guide

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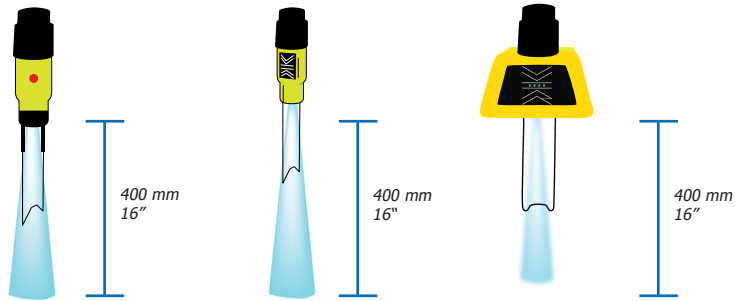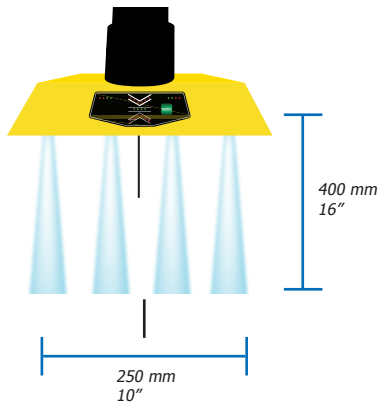PAVING INNOVATION

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Set Up

When mounting the sensor, make sure that the working height is correct. The distance to the ground must be as shown below.

Ground Mode

400 mm
16"

400 mm
16"

400 mm
16"

Stringline Mode

400 mm
16"

250 mm
10"

When the sensor is in stringline mode the **large** display must be lit.

When the sensor is in ground mode the **small** display must be lit.

Push the MODE button to switch between the two.

Important!

1. Don't forget to mount the reference bail and check that it is positioned correctly on the sensor

2. The working height must be 400mm/16 inches (the distance between the bottom of the sensor and the reference)

Daily Operation

Manual Mode

1 Lower the screed to the desired material thickness and make the machine ready for paving

2 Adjust sensor height to the recommended height over the reference. Check the value in the display of the handset

3 Commence paving using the arrows of the handset to toggle the tow point to the right level. When mat thickness/slope is correct, press CAL to set the reference level (setpoint)

Auto Mode

4 Press AUTO to enter auto mode. The system will now maintain the level of the tow point constant relative to the setpoint

5 To increase mat thickness while paving in auto mode, press the arrows on the handset up or down. The change in mat thickness is displayed in the top display of the handset (only in auto mode)

6 When paving is completed, press MAN to return to manual mode, and the handset will stop controlling the tow point

List of Functions

List of functions in auto mode

Setting	Shortcut	Display	Change	Confirm
Adjust setpoint			⬇⬆	
Calibrate sensor value	CAL ❯	AUTO (flashes)	⬇⬆	❯ CAL
Sensitivity	MODE ❯	S.E.n	⬇⬆	❯ MODE
Switch to manual mode			MAN	

List of functions in manual mode

Setting	Shortcut	Display	Change	Confirm
Manual tow point adjustment			⬇⬆	
Set the reference (setpoint)			CAL	
Switch between sensors			MAN (2 sec.)	
Minimum Pulse	MAN + MODE ❯	P.U.L.	⬇⬆ ❯	MODE
Sensitivity	MODE ❯	S.E.n	⬇⬆ ❯	MODE
Working Window	CAL + MODE ❯	C.J	⬇⬆ ❯	MODE
Dead Band	MAN + CAL ❯	.d.b	⬇⬆ ❯	MODE
Switch to auto mode			AUTO	

Changing output during handset startup

	Shortcut	Display	Change	Confirm
Output (NPN or PNP)	AUTO ❯ (at startup)	C.A.L.	⬇⬆ ❯	MODE

Error Codes

HS301

Symptom		Probable Cause	Appropriate Action
C.A.L.	Flashes on top display when entering AUTO mode	Setpoint not entered before pressing AUTO	• Enter setpoint
E.r.1		Sensor out of range	• Adjust sensor position
E.r.2		Reference bail demaged or not installed	• Check or replace reference bail
E.r.4		Sensor is faulty	• Re-connect main power
E.r.5		Using slope sensor on both sides	• Adjust slope sensor to one side only
O.U.t		Sensor is out of working window	• Check working window • Check sensor mounting • Clean up sensor field of view
S.O.S		No communication between HS301 and sensor	• Check cables and connections

G220 and S298

Symptom	Probable Cause	Appropriate Action
Status LED - Slow flashes (2 short flashes per second)	No problems	
Status LED - Fast flashes (4 flashes per second, on/off equal amount of time)	HS301 missing	• Check connection to HS301
	Sensor out of range	• Adjust sensor position
	G220: Reference bail missing	• Install reference bail

G221 and G224

Symptom		Probable Cause	Appropriate Action
	(Red arrows flash alternately)	Target out of range	• Adjust sensor position
	(Red arrows flash simultaneously)	Reference bail missing	• Install reference bail
	(Green bar and red arrows flash)	No handset connected	• Connect handset • Check connections
	(Red arrows flash alternately)	The sensor has lost sight of the wire. Tow point is locked	• Adjust paver direction • Adjust sensor position