1280 Enterprise™ Series

Analog Input Card

The 1280 Dual Channel Analog Input Option Card, when installed in an indicator, supports industry standard voltage and current input ranges.

Manuals and additional resources are available from the Rice Lake Weighing Systems website at www.ricelake.com
Warranty information can be found on the website at www.ricelake.com/warranties

WARNING ***Always disconnect power before opening the indicator. Option card is not hot swappable.***

IMPORTANT ***Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when working inside the indicator enclosure.***

Procedures requiring work inside the indicator must be performed by qualified service personnel only.

Voltage/Current Selection and Wiring

Set the mode select jumpers (JP2 and JP4) for either current or voltage input. Set jumpers to I if using 0–20 mA or V if using ±10 V.

Connection	Signal	Function	Range
J1-1	mV+	mV+	±100 mV
J1-2	mV-	mV–	±100 mV
J1-3	Current +	I1+	0–20 mA
J1-4	Current -	I1–	0–20 mA
J1-5	Voltage +	V1+	±10 V
J1-6	Voltage -	V1–	±10 V
J2-1	mV+	mV+	±100 mV
J2-2	mV-	mV–	±100 mV
J2-3	Current +	I2+	0–20 mA
J2-4	Current -	I2–	0–20 mA
J2-5	Voltage +	V2+	±10 V
J2-6	Voltage -	V2–	±10 V

Table 1. Voltage and Current Connections

Configuration

The analog input option must be installed for the analog input menu to be displayed.

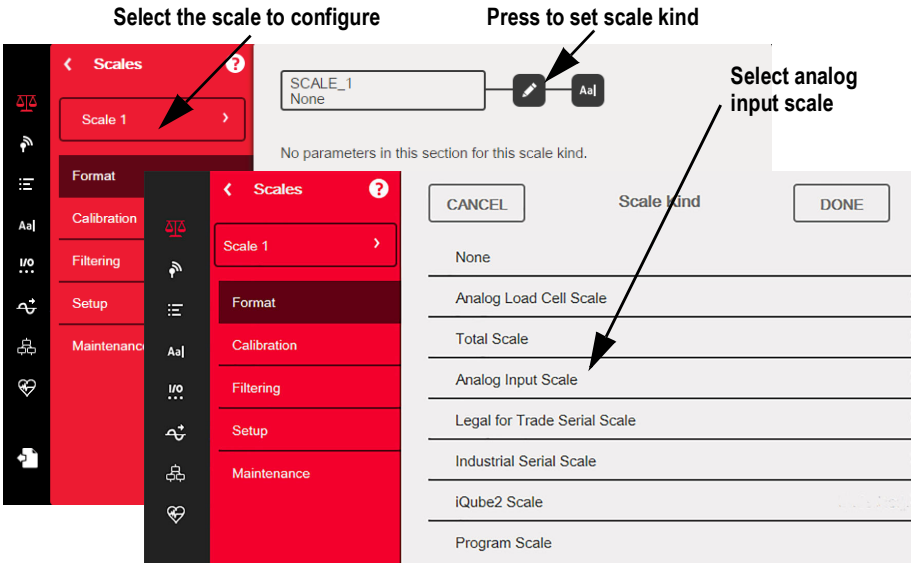

Figure 1. Select Analog Input Type and Kind

The 1280 indicator automatically recognizes all installed option cards when the unit is powered on.

1. From the ***Configuration*** menu, select to enter the ***Scales*** menu.
2. Select the scale (1–8 has the analog input card installed) to be configured from the drop-down menu in Figure 1.
3. Press to select the scale kind.
4. Select ***Analog Input Scale***.

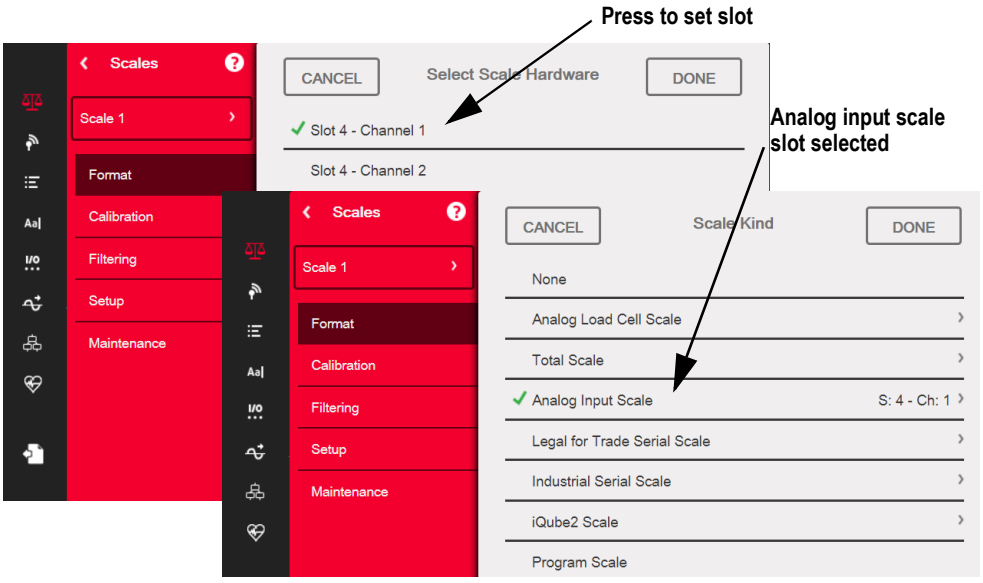

Figure 2. Select Analog Input Card Slot

5. Select Slot number of Analog Input Option Card. Press DONE. Scale Kind screen will display again. Press DONE.

6. Analog Input Scale parameters will display. See Figure 3.

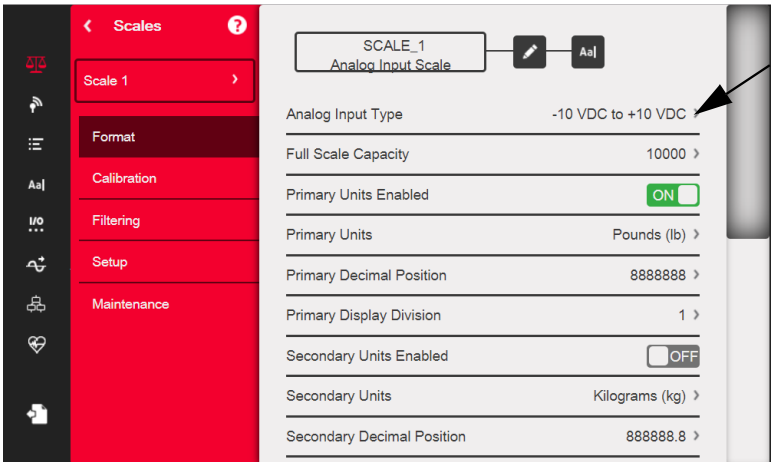

Figure 3. Analog Input Scale Parameters

7. Select ***Analog Input Type***.
8. Select 0–20 mA, ±10 VDC or ±100 mV. Press DONE.
9. Proceed with configuration and calibration.

Note

WVAL = actual current or voltage used.

MAX = maximum value for display.

Scale Calibration

To enter Scale Calibration, press the **Scales** icon. From the ***Scales*** menu, select ***Calibration***. The following parameters are available.

Parameters	Defaults	Description
Zero Calibration Counts	8386509	Calculated during calibration, it is the number of A/D counts after the zero calibration
Span Calibration Weight	10,000	Display and edit the test weight value; press **Calibrate** to calibrate the ***Span Calibration Point***
Span Calibration Counts	2186044	Calculated during calibration, this is the A/D count captured at the span/WVAL weight
Capacity Calibration Counts	2186044	Calculated during calibration, this is the A/D count at full scale capacity ***NOTE: If the scale is calibrated at full capacity then Span Calibration Counts = Capacity Calibration Counts.***
Linear Point Weight 1-4	0	The test weight value for the linear calibration point; press **Calibrate** to calibrate the **Linear Calibration Point**, or **Remove** to remove it
Linear Point Counts 1-4	0	The A/D count captured at the linear point weight

Table 2. Calibration Menu

Note

Linear calibration points provide increased scale accuracy by calibrating the indicator at up to four additional points between the zero and span calibrations.

The Calibrate Scale button begins a step-by step procedure for calibration, see the 1280 Series Technical Manual (PN 167659) for more information.

Standard Calibration

Use the following steps to perform a standard calibration on a scale.

1. Select the scale to be calibrated and enter the calibration menu.
2. Press Calibrate Scale.

3. Select the method of calibration. Press Next >.
   - For calibration methods see the 1280 Series Technical Manual (PN 167659)
4. Select whether or not chains, hooks or other items influence the initial load during calibration. Press Next >.
5. Before calibrating initial zero, decrease the signal to 0 V, 0 mA, 0 mV or to an unloaded state except for testing apparatus.
6. Press Calibrate Zero. The current weight and ***Zero Calibration Complete*** display.
7. Press Next >.
8. Enter Span weight for the value of the calibration to be used to calibrate the scale.
   - This is required prior to running the span calibration

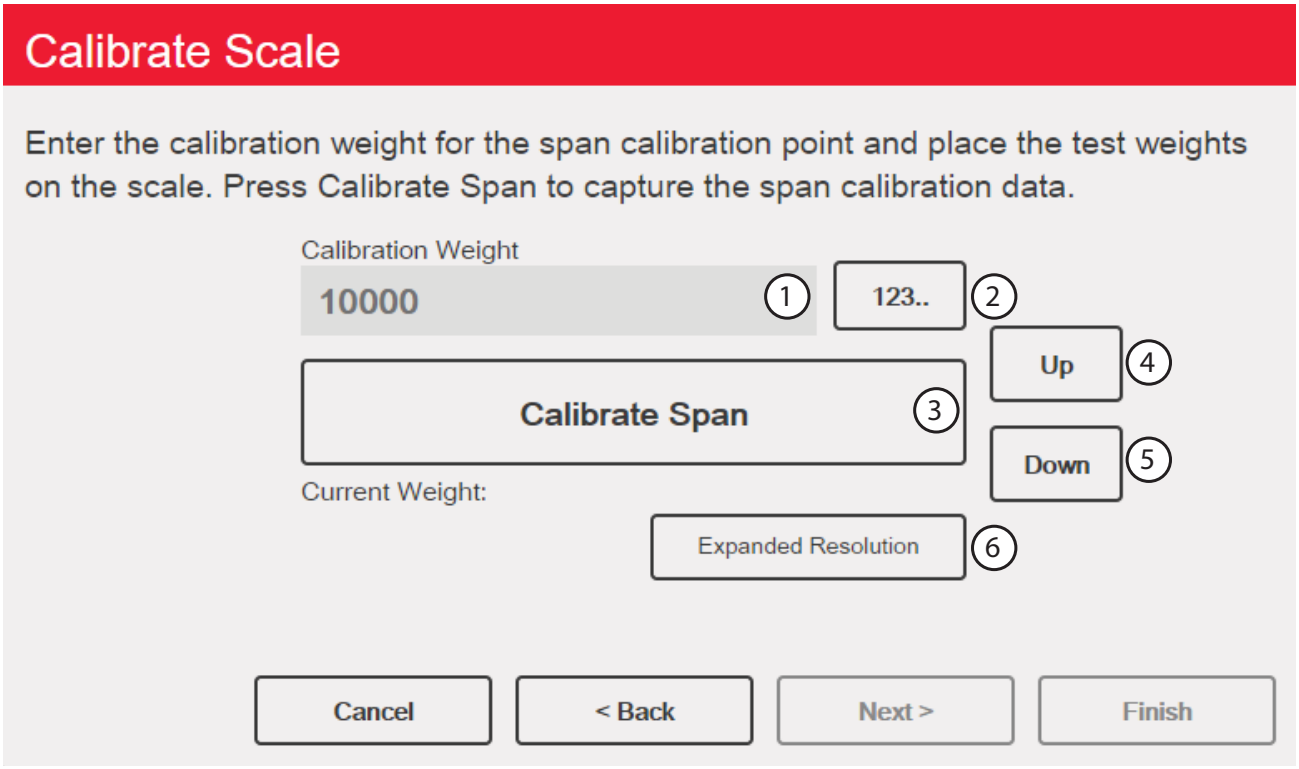

Figure 4. Calibrate Span

Item No.	Description
1	Calibration Weight Window – displays calibration weight value
2	123... – press to enter or edit the calibration weight value; increments based on scale division size or the expanded resolution
3	Calibrate Span – press to calibrate span
4	Up – calibration can be adjusted by changing the calibrated weight; press **Up** to adjust the calibrated weight value up by one display division; use the Expanded Resolution to adjust the calibrated weight value by a 10th of a display division
5	Down – calibration can be adjusted by changing the calibrated weight; press **Down** to adjust the calibrated weight value down by one display division; use the Expanded Resolution to adjust the calibrated weight value by a 10th of a display division
6	Expanded Resolution – increases the resolution by a factor of 10

Table 3. Calibrate Span

9. Increase the signal to the span value or to a loaded state with the weight value entered into the calibration weight window. The corresponding scale span value is ready to be calibrated.
10. Press Calibrate Span. The current span weight displays.
11. Press Next >. Calibration results display.
12. Press Finish. Display returns to the Calibration menu.
13. The re-zero function is used to remove a calibration offset when hooks or chains are used to hang the test weights during both zero and span calibration. If hooks or chains were used during calibration, remove these and the test weights from the scale.
14. With all weight removed, press Re-Zero.

Parts Kit Contents

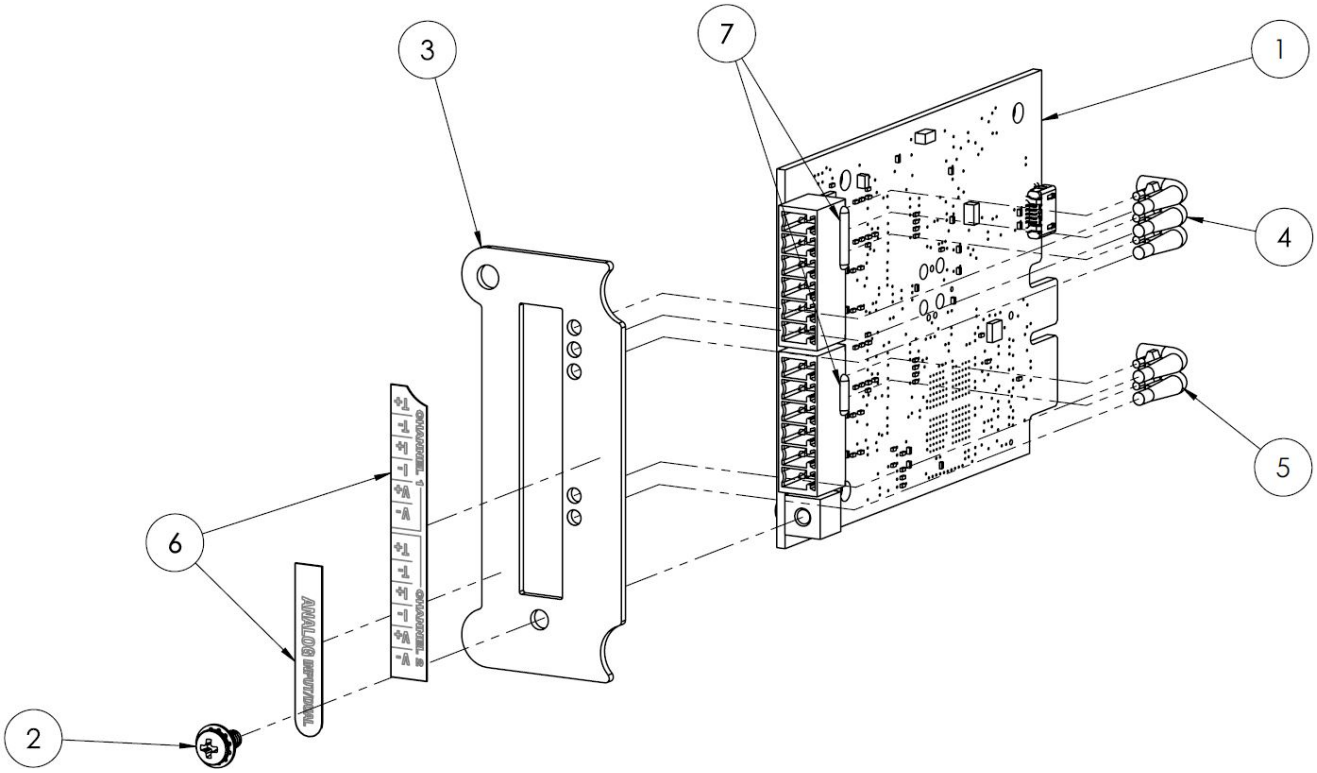

Figure 5. Replacement Parts

Item No.	Part No.	Description
1	162932	PCB Assembly, 1280 Indicator Dual Analog Input Card
2	14822	Screw, Machine 4-40NC x 1/4 Phillips Pan Head
3	164676	Face Plate, Dual Scale Option Card
4	165492	Light Pipe, 3 Element Strip
5	165492	Light Pipe, 2 Element Strip
6	167198	Label, Dual Analog Input Option 1280 Indicator

Table 4. Replacement Parts

Specifications

A/D Resolution	14-bit Effective Resolution
Available Channels	2
Analog Input Ranges	

Range	Sensitivity at 60 Hz
±10 V	±1 mV
±100 mV	±.05 mV
4–20 mA / 0–20 mA	±.05 mA

Table 5. Analog Input Ranges

Absolute Max. Input Signal**	J1 and J2, pins 3–6; -11 V–15 V, current 20.4 mA
	J1 and J2, pins 1–2; -0.3 V–5 V
Input Impedance	J1 and J2, pins 3–62; 10 > 27 k Ω 0–20 mA 249 Ω (measurement shunt)
	J1 and J2, pins 1–23; 100 mV > 100 K Ω
Input Protection	J1 and J2 15 V, 600 Watts (suppression diodes)
Sample Rates	10, 12, 50, 60 or 250 Hz

** Absolute maximum input ratings are the values beyond which the life of the input card is impaired.

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