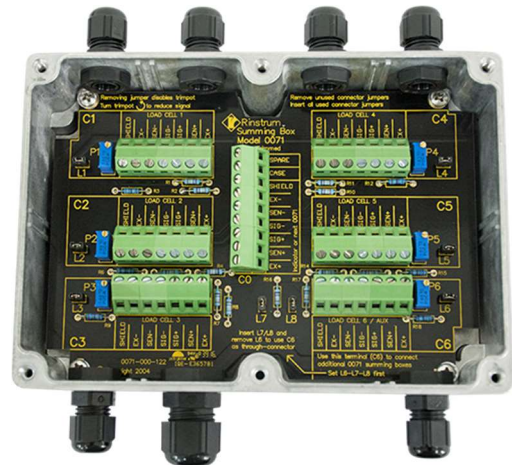


## 0071 Junction Box



### Introduction

The 0071 can sum the signals from up to 6 load cells and will accept load cell impedances from 150  $\Omega$  up to 1,000  $\Omega$  with no loss in accuracy.

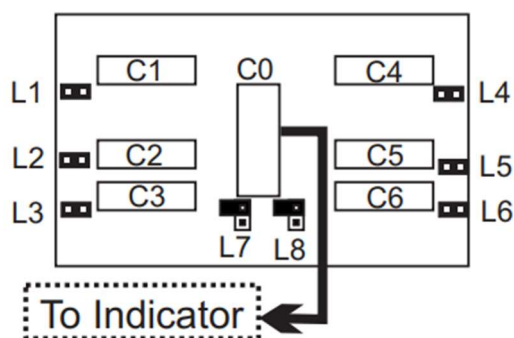
For installations with more than 6 load cells, the 0071 has a built-in “linking” circuit. This allows simple “daisy-chaining” of multiple 0071 units for any number of additional load cells.

### Installation

Cable glands that are not used need to be closed with suitable plugs. It has a 7-way terminal strip for each load cell, enabling connection of 6 wire load cells with shield connection. Terminal strips are screw-operated cage clamp design. To overcome disturbance, make sure not to create ground-loops whilst connecting the cable shields. Trimming of signal output is accomplished using 25-turn trim potentiometers.

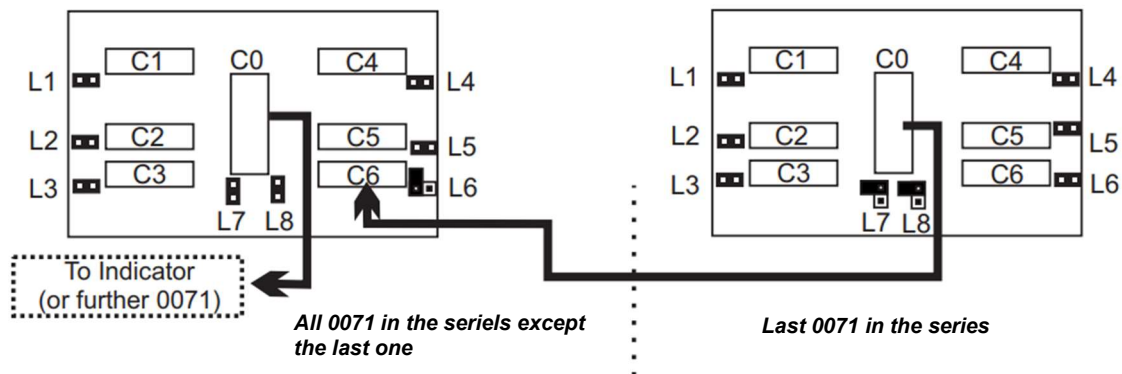
Remove the cover and connect the load cell cables to the circuit board and the circuit board output to the associated indicator. Be sure that all terminal strip connections are tight and that the cables are not damaged. The load cells used should be of the same model, capacity and have the same rated output (mV/V). Tinning the leads is not recommended for vibrant applications. Make sure all screws and gasket are tight when putting the cover back on. Make sure to properly tighten the cable glands to keep the sealing intact.

#### Single unit installation



Remove jumpers L7 and L8. Insert jumpers L1 to L6. Connect load cells C1 to C6. Refer connection diagrams section for more wiring information.

## Multiple unit installation



### All 0071 in the series except the last one

Insert jumpers L7 and L8. Remove jumper L6. Connect load cells C1 to C5 only. Refer Connection Diagram section for more wiring information.

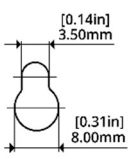
### Last 0071 in the series

Remove jumpers L7 and L8. Insert jumpers L1 to L6. Connect load cells C1 to C6. Refer Connection Diagram section for more wiring information.

## Mounting

The Junction Box can be mounted through the 2 mounting holes. When installing the junction box, be sure that the enclosure is connected to the scale framework with the lowest risk to get wet.

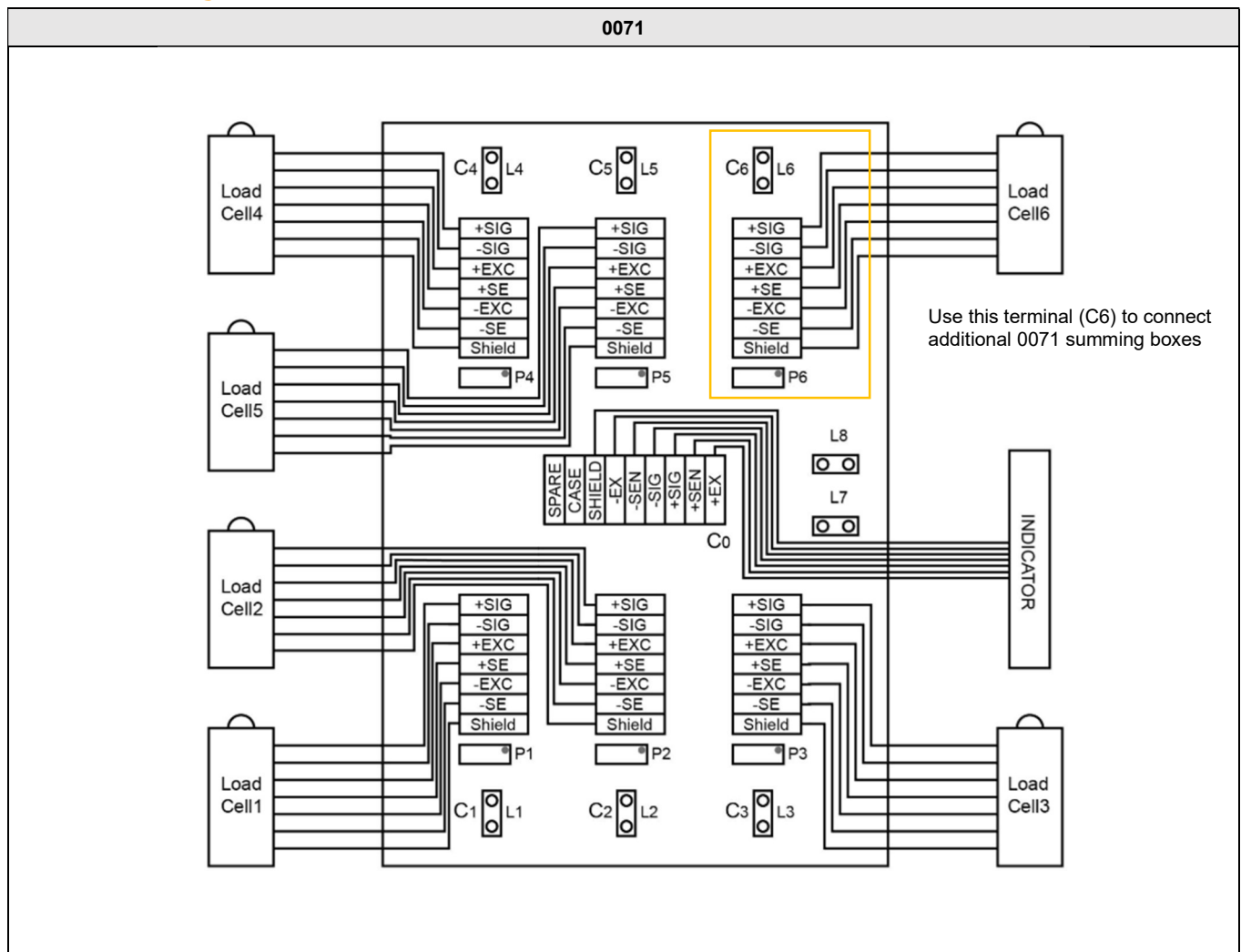
## Specification

	<b>0071</b>	
<b>Load Cell Inputs</b>	Single 0071 unit – 6 load cells Multiple 0071 units - 5 load cells per linked 0071 and 6 load cells on the last 0071 in series	
<b>Input Resistances</b>	Optimum performance – 150Ω to 1,000Ω per load cell Maximum resistance – 2500Ω per load cell	
<b>Maximum Excitation</b>	15 V	
<b>Shell Material</b>	Sealed die-cast metal	
<b>Connection Type</b>	7-way terminal strip (6-Wire Connection)	
<b>Connections</b>	6 x M12 Polymer Glands, 1 x M16 Polymer Gland	
<b>Signal Trimming</b>	Yes (balanced across all signal paths)	
<b>Circuit loading</b>	2,500Ω per side	
<b>Trim Potentiometers</b>	25 turn trimming potentiometer (no resistor soldering)	
<b>Trimmer isolation</b>	Removable Jumper Link	
<b>Initial signal loss **</b> On insertion of jumper link signal reduces by (with trimmer set for maximum signal output)	Load Cell Resistance (Ω)	Initial signal reduction (%)
	1,000	0.23
	700	0.16
	350	0.18
<b>Maximum trimming effect **</b> Span signal reduction	Load Cell Resistance (Ω)	Max. signal reduction (%)
	1,000	2.4
	700	1.7
	350	0.87
<b>Dimensions</b>	170mm x 162mm x 58mm (6.69in x 6.38in x 2.28in)	
<b>Environmental protection</b>	IP55	
<b>Mounting Holes</b>	2 x 	
<b>Operating Environment</b>	–10 to +50°C ambient	
<b>Shipping Weight</b>	1.25kg	

\*\* Performance figures correspond to typical operating conditions. Results in service may vary slightly due to unknown external conditions. Specifications are subject to variation for improvement, without notice

Illustrations are indications only and variation may be evident between products

## Connection Diagram



## Trimming

Trimming is a process of equalizing the output from multiple individual load cells by adjusting each matched potentiometer. Each of the load cell connectors in the 0071 is fitted with a 25-turn trimmer and jumper link. The trimmer allows the signal from that loadcell to be reduced to match its weight response to the rest of the loadcells. The jumper allows individual trimmers to be disabled or enabled.

The 0071 is designed to provide a “non-linear” response for the trimmers. This improves the accuracy for “normal” balancing operations, while allowing an extended range for problem loadcells.

Each trimmer has 25 turns of adjustment from fully clockwise (highest output from loadcell) to fully anti-clockwise (lowest output). This range is divided into 3 sections (starting from fully clockwise)

- First 15 turns – Fine Range
- Next 7 turns – Medium Range
- Last 3 turns – Coarse Range

Trimmer ranges may be affected by scale build. The first few turns in “Fine Range” can be VERY fine in some scale builds, and it may take several turns before an effect is seen on the indicator display.

After all wiring is completed and the scale instrument is powered up, check the scale for repeatability and correct any problems. The 6 potentiometers (P1-P6) adjusts the respective load cell connected to it.

## The Jumpers

When a jumper link is removed, that trimmer is disabled. The loadcell will continue to operate. Note that the insertion of a link will produce a slight “step” reduction in the weight response of that loadcell. As this can affect the “corner-balance” of the scale, it is recommended that the jumpers for all connected loadcells are inserted before a corner-balance operation begins. Unused loadcell connectors may have their jumper links removed.

## Trimming process

Corner adjusting method described below can be used to achieve the best possible performance.

Before starting a corner-balance operation, the initial setting for any enabled trimmer is normally fully clockwise. Most trimmers emit a “clicking” sound at the end of their range, so it is often only necessary to turn each one until the sound is heard. Not all the trimmers make the “clicking” sound. A “silent” trimmer will need to be turned at least 25 full turns clockwise to ensure it is fully reset.

- 1- Each potentiometer should be at the halfway point before start trimming, please turn it counter clockwise 12 turns (Max Turns/2) from the rest point described above.
- 2- Connect each load cell cable to the matched terminal of 0071 through cable glands as figure shown above, connect indicator with a cable through to 0071 as well.  
Set the indicator to Zero, then place test weights over each load cell (each corner) and on the centre point in turn.
- 3- Record the value displayed on the indicator after test weight is placed in turn on each corner and centre. Select the lowest corner value comparing with centre value, adjust the potentiometer of the corner by clockwise turn to increase the value of this corner, or select the greatest value comparing with centre value, then trim the potentiometer of the corner by counter clockwise turn to decrease the value of this corner.
- 4- Replace the same test weight over each cell and centre in turn. Adjust the potentiometers to trim each load cell up or down to equal the value of each corner to the centre. Check all cells again for repeatability, repeat steps 2 and 3 if necessary, until all the value is within the required range.

## Dimension

