Sensata ISOSLICE-2 8 Analog Input Isoslice Unit User Manual

Contents

Sensata

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Whilst every effort has been taken to ensure the accuracy of this document, we accept no responsibility for damage, injury, loss, or expense resulting from errors or omissions, and reserve the right of amendment without notice. This document may not be reproduced in any way without the prior written permission of the company. The ISOSLICE-2 unit has 8 analog 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 input 5,6,7,8
- S3 selects the default input ranges
- S4 selects the 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 ISOSLICE2 must be powered off.

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 (e.g., Input 1: 0 – 1 mA S1:1,2 on S3:1 off)
- Voltage: 0 – 1 V up to 0 – 40 V (e.g., 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 can 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 (e.g., 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 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, the 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

1. 7. Input 7
2. 8. Input 8
3. 12. Input 7 & 8 -ve
4. 5. Input 5
5. 6. Input 6
6. 11. Input 5 & 6 -ve
7. 1. Input 1
8. 2. Input 2
9. 9. Input 1 & 2 -ve
10. 3. Input 3
11. 4. Input 4
12. 10. Input 3 & 4 -ve

Calibration
The 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 (e.g., 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 learned. 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 learned. Push and release both buttons to return to run mode. The LED will go off briefly (to indicate it has learned and saved a new value) and 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 (e.g., 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 and 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.

Documents / Resources

	Sensata ISOSLICE-2 8 Analog Input Isoslice Unit [pdf] User Manual ISOSLICE-2 8 Analog Input Isoslice Unit, ISOSLICE-2, 8 Analog Input Isoslice Unit, Input Isoslice Unit, Isoslice Unit