

# Industrial Data Logger



## Overview

The Industrial Data Logger is intended for data logging from different types of analog and digital input modules. The Logger is based on Compact RIO chassis and modules by National Instruments Company. The Logger is a multichannel data logging system.

The data are acquired and logged from voltage-based analog input, digital input and thermocouple sensors modules. The acquired data from the connected sensors are transferred to an industrial touch panel host computer (TPC) through Ethernet channel and are logged to the internal memory of the TPC. The software allows a visualization of the live data in real-time mode and logging the acquired data.

The software is developed in LabVIEW graphical programming environment and has a user-friendly interface.

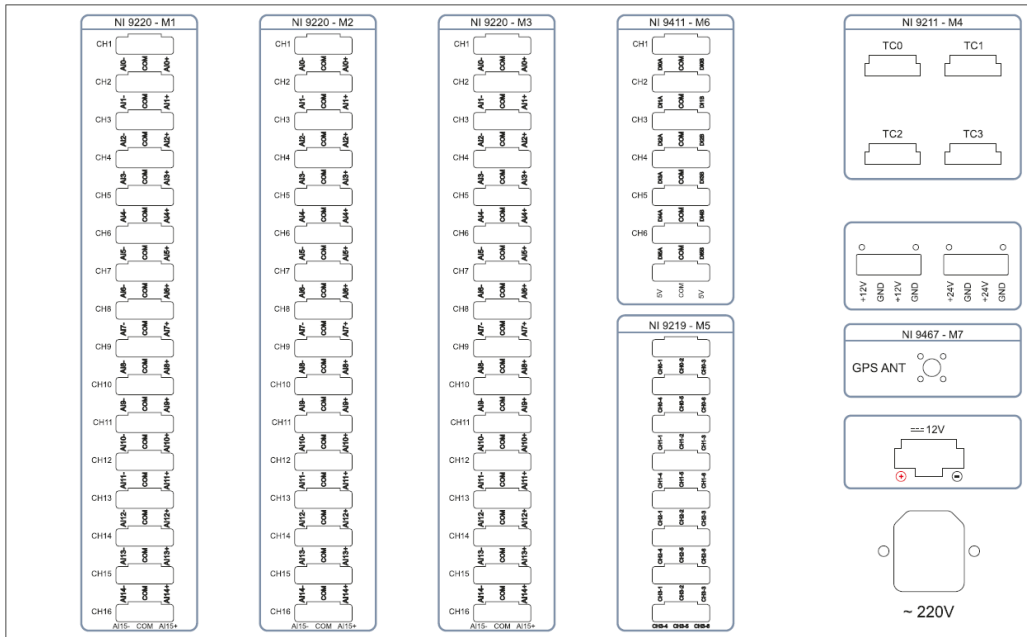
## Key Features

1. Possibility of data acquisition from various sensors:
  - Temperature, pressure, position and speed sensors
  - Termocouples
  - Strain gauges
  - Accelerometers
2. Possibility of sampling rate configuration for each module.
3. Selection of the strain gauge bridge circuit.
4. Visualization of the live data in real-time mode and logging the acquired data.

## Channels Specification

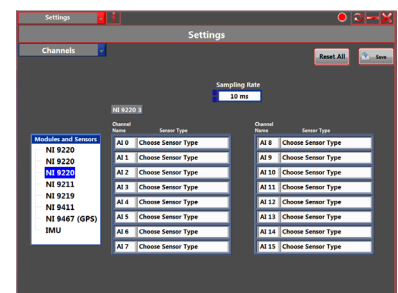
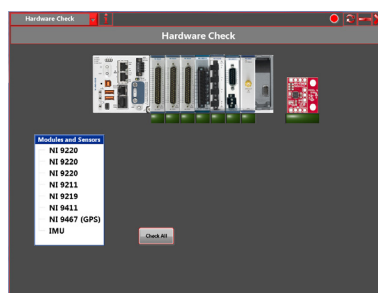
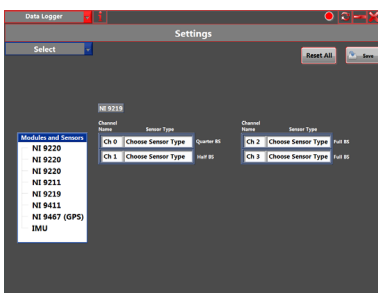
Input Type	Channel Quantity	Channel Characteristic
Analog	48 (differential)	$\pm 10$ V (16-bit resolution), 100 kS/s/ch
Analog (channel isolated)	4	$\pm 60$ V (24-bit resolution), 100 S/s
Thermocouple	4	$\pm 80$ mV (24-bit resolution), 14 S/s
Digital	6	$\pm 5$ V to 24 V, 1 MHz

## Data Logger Back Panel



## Software Features

- Picking and mix type of sensors within a module
- Configuring the order channels in the log file from the software menu
- Indicating the acquired data in real-time mode in parallel of logging
- Having the driver for IMU sensor
- Having the integrated USB device in the main host software
- Providing timing connection among channels with different acquisition rate in the log file



## Hardware and Software

1. NI cRIO-9035 Controller
2. 3 x NI 9220 Module
3. NI 9211 Module
4. NI 9219 Module
5. NI 9411 Module
6. NI 9467 GPS Module
7. MPU-9250 IMU Module
8. Ethernet Cable Cat-5E
9. NI cRIO-9035 Software
10. Data Logger Software

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