WELTECH

Weltech was established in 1977 to manufacture, install and service environmental monitoring equipment for the food production industry in the UK and abroad.

From our head office based in Cambridgeshire, Weltech have developed a wide range of products including Vegetable Weighing Scales, Poultry Weighing Scales and Silo Weighing Systems, Poultry Alarm, Feed Monitoring systems and Water monitoring & control systems.

For more information on Weltech please visit our website: www.weltech.co.uk

INTRODUCTION

Please take the time to read this manual before using your system.

The Weltech SW8011 is a silo weighing system, designed specifically to monitor the contents of up to 10 silos. The information can then be viewed via the screen integrated on the unit or via external sources such as a computer or printer.
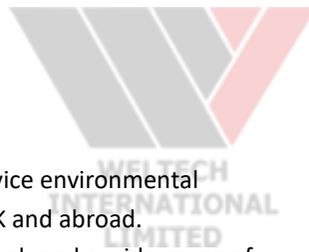
The Weltech SW8011 is designed to work with the silo amplifier supplied by Weltech.

CONTACT

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CONTENT

The following is an illustration showing where to access all functions of the Weltech SW8011:

CONFIGURE/ SILO SETTINGS
- Farm Name
- Address
- Unit No.
- Backlight
- Silo Fitted
- Feed Program
- Capacity
- Zero Count
- Scale Factor
- Filter
- Filter Jump
- Stability
- Stability Jump
- Modem Rate
- Printer Rate
- Modem Handshake
- Printer Handshake
- Print Delay
- Print Linefeed

ENGINEER SETUP
1. Configure
2. Print Settings
3. Test Alarm
4. Product Info
5. Factory Reset
6. Analogue View
7. View Charset
8. Set Scaling
9. Clear Cell Fault

SETTINGS
- Time Now
- Todays Date
- Low Alarm
- High Alarm
- Midnight Print
- Journal Print
- Write To USB

SETUP MENU
1. Settings
2. Calibrate Zero
3. Calibrate Silo
4. Clear Data Log
5. Engineers Setup

CLEAR DATA LOG
1. Clear Del. Today
2. Clear Used Data
3. Clear All History

TARE ON/OFF
1. Negative
2. Positive
3. OFF

TARE MENU
1. Tare ON/OFF
2. Set Tare Mark
3. Quit

MAIN MENU
1. Show Data
2. Silo Status
3. Tare Menu
4. Print Report
5. Setup

PRINT REPORT
1. All Report
2. Summary Report
3. Inventory
4. Last Delivery
5. History Report
6. SW8001b Report
7. Alarm Settings

START UP WINDOW

THE FARM NAME
THE ADDRESS
WELTECH SW8011 1.03
SERIAL 0000 UNIT 01

MAIN WINDOW

16:20 SILO 1 28/MAY
OUT OF SERVICE
0 00003 KGS
ok=Menu

Press **OK** to enter **Main Menu**

3

Summary/Overview

This Illustration shows the system in its separated units as supplied.
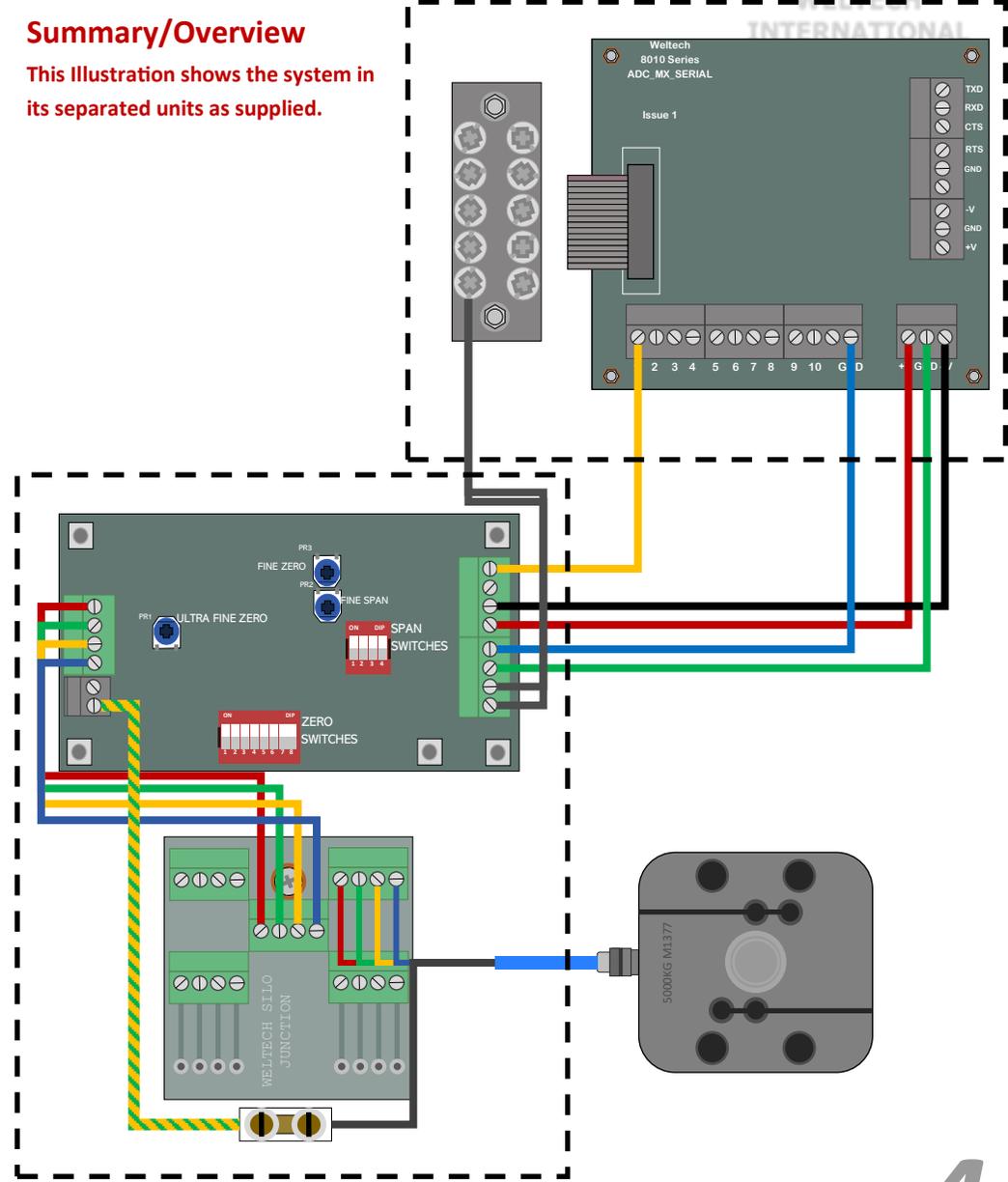
Weltech
8010 Series
ADC_MX_SERIAL

Issue 1

TXD
RXD
CTS
RTS
GND
-V
GND
+V

FINE ZERO
ULTRA FINE ZERO
FINE SPAN
SPAN SWITCHES
ZERO SWITCHES
WELTECH SILO JUNCTION
5000KG M1377

4

This is an illustrated representation and the parts may vary in reality, use this as a basic guide.

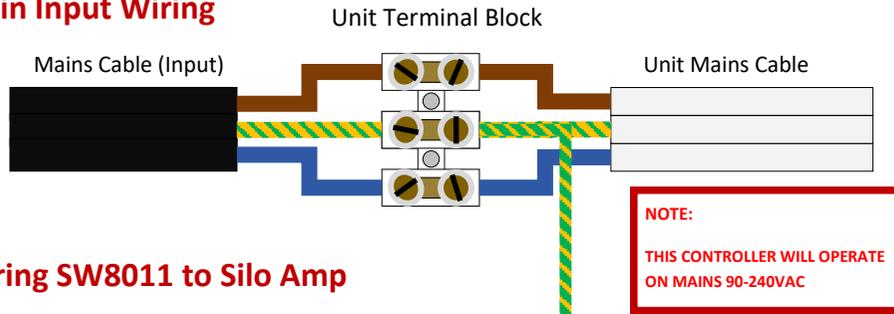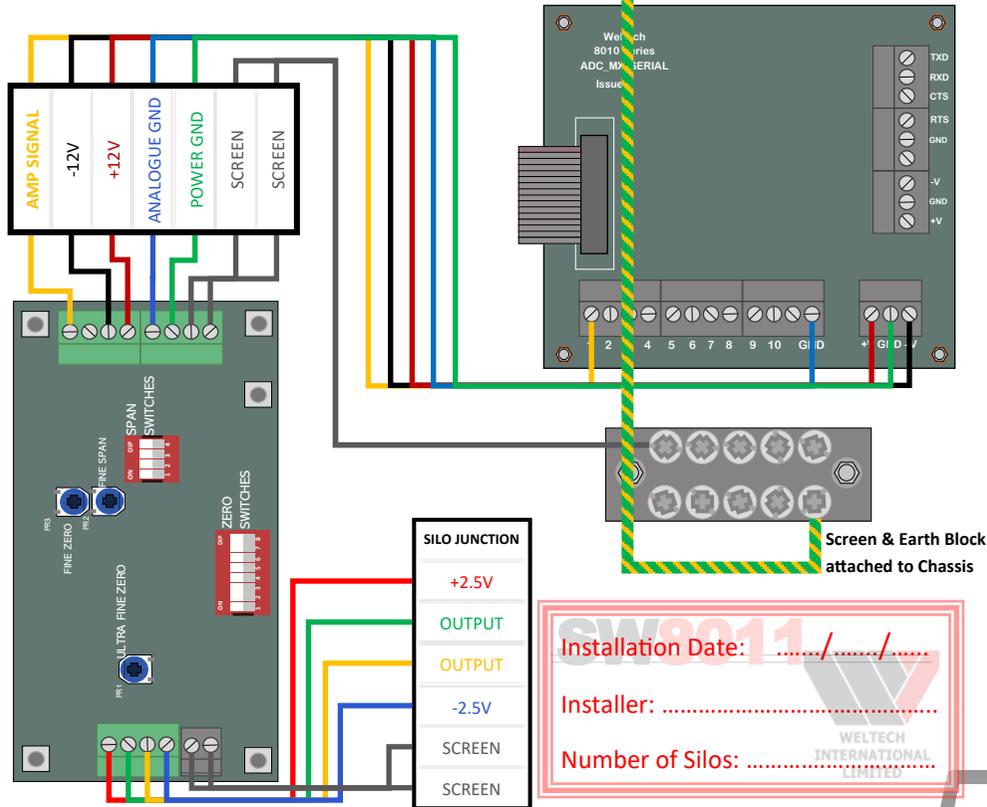*This illustration shows an example of wiring a **Complete System.***

We advise that a Weltech Engineer makes the installations or seek advise before attempting an installation. Please CUT OFF any MAINS SUPPLY before carrying out any work.

Main Input Wiring

Unit Terminal Block

Mains Cable (Input)

Unit Mains Cable

NOTE:

THIS CONTROLLER WILL OPERATE ON MAINS 90-240VAC

Wiring SW8011 to Silo Amp

AMP SIGNAL
-12V
+12V
ANALOGUE GND
POWER GND
SCREEN
SCREEN

Weltech
8010 Series
ADC_MX_SERIAL
Issue 1

TXD
RXD
CTS
RTS
GND
-V
GND
+V

2   4   5   6   7   8   9   10   G   D   +   G   D   -

DIP SPAN SWITCHES
FINE SPAN
FINE ZERO
PR3
PR2
ZERO SWITCHES
ULTRA FINE ZERO
PR1

Screen & Earth Block attached to Chassis

SILO JUNCTION

+2.5V
OUTPUT
OUTPUT
-2.5V
SCREEN
SCREEN

SW8011

Installation Date: ..../ ..../ ......

Installer: ....

Number of Silos: ....

5

*This is an illustrated representation and the parts may vary in reality, use this as a basic guide.

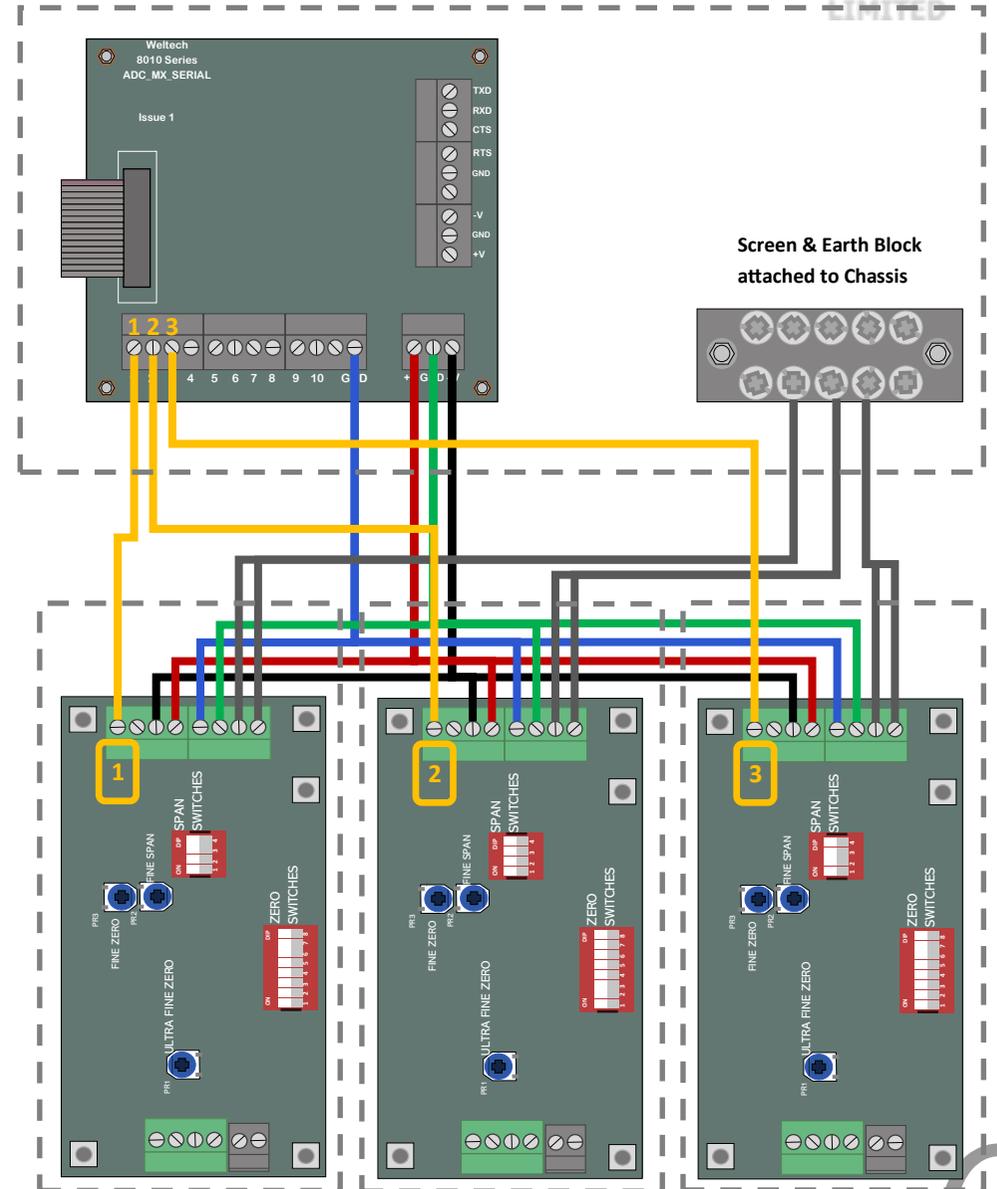This illustration shows an example of wiring the **Mains Supply** & **SW8011** to **Silo Amp** .

Wiring SW8011 to Multiple Silo Amps

Weltech
8010 Series
ADC_MX_SERIAL

Issue 1

TXD
RXD
CTS
RTS
GND
-V
GND
+V

Screen & Earth Block attached to Chassis

1 2 3
4   5   6   7   8   9   10   G   D   +   G   D   -

1

2

3

DIP SPAN SWITCHES
FINE SPAN
FINE ZERO
PR3
PR2
ZERO SWITCHES
ULTRA FINE ZERO
PR1

6

*This is an illustrated representation and the parts may vary in reality, use this as a basic guide.

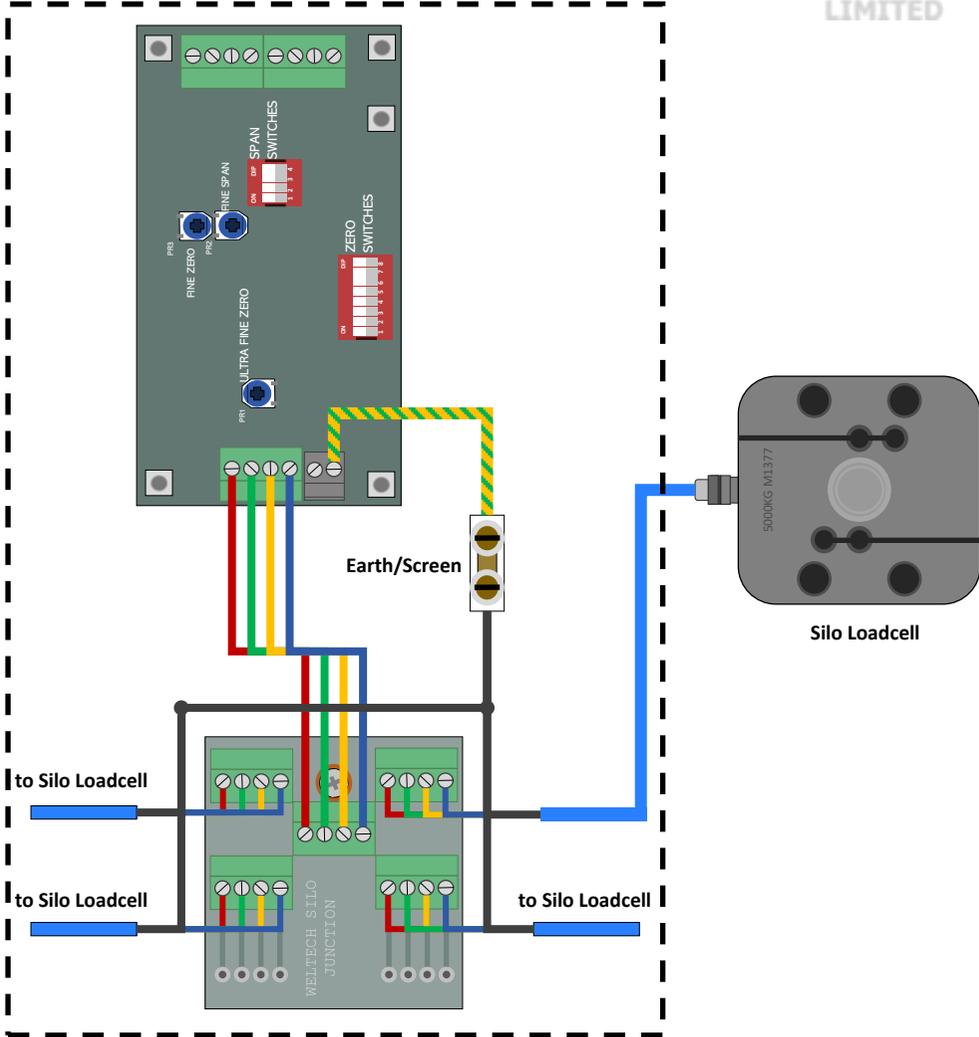This illustration shows an example of wiring an **SW8011** to **3 Silo Amps.**

Wiring Silo Amp to Silo Junction to Silo Loadcell

Earth/Screen

Silo Loadcell

to Silo Loadcell

to Silo Loadcell

to Silo Loadcell

7

This is an illustrated representation and the parts may vary in reality, use this as a basic guide.
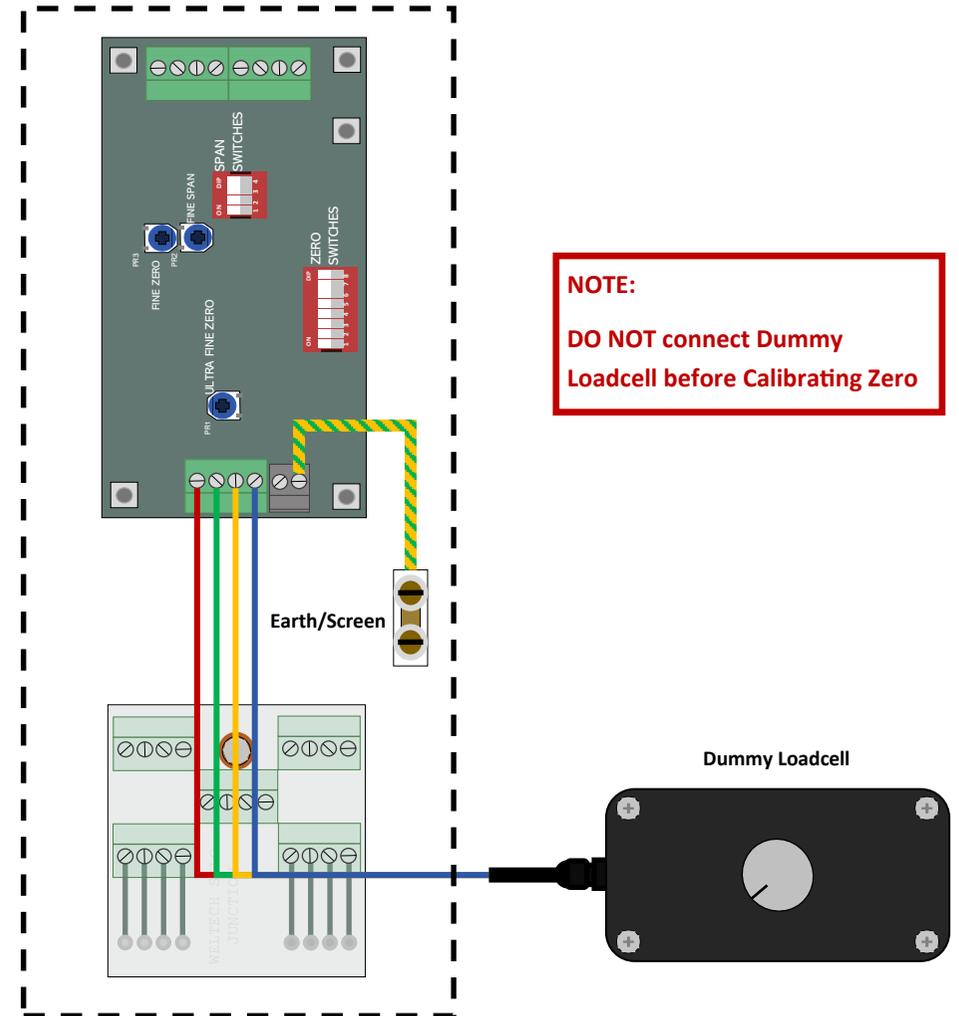*This illustration shows an example of wiring a **Silo Amp** to a **Junction PCB** then to a **Loadcell.***

Wiring Silo Amp to Dummy Loadcell

NOTE:

DO NOT connect Dummy
Loadcell before Calibrating Zero

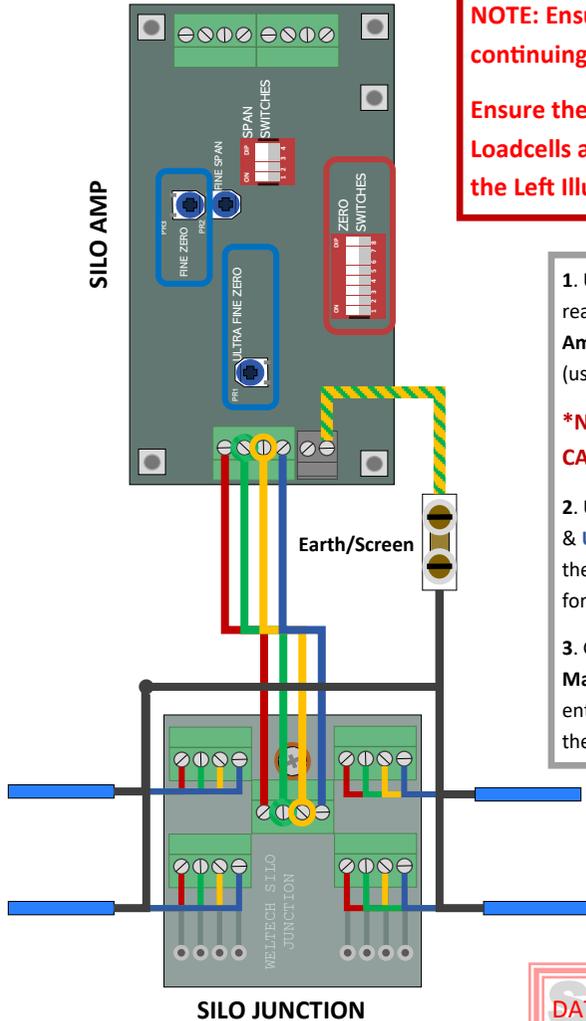Earth/Screen

Dummy Loadcell

8

This is an illustrated representation and the parts may vary in reality, use this as a basic guide.
*This illustration shows an example of wiring a **Silo Amp** to a **Junction PCB** then to a **Dummy Loadcell.***

Calibrating Zero/Empty Silo

SILO AMP

SPAN SWITCHES

FINE SPAN

PR3 FINE ZERO PR2

ULTRA FINE ZERO PR1

ZERO SWITCHES

Earth/Screen

SILO JUNCTION

WELTECH SILO JUNCTION

NOTE: Ensure the Silo is Empty before continuing

Ensure the Silo Amp, Silo Junction & Loadcells are connected as shown in the Left Illustration

1. Using a **Multimeter**, **Measure** output reading between YELLOW & GREEN from **Silo Amp** to **Silo Junction**
(usually between **+300mV — +400mv**).

*NOTE THIS READING INSIDE THE CASING AND BELOW

2. Using the ZERO SWITCHES, FINE ZERO pot & ULTRA FINE ZERO pot on the **Silo Amp**, Set the reading from YELLOW & GREEN in Step 1 for **+20mV**.

3. Go to **SW8011 Unit** , Press **OK** to enter **Main Menu**, Press **5** to enter **Setup**, Press **2** to enter **Calibrate Zero**. **Select Silo** to Calibrate then **Press ***.
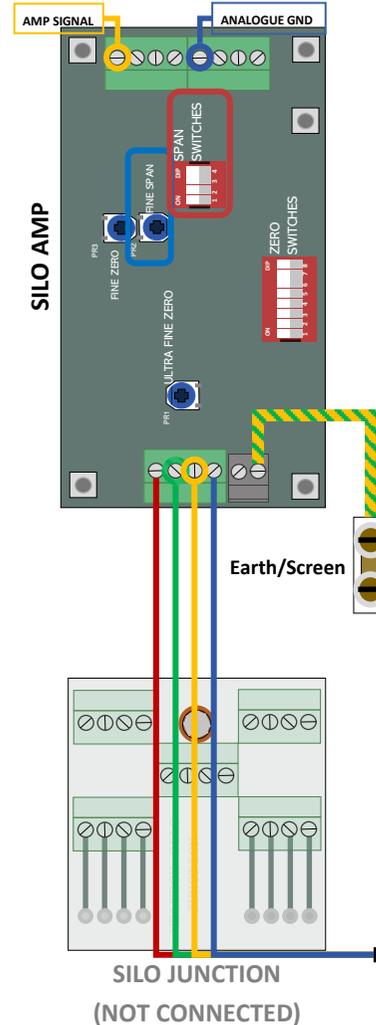

SW8011

DATE: ..../......./...... SILO No:.....

Installer: ....

EMPTY SILO READING: ....

Calibrating Span/Full Silo using DUMMY LOADCELL

AMP SIGNAL   ANALOGUE GND

SILO AMP

SPAN SWITCHES

FINE SPAN

PR3 FINE ZERO PR2

ULTRA FINE ZERO PR1

ZERO SWITCHES

Earth/Screen

SILO JUNCTION (NOT CONNECTED)

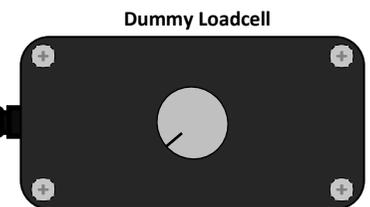**Dummy Loadcell**

NOTE: Ensure ZERO CALIBRATION has been completed first.

Ensure the Silo Amp is disconnected from Silo Junction & Dummy Loadcell is connected as shown in Left Illustration.

1. Using a **Multimeter**, while **Measuring** output reading between YELLOW & GREEN from **Silo Amp** to **Silo Junction**,
Adjust **Dummy Loadcell** for **+10mV** on **Multimeter**.

1. Using a **Multimeter**, while **Measuring** AMP SIGNAL to ANALOGUE GND on **Silo Amp**,
Adjust SPAN SWITCHES & FINE SPAN pot for **1.8V** on **Multimeter**.

3. Go to **SW8011 Unit** , Press **OK** to enter **Main Menu**, Press **5** to enter **Setup**, Press **3** to enter **Calibrate Silo**. **Select Silo** to Calibrate, **Press *** edit (enter the **maximum capacity** of the Silo), Press **OK** to **Confirm**, Press ***** to **Calibrate/YES**.

Calibrating to Delivery

NOTE: Ensure ZERO CALIBRATION has been completed first.

Ensure the Silo Amp is disconnected from Silo Junction & Dummy Loadcell is connected as shown in Left Illustration.

1. Using a **Multimeter**, while **Measuring** output reading between YELLOW & GREEN from **Silo Amp** to **Silo Junction,**
Adjust **Dummy Loadcell** for **+10mV** on **Multimeter.**

1. Using a **Multimeter**, while **Measuring AMP SIGNAL** to **ANALOGUE GND** on **Silo Amp,**
Adjust **SPAN SWITCHES** & **FINE SPAN** pot for **1.8V** on **Multimeter.**

3. Go to **SW8011 Unit** , Press **OK** to enter **Main Menu**, Press **5** to enter **Setup**, Press **3** to enter **Calibrate Silo**. **Select Silo** to Calibrate, **Press *** edit (enter the **maximum capacity** of the Silo), Press **OK** to **Confirm**, Press ***** to **Calibrate/YES.**

Key Pad

Button	Function
OK	Main Menu/Accept/Confirm
CE	Quit/Navigate Back
0 1 2 3 4 5 6 7 8 9	Entering Number Values/Shortcut Keys in Menus/Lettering Input
*	Edit/YES/Confirm
< >	Navigation through Menus/Changing Setting Values/Enlarge Silo Weight Value in Main Window
#	To access summary details: rate, current weigh of silo, delivery start and end data (only accessible from main window)(< to **exit**)

Entering Settings Menu

Press **OK** to enter **Main Menu**, press **5** to enter **Setup Menu**, press **1** to enter **Settings**.

Settings Option	Description	Enter Preferred Setting
Time Now	Enter current time	ENTER VALUE HERE
Todays Date	Enter current date	ENTER VALUE HERE
Low Alarm	The lowest acceptable weigh being alarm sounds	0 = DISABLED
High Alarm	The highest acceptable weigh being alarm sounds	ENTER VALUE HERE
Midnight Print	To enable or disable midnight print report summary function	ON
Journal Print	Enable alarm & delivery log on print out	OFF
Write to USB	To enable data transfer via USB (not available on most models)	OFF

FACTORY SETUP

Entering Engineer Setup

Press **OK** to enter **Main Menu**, press **5** to enter **Setup Menu**, press **5** to enter **Engineer Setup**, press **1** to enter **Configure**.

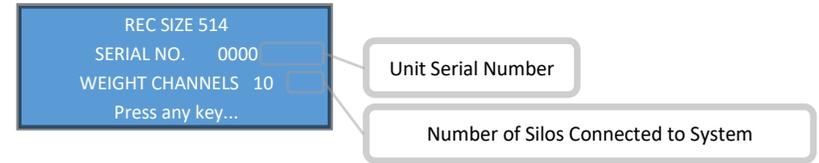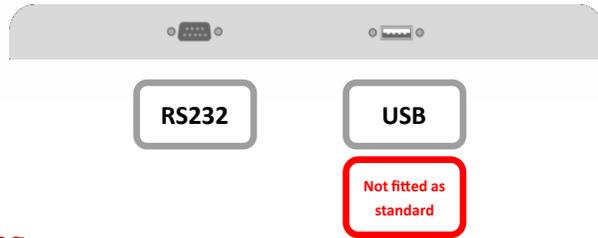| Settings Option	Description	Enter Preferred Setting
Farm Name	Enter farm name	ENTER FARM NAME HERE
Address	Enter farm address	ENTER FARM ADDRESS HERE
Unit No.	Individual Identification Number for Farm Use	ENTER VALUE HERE
Backlight	To enable or disable display backlight function	ON
Silo Fitted	Number of Silos fitted to SW8011 unit	ENTER VALUE HERE
Feed Program	Enables or disables silo monitoring functions	OFF
Capacity	To set the maximum capacity of each Silo connected to SW8011 unit	ENTER VALUE HERE
Zero Count		0.0
Scale Factor		10,000KGS
Filter		3
Filter Jump		4000
Stability		25
Stability Jump		20
Modem Rate		9600
Printer Rate		9600
Modem Handshake		OFF
Printer Handshake		OFF
Print Delay	The time delay to print data (used for older printers)	0.1SECS
Printer Linefeed	Sends a line feed to printer after a new line	ON

Factory Reset

Note: Performing factory reset will result in all data being lose.

Press **OK** to enter **Main Menu**, press **5** to enter **Setup Menu**, press **5** to enter **Engineer Setup**, press **5** to enter **Factory Reset,** Press ***** to **Confirm/YES**.

Product Information

Press **OK** to enter **Main Menu**, press **5** to enter **Setup Menu**, press **5** to enter **Engineer Setup**, press **4** to enter **Product Info**.

```
REC SIZE 514
SERIAL NO.     0000
WEIGHT CHANNELS  10
Press any key...
```

Unit Serial Number

Number of Silos Connected to System

PRINTING, SAVING & CLEARING DATA

RS232   **USB**

Not fitted as standard

RS232 Printing

Connect external **Printer** to SW8011 via the **RS232 Socket** on the bottom of the unit. press **OK** to enter **Main Menu**, press **4** to enter **Print Report**, press **1** to enter **All Report**, press **ok** for **All Silos** or Press number key **0-9** to select **Individual Silos**, press **1** to print **Today**, wait for print out and check.
Press **2** for **Summary Report**, press **ok** for **All Silos**, press **1** to print **Today**, wait for print .
Press **3** for **Inventory**, press **ok** for **All Silos**, wait for print .
Press **4** for **Last Delivery**, wait for print .
Press **5** for **History Report**, press **ok** for **All Silos**, wait for print .
Press **6** for **SW8001b Report**, press **ok** for **All Silos**, press **1** to print **Today**, wait for print .
Press **7** for **Alarm Settings**, wait for print .
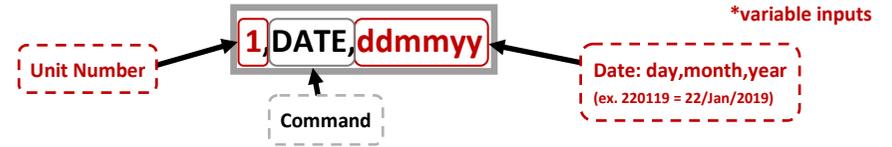
Saving Data to USB (not available on all models)

Connect USB Stick to **USB Port** on unit.
Press **OK** to enter **Main Menu**, press **5** to enter **Setup Main**, press **1** to enter **Settings**. Using direction-al key **>** skip to the last option **Write To USB**, change **Value = ON**. Press **CE** to **Quit**, keep pressing until in the **Main Window**.
Press **OK** to enter **Main Menu,** press **4** to enter **Print Report**, press **1** for **All Report**, press **ok** for **All Silos** or Press number key **0-9** to select **Individual Silos**, press **1** to print **Today**, wait until **File Written OK**.
Repeat steps in **RS232 Printing** Sections above to transfer **Alternative Reports** to **USB**

Clearing Data

Press **OK** to enter **Main Menu**, press **5** to enter **Setup Main,** press **4** to enter **Clear Data Log,**
press **2** for **Clear Del. Today**, press **ok** for **All Silos**, press ***** for **YES**. (to clear todays delivery)
Press **3** for **Clear Used Data**, press **ok** for **All Silos**, press ***** for **YES**. (clear used/printed data)
Press **4** for **Clear All History**, press **ok** for **All Silos**, press ***** for **YES**. (clear all)

REMOTE COMMANDS

Remote Commands

The SW8011 is designed to connect and communicate with **Datapol V3.20.**

*variable inputs

1,DATE,ddmmyy

Unit Number   Command   Date: day,month,year (ex. 220119 = 22/Jan/2019)

Unit Number	Command	Variable	description
#,	ID?		Request ID
#,	SER?		Request Serial number
#,	MENU		Unlock the setup menu
#,	CANC		Cancel the alarm
#,	ALARM		Cancel the alarm & request alarm stats
#,	PRON		Enable midnight printout
#,	PROFF		Disable midnight printout
#,	LGON		Enable printer journal
#,	LGOFF		Disable printer journal
#,	DATE,	ddmmyy	Set date (ex. 1,DATE,220119 = set date to unit 1 to 22/01/2019)
#,	TIME,	hhmm	Set Time (ex. 1,TIME,2315 = set time to unit 1 to 11:15pm)
#,	FARM?		Request Farm Name
#,	ADDR?		Request Address
#,	LWGT?,	SILO#/ALL	Request low alarm for individual silo or ALL
#,	HWGT?,	SILO#/ALL	Request high alarm for individual silo or ALL
#,	PRINT.	SILO#/ALL	Print standard reports for individual silo or ALL