SGD ADPT-420

2 Channel 4-20mA Galvanic Isolation module for PanelPilot-compatible displays

Features

- Measures 4 - 20mA current loops (nom. loop voltage 24vdc)
- 2 separate, isolated, channels
- Powered from SGD meter
- Simple mounting on back of SGD header
- Application download from PanelPilot website
- Works with any PanelPilot voltage configuration
- Operating voltage of 12V-30V d.c.
- Does not need floating PSU with respect to current loops
- Each current loop channel is isolated from each other as well as the PanelPilot

PanelPilot display not included

This add-on module interfaces directly with any PanelPilot display from the list below. It provides dual channel 4-20mA galvanic isolation.

Specifications

	Minimum	Typical	Maximum	Unit
Resolution (internal and displayed)*		0.1		%
Supply voltage	6	12-24	30	V d.c.
Supply current**	35		190	mA
Number of Isolated Input Channels***		2		
Measurement Range (24vdc Loop Powered)		4-20		mA
Loop volt drop	0		5.0	V

* Depending on user calibration settings
** Voltage dependent. See PanelPilot Datasheet
*** Galvanic Isolation

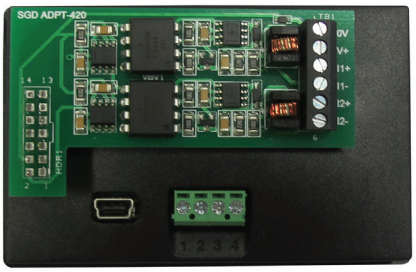
Ordering Information

SGD ADPT-420 add-on board	**SGD ADPT-420**
PanelPilot-compatible displays - see PanelPilot.com	**SGD 24-M** **SGD 28-M** **SGD 35-M**

Hardware

The SGD ADPT-420 board takes its power from the host SGD. Connect the 14-way socket to the SGD, as shown. The current loops are wired to the I1+ and I1-, I2+ & I2- via the screw terminal block.

The system can be powered via the USB port at the SGD for initial application upload but do not calibrate or run with USB supply as this falls outside the operating voltage range of the SGD ADPT-420.



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Current Loop

Internally the SGD ADPT-420 converts the isolated current loops into a voltage. This will be in the range of 0 to 4v. The User will need to calibrate the PanelPilot meter to this voltage for each Channel

Voltage Range (V)	Resolution (mV)
0 - 1.25	0.3
0 - 2.5	0.6
0 - 4	1.0
0 - 5	1.2
0 - 8	2.0
0 - 10	2.4
0 - 20	4.9
0 - 40	9.8

Suggested Calibration Procedure

1. Load the PanelPilot with a Dual digital meter configuration and set it up as a 0 to 4v volt meter, or use a Voltmeter to measure voltages present at the PanelPilot terminals between terminals 2 & 3 for Channel 1, 1 & 3 for Channel 2
2. Inject 4mA into inputs I1+,I1- & I2+,I2- on the SGDADPT-420 Terminals, loop them if you want to do both at once with a single 4-20mA source
3. Take a note of the two voltage readings
4. Inject 20mA into inputs I1+,I1- & I2+,I2-
5. Take a note of the two voltage readings
6. Now using your Process Configuration file you have chosen for the PanelPilot, use these values to set your MIN and MAX values or whatever you wish 4 to 20mA to represent.

Terminal Connections

Terminal connection	Description
V+	Alternative power supply input for the SGD. This passes straight to the SGD via the ribbon cable. Do not use if the power is applied directly to the V+ terminal of the SGD.
0V	Ground connection for the SGD and TC board. Connection not necessary if alarm outputs not used.
ALM1	Open-collector alarm outputs of the SGD. See the SGD data sheet for full details.
ALM2	
TC+	Positive connection for the thermocouple (Green)
TC-	Negative connection for the thermocouple (White)

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Mounting the SGD-TC

The SGD-TC should be mounted seperately from the SGD display module using the two mounting holes. Take care to observe correct polarity when connecting the power supply and the thermocouple.

Please refer to the SGD data sheet for instructions on mounting the SGD to a panel.

Dimensions

All dimensions in mm (inches)