



SC-ISOSLICE-2

8 Analog Input ISOSLICE Unit

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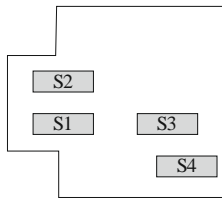
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The Isoslice-2 unit has 8 analogue inputs. It can be configured to accept a variety of high level unipolar (positive) signals. This is achieved using the 8 way dipswitches shown in the picture below:



- S1 selects the input type for inputs 1,2,3,4
- S2 selects the input type for inputs 5,6,7,8
- S3 selects the default input ranges
- S4 selects the SC-ISOSLICE bus channel (2 to 128)

Default input types and ranges

Default input ranges can be selected using the dipswitches S1,S2 and S3 from the table below. Before settings are changed, the inputs must be disconnected and the Isoslice-2 must be powered off.

	Switches Used			Switch Settings	
	S1 (Type)	S2 (Type)	S3 (Range)	4 - 20mA (Current)	0 - 10V (Voltage)
Input 1	1,2	-	1	S1:1,2 on S3:1 off	S1:1,2 off S3:1 on
Input 2	3,4	-	2	S1:3,4 on S3:2 off	S1:3,4 off S3:2 on
Input 3	5,6	-	3	S1:5,6 on S3:3 off	S1:5,6 off S3:3 on
Input 4	7,8	-	4	S1:7,8 on S3:4 off	S1:7,8 off S3:4 on
Input 5	-	1,2	5	S2:1,2 on S3:5 off	S2:1,2 off S3:5 on
Input 6	-	3,4	6	S2:3,4 on S3:6 off	S2:3,4 off S3:6 on
Input 7	-	5,6	7	S2:5,6 on S3:7 off	S2:5,6 off S3:7 on
Input 8	-	7,8	8	S2:7,8 on S3:8 off	S2:7,8 off S3:8 on

User calibrated input types and ranges

The inputs can also be user calibrated for wider input ranges. Choose the settings from the table for either current or voltage.

Current: 0 - 1 mA up to 0 - 20 mA (eg Input 1: 0 - 1 mA S1:1,2 on S3:1 off)
 Voltage: 0 - 1 V up to 0 - 40 V (eg input 4: 0 - 5 V S1:7,8 off S3:4 on)

The range shown above is the maximum the switch settings will allow. The ADC is able to adjust the gain to use full resolution for ranges that are less than those shown.

The calibration sequence is described in the last section of the manual.

Restoring default values

Default values are restored by changing the corresponding dipswitch on S3 for the input and power cycling, then changing it back again.

To restore default values (eg 4-20mA on input 1).

Power off the Isoslice-2. Change S3:1 to ON. Power on the Isoslice-2. It will load in default values for 0 - 10V.

Power off the SC-Isoslice-2. Change S3:1 to OFF. Power on the Isoslice-2. It will load in default values for 4 - 20mA.



Channel number

The channel number is selected using S4. The channel number must be between 2 and 128, using switches 2 to 8. If all switches are off, channel number is 1 (invalid):

The channel number is a binary reading of switches 2 to 8, with switch 8 the lowest bit.

S4		1 = On, 0 = Off			
Channel	2 3 4 5 6 7 8	Channel	2 3 4 5 6 7 8		
1	0 0 0 0 0 0 0	9	0 0 0 1 0 0 0		
2	0 0 0 0 0 0 1	10	0 0 0 1 0 0 1		
3	0 0 0 0 0 1 0	11	0 0 0 1 0 1 0		
4	0 0 0 0 0 1 1	12	0 0 0 1 0 1 1		
5	0 0 0 0 1 0 0	13	0 0 0 1 1 0 0		
6	0 0 0 0 1 0 1	14	0 0 0 1 1 0 1		
7	0 0 0 0 1 1 0	15	0 0 0 1 1 1 0		
8	0 0 0 0 1 1 1	16	0 0 0 1 1 1 1		

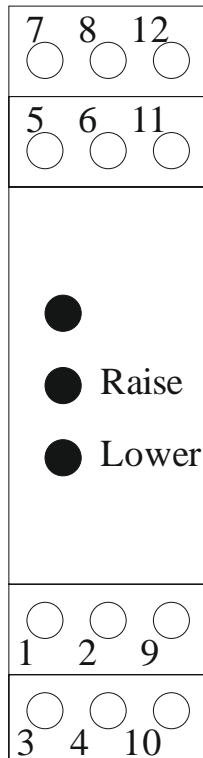
Connections

- 7. Input 7
- 8. Input 8
- 12. Input 7 & 8 -ve

- 5. Input 5
- 6. Input 6
- 11. Input 5 & 6 -ve

- 1. Input 1
- 2. Input 2
- 9. Input 1 & 2 -ve

- 3. Input 3
- 4. Input 4
- 10. Input 3 & 4 -ve





Calibration

The SC-ISOSLICE-2 has an led that shows which mode it is in.

Green	run
Red	learn span point
Amber	learn zero point

Calibration of a channel:

In run mode select the input to be calibrated
Calibrate the span point
Return to run mode
Calibrate the zero point
Return to run mode

Select the Input to be calibrated

Push the raise or lower button when the led is green. The led will flash red between 1 and 8 times, indicating the input that will be calibrated next.

Calibrate the Span Point

When the input has been chosen push and release both buttons.
The led will go red.

Put in the span value (eg 20mA) into the corresponding input, wait a few seconds for the input to be averaged to a stable level then push the raise button to confirm that the input value is the value for the span at 100%. The Isoslice unit will check if it is using the most appropriate gain setting for the ADC. If it is, the span point has been learnt.

If the gain is not right, it will change the gain setting (green flash) then the red led will flash. Push the raise button again to make it learn the input value with the new gain setting. There are 8 possible gain settings, so it may be necessary to repeat this process a few times. When the led stays red after the button has been pressed, the span point has been learnt.

Push and release both buttons to return to run mode. The led will go off briefly (to indicate it has learnt and saved a new value) then change to green.

Calibrate the Zero Point

Push and release both buttons
The led will change from green to amber.

Put in the zero value (eg 4mA) into the corresponding input, wait a couple of seconds for the input to be averaged to a stable level then push the raise button to confirm that the input value is the value for the zero at 0.00%.

Push and release both buttons, the led will again go off briefly then change to green. Check the calibration has been successful by varying the input and confirming the value shown on the Z-Port or E-100 display for the corresponding input and channel is correct.