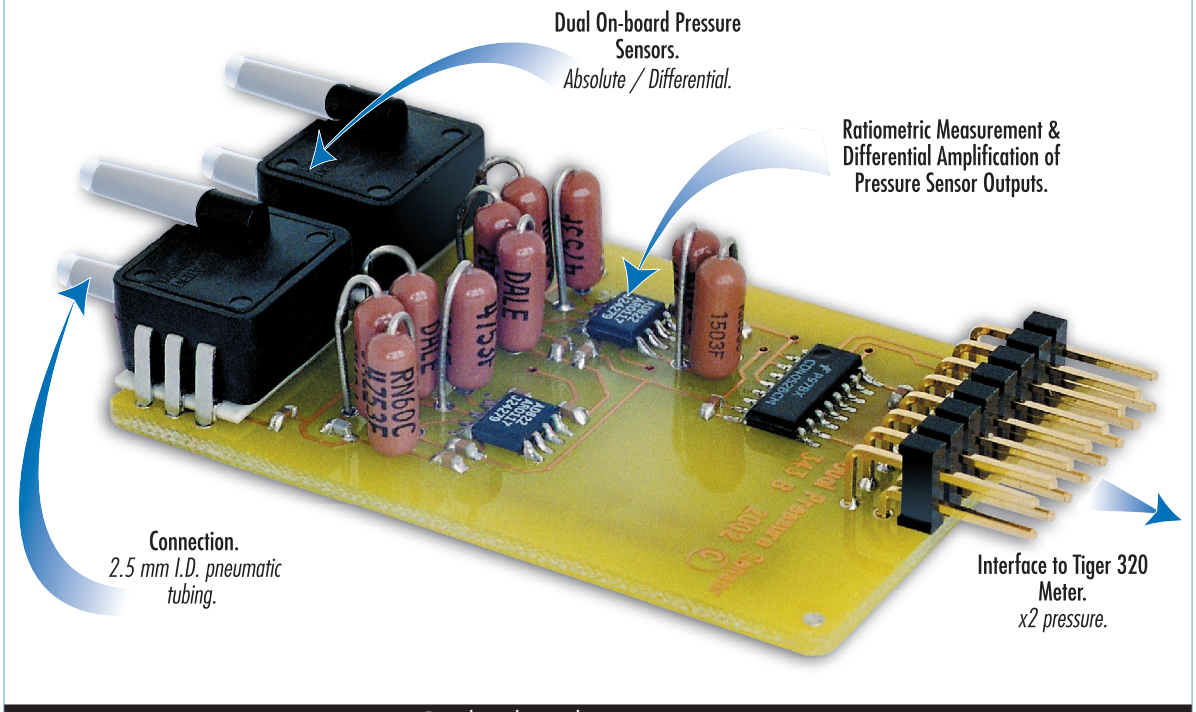
TEXMATE INC

Fits Tiger 320 Series

DUAL DIRECT PRESSURE SENSOR INPUT MODULE



Dual on-board pressure sensors.

The cost effective solution for pressure applications requiring monitoring and process control of non-corrosive working fluids such as air, dry gases and similar. Two independent pressure sensors are available in absolute and differential combinations in five pressure ranges covering 0 to 100 psi. Select your type and range from the order code listed below.

Input Module Order Code Suffix

IGYY

I	G		

Sensor Range	CH1	CH2
1 psi absolute	A	A
1 psi differential	B	B
5 psi absolute	C	C
5 psi differential	D	D
15 psi absolute	E	E
15 psi differential	F	F
30 psi absolute	G	G
30 psi differential	H	H
100 psi absolute	J	J
100 psi differential	K	K

For example, IGCD:
CH1 5 psi, absolute pressure.
CH2 5 psi, differential pressure.

Hardware Module Specifications	
Pressure Inputs for Channel 1 & Channel 2	Absolute or differential connections via 2.5 mm I.D. pneumatic tubing.
Pressure Ranges	0-1, 0-5, 0-15, 0-30, and 0-100 psi.
	Temperature compensated 0-50 °C, ± 4% full scale
Max Pressure any Port	150 psi.
Repeatability	± 0.2% full scale typical.
Linearity/Hysteresis	± 0.2% full scale typical.

DUAL DIRECT PRESSURE SENSOR

INPUTS

PRESSURE

Connector Pinouts

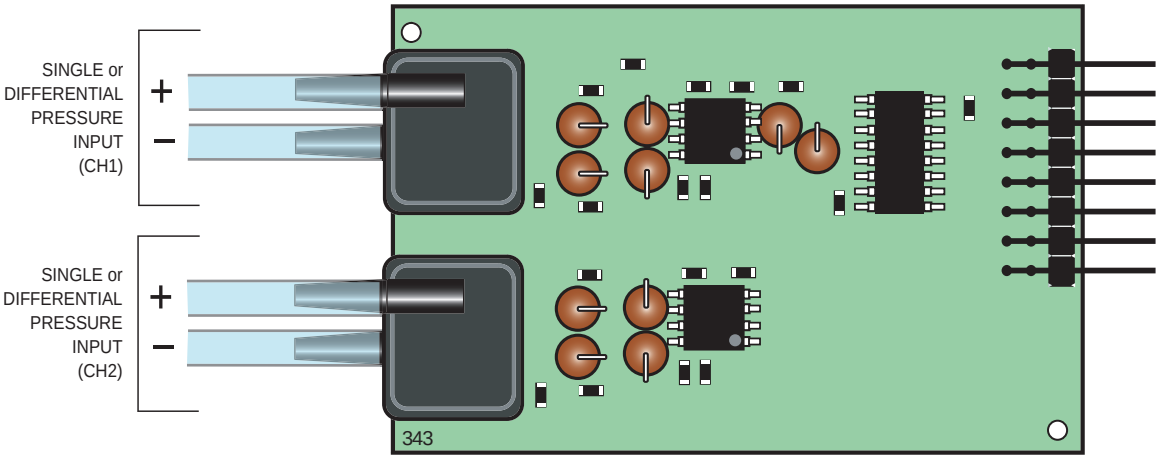


Figure 1 – IGYY Dual Direct Pressure Sensor Input Module Component Layout

Detailed Description

The Tiger 320 Series controller has four input channels capable of processing almost any input signal type. The dual direct pressure sensor input module IGYY uses only channels 1 and 2.

The input module processes the pressure inputs via built-in pressure sensors capable of processing an absolute or differential pressure input. The pressure signals are then fed to CH1 and CH2 for further processing. Gain setting resistors are factory installed to optimize the full scale output for each pressure range. Contact Texmate when ordering to discuss your pressure range requirements.

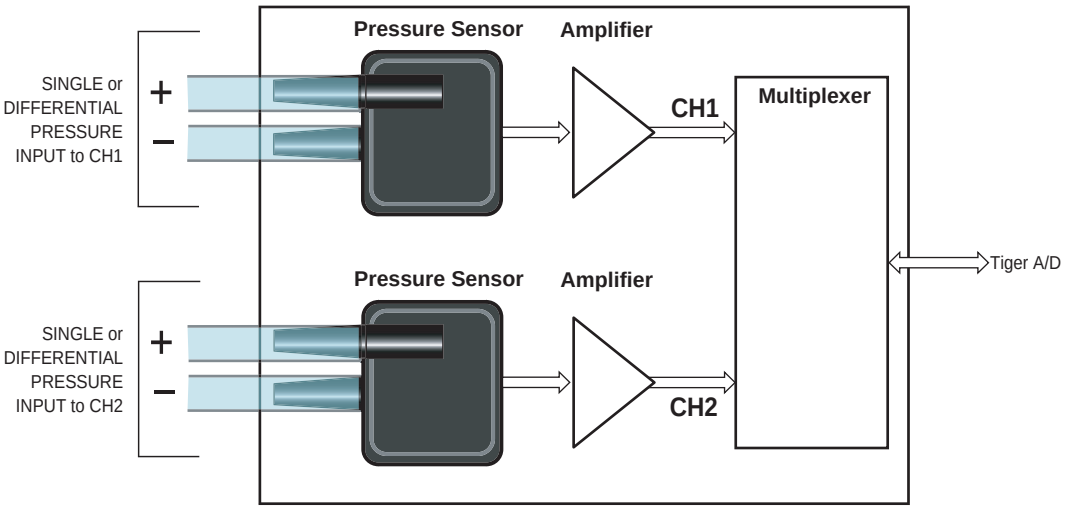


Figure 2 – IGYY Dual Direct Pressure Sensor Input Module Signal Flow Diagram

Tiger 320 Series Meter Settings

Channel 1 (CH1) and channel 2 (CH2) configuration settings for the IGYY input module are selected in Codes 2 and 4 respectively of the Tiger 320 Series meter's main programming mode. Both CH1 and CH2 must be selected as a voltage input.

CH1 → PRESSURE INPUT → CODE 2 → [X00]

1st Digit: X Select analog sample and output rate as required.

FIRST DIGIT ANALOG SAMPLE RATE	
0	**Sample Rate: Typically 10 samples/second (60 Hz) Control Output Rate: 0.1 seconds See Example**
1	Sample Rate: Typically 10 samples/second (50 Hz). Control Output Rate: 0.1 seconds See Example
2	Sample Rate: Typically 10 samples/second (60 Hz) Counter or 10 millisecs Control Output Rate See Example
3	Sample Rate: Typically 10 samples/second (50 Hz) Counter or 10 millisecs Control Output Rate See Example

Note:
Output Rate refers to setpoint and macro outputs, and input rates from smart input modules.

Note:
All above sample rates are quoted for single channel operation. Where more than one channel is available, sample rates are divided by the number of active channels. See Example.

Example: 10 Samples/Second
1 Channel = 10 samples/second
2 Channels = 5 samples/second
3 Channels = 3.33 samples/second
4 Channels = 2.5 samples/second

See the Tiger 320 Series Programming Code Sheet for a complete list of main and setpoint mode programming code settings.

2nd Digit: 0 Selects **Voltage, Current**. (any other selection will not work)

3rd Digit: 0 Selects **No function**. (any other selection will not work)

CH2 → PRESSURE INPUT → CODE 4 → [3X0]

1st Digit: 0 Selects **Voltage, Current**. (any other selection will not work)

2nd Digit: X Select required setting for CH2.

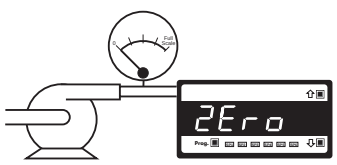
FOR VOLTAGE & CURRENT	
0	**Channel 2 Disabled**
1	Direct (no post processing)
2	Square Root of Channel 2
3	Inverse of Channel 2
4	-
5	-
6	-
7	-

3rd Digit: 0 Selects **No function**. (any other selection will not work)

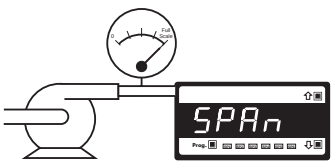
Calibration

Both channel 1 and channel 2 must be individually calibrated using the two-point calibration method. Calibration must be done using a source of pressure equal to the pressure range you selected for your meter. For example, if you selected 0-5 psi for CH1, then you should be able to apply a pressure of 5 psi from your source for the meter's [SPAn] setting. See Figure 3 and the 2-point calibration procedure on the next page.

1) Enter the meter's calibration mode and set the display to [111]. This sets you up to calibrate CH1 using the 2-point method.
2) While in the [ZEro] setting mode with no pressure applied, set the display to the number of counts you want to see on the display for the zero setting.
3) Now enter the [SPAn] setting mode and apply the maximum pressure for CH1. Set the display to the number of counts you want to see on the display for the span setting (full scale).
4) Save the CH1 settings and repeat the procedure for CH2 by setting the calibration mode to [112].



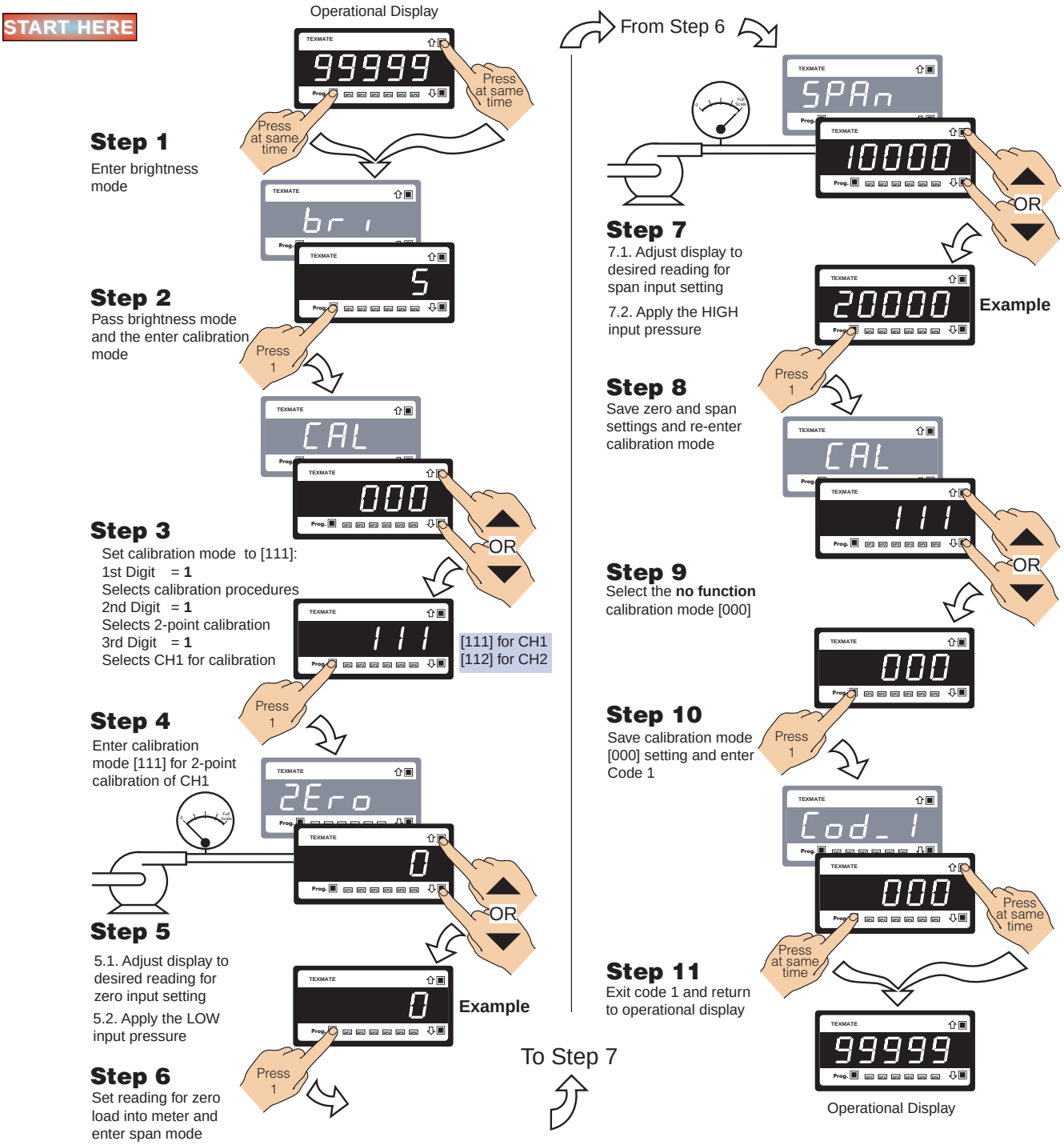
The **low** input source is applied to the meter when setting the zero value.



The **high** input source is applied to the meter when setting the span value.

Programming Tip
All displays shown in this calibration sheet are for a 5-digit, 7-segment display. Using any other display type in the Tiger 320 Series range will look slightly different.

Figure 3 – Two-point Calibration Procedure



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