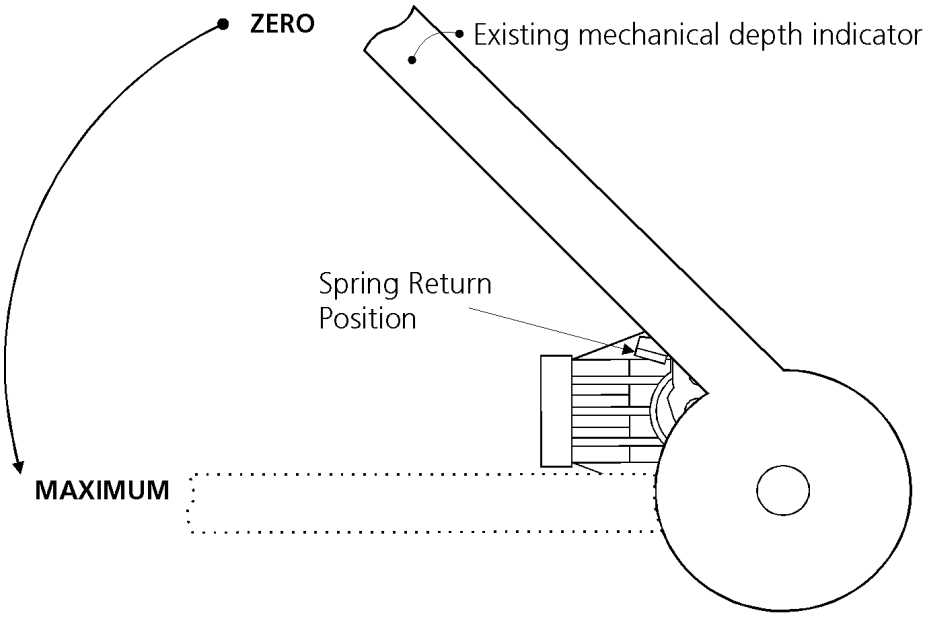
FARMSCAN Pico Depth Indicator

INSTALLATION AND OPERATION MANUAL

INSTALLATION

Install depth sensor in relation to the existing mechanical depth indicator as shown below. Mount the depth sensor so that its lever loaded and displaced 8 to 10 mm from the spring return position.

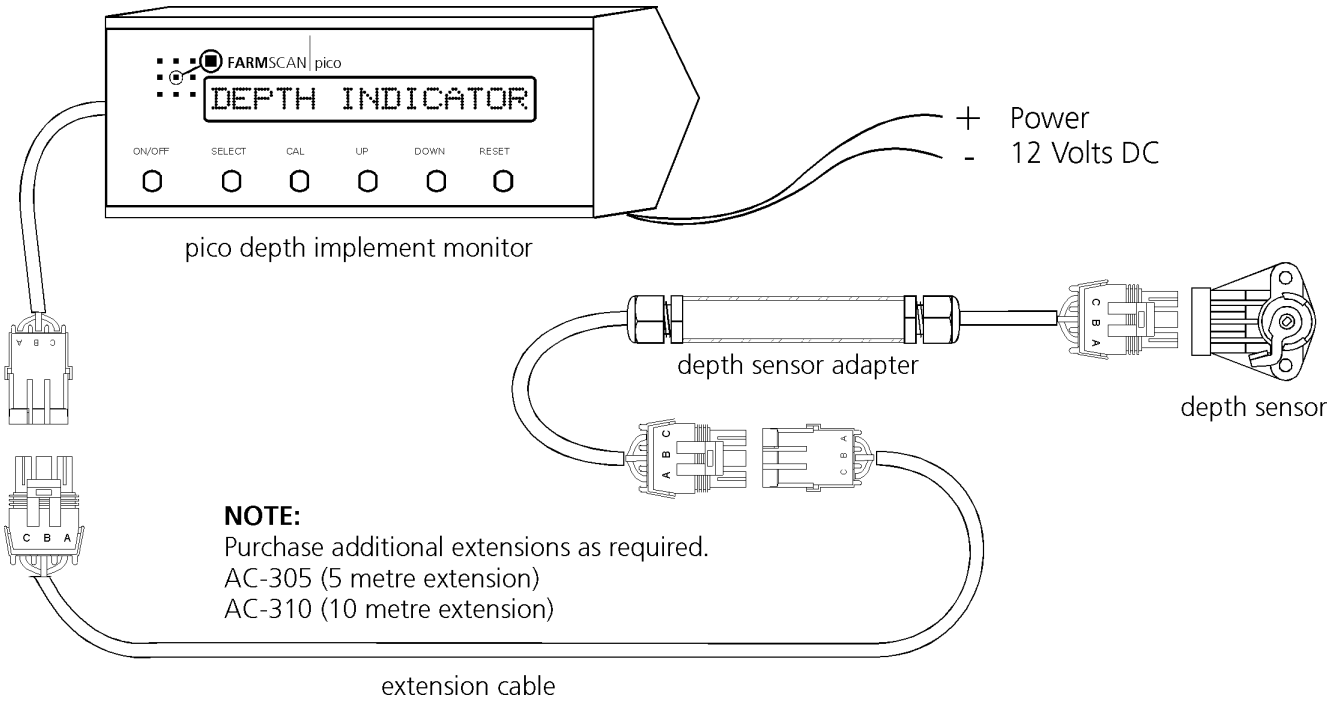


NOTE:

- Ensure depth sensor lever is pre-loaded when tynes are 4" (100 mm) **above** ground.
- Mount sensor to use as much of sensor stroke as possible within 2 mm off the stops.
- Ensure when tynes fully lowered, sensor is not ripped off its mounting.

Connections:

For operation, make connections as shown below.



Power:

Connect red/black power cable direct to a clean 12 Volt DC power source, **red** to **positive**, **black** to **negative**. Secure cable neatly to avoid risk of damage.

CALIBRATION

The unit must be calibrated before operating.

Make sure all installation and connections shown on the previous page are complete.

Calibration is performed while stationary with the tynes above ground. Follow the 8 steps below to calibrate the unit for operation.

SETTING THE CALIBRATION FACTOR:

1. SWITCH ON

Flick the "ON/OFF" switch to 'ON'. The unit will display the messages: "DEPTH INDICATOR" followed by "VERSION 1.0", then finally the current depth in centimetres. For example:

```
DEPTH    0.3 CM
```

2. LOWER TYNES

Park the seeder and lower the tynes to just touch the ground. Check that the depth sensor lever is loaded, being 8 to 10 mm away from the spring return position.

3. SET GROUND LEVEL

Flick "CAL" switch, unit will display the following (example only):

```
ZERO 185 [255]
```

The number in the brackets is a previously stored zero depth setting. The number not in brackets is the current setting corresponding to zero depth or ground level.

Flick "SELECT" switch to store the ground level setting. Both numbers should now be the same, if not flick the "SELECT" switch again until they are.

4. RAISE TYNES

Raise the tynes to the point that the depth sensor lever is **2 mm away** from the spring return position. Make sure the tynes are not raised above this point and **do not lower the tynes!**

5. SET 'RAISED TYNE' LEVEL

Flick "CAL" switch, unit will display the following (example only):

```
SPAN 247 [255]
```

Flick "SELECT" switch to store the 'raised tyne' level setting. Both numbers should now be the same, if not flick the "SELECT" switch again until they are.

6. SELECT UNITS

Flick the "CAL" switch, unit will display "UNITS CM" or "UNITS INCHES" select inches or centimetres using the "UP" or "DOWN" switches.

7. MEASURE DISTANCE

Flick the "CAL" switch, the unit will display the following (example only):

```
RANGE 10.0  CM
```

Measure the vertical distance the tynes are off the ground in centimetres or inches, depending on the units chosen. Enter this value using the "UP" or "DOWN" switches.

8. COMPLETE CALIBRATION

Flick the "CAL" switch, unit will display the following (example only):

```
DEPTH -10.0 CM
```

Calibration is now complete! You will notice that the value displayed is negative. This is because the tynes are above the ground. When the tynes are below ground the value will be positive.

NOTE:
If a mistake is made on a previous screen scroll through all of the screens using the "CAL" switch until you return to the screen of interest to undo the mistake.

OPERATION

USING THE DEPTH METER:

After installation and calibration the unit is ready to use. Switch on the unit and the current depth will be displayed. Check that the depth value changes proportionally as the tynes are lowered. The current implement depth should be negative when the tynes are above ground level and positive when the tynes are below ground level.

QUICKLY READJUSTING THE ZERO POINT

If the tynes have worn and the zero point needs readjusting, flick the "RESET" switch. The unit will display the following screen:

```
AQUIRE ZERO ?
```

Flick the "RESET" switch again to set the implement's current height to zero. Flicking any other switch will return the unit to the operating screen without changing the zero set point.

CANCELLING ZERO POINT ADJUSTMENTS

Cancel adjustments made to the zero set point by scrolling through all the calibration screens (using the "CAL" switch) until you return to the operating screen.

NOTES

SYSTEM LINEARITY

The linearity of the system is dependent on the input to the sensor being linear with a change in height.

UNITS SELECTION

When selecting inches or centimetres no conversion is preformed. If the unit is set up in centimetres then the units are changed to inches, "INCHES" will be displayed on the screen but the measurement will still be in centimetres. To correct this, renter the "RANGE" value in inches.

"EPROM" ERROR

If calibration settings are not successfully retrieved from memory the unit will display "EEPROM ERROR" and the calibration settings will be set to the following default values:

ZERO = 0, DEPTH = 255, RANGE = 100, UNITS = CM

The unit must be re-calibrated to return to operational mode!

KIT PARTS LIST

A-2085	Pico Depth Indicator Monitor	× 1
AA-430	Depth Sensor (throttle position sensor)	× 1
AA-335	Depth Sensor Adaptor (regulator)	× 1
AC-305	Extension Cable 5m	× 1
AC-310	Extension Cable 10m	× 1
AC-101	Power Cable 8m	× 1
AH-408	Hardware Pack	× 1
HG-706	Cable Ties (290mm × 5.0 mm)	× 20
AM-1850	Instruction Manual	× 1