Strain Gauge Measurement - While there are several methods of measuring mechanical strain, the most common is with a strain gage. The gage provides electrical resistance that varies in proportion to the amount of strain in the device. The most widely used gage is the bonded metallic strain gage. To measure such small changes in resistance, strain gages are almost always used in a bridge configuration with a voltage excitation source. The general Wheatstone bridge (conventional, 4-arm bridge) consists of four resistive arms with an excitation voltage, Vexc, that is applied across the bridge. NAI's strain gage smart function module uses four independent, isolated input A/Ds. This module is designed to read output signals from a completed Wheatstone bridge (i.e., it can be used with one or more strain gage elements as a completed 4-arm Wheatstone bridge) and is commonly used in applications requiring pressure, weight, and stress transducers interface/measurement.

Function	Module	Description
Measurement	SG1	4 Channels, Strain Gauge Measurement

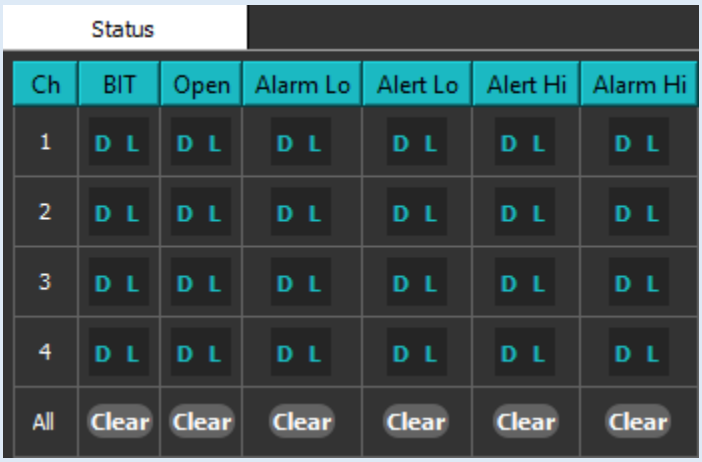
Key Features

- Four independent, isolated input A/Ds
- Designed to read output signals from a completed Wheatstone bridge
- Used in applications requiring pressure, weight and stress transducers interface/measurement.
- On-chip digital filtering for wide dynamic range signal measurement
- DC excitation for load and accelerometer gauge interface (programmable from 2-12 VDC)
- Onboard management of A/D interface, register access and sample timing
- Internal and system calibration included

Automatic Background Built-In Test (BIT)/Diagnostic Capability
Automatic background BIT testing is provided. Each channel is checked at periodic intervals for correct A/D operation. Any failure triggers an interrupt if enabled, with the results available in the status registers. The testing is transparent to the user and has no effect on the operation of this module.

New Embedded Soft Panel

North Atlantic Industries offers the newest cross platform (Windows and Linux) GUI for our Gen 5 products that allows a user to quickly interact with our broad range of modular, I/O cards and rugged embedded computing products. Embedded Soft Panel 2 (ESP 2) is coherent and easy to use with a clean, fleshed out UI with features such as drag and drop dock able windows, a dark and light theme, and multi-language support. Multiple ways to open a board are offered, including saving board opening settings for future use. Interacting with and collecting information on hardware is simple to do with the register editor for reading and writing specific addresses, and the API logger which logs all API library calls including their return status and parameters. ESP 2 has many new features and provides an organized and effortless interface for NAI's next generation products. Available for CentOS 7.4 and 8.2 and Windows 10 x64



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