PX1-I440-ADC
Industrial Analog-to-Digital Data Acquisition Module

Features

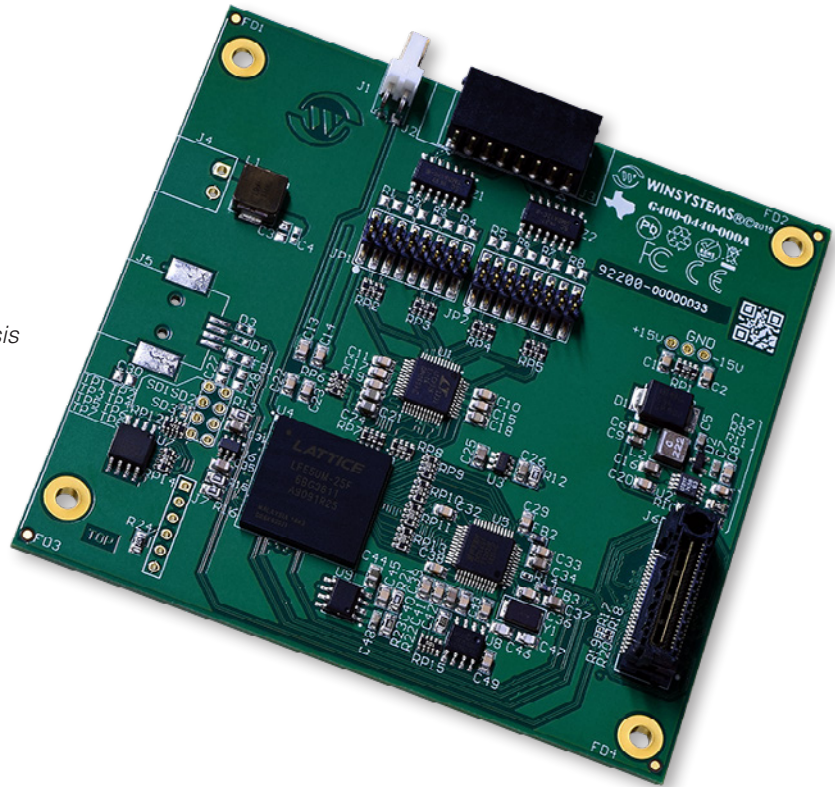### Connectivity
- PCIe/104 OneBank (USB Interface)

Analog Inputs
- 16-bit Analog-to-Digital (ADC) Converter
- Wide Common Mode Range Inputs
- Eight Analog Input Ranges:
  0V-5V, 0V-5.12V, ±5V, ±5.12V, 0V to 10V,
  0V to 10.24V, ±10V, ±10.24V
  Configurable on a conversion-by-conversion basis
- 8x Differential Input Channels support both
  Bipolar or Unipolar Inputs
- Available with 4-20mA Input Configuration

Capabilities
- Sample Rate up to 1Msps in Burst Mode
- Test Jumpers Provide On-board Voltages
- Programmable to cycle through a sequence
  of channels and ranges

Rugged Design for Demanding Environments
- -40°C to +85°C Operating Temperature Range
- PC/104 Form Factor
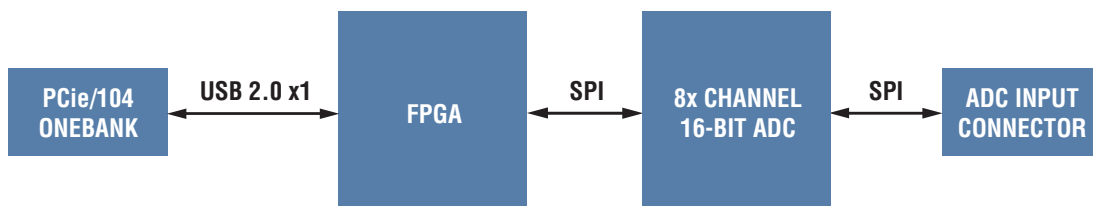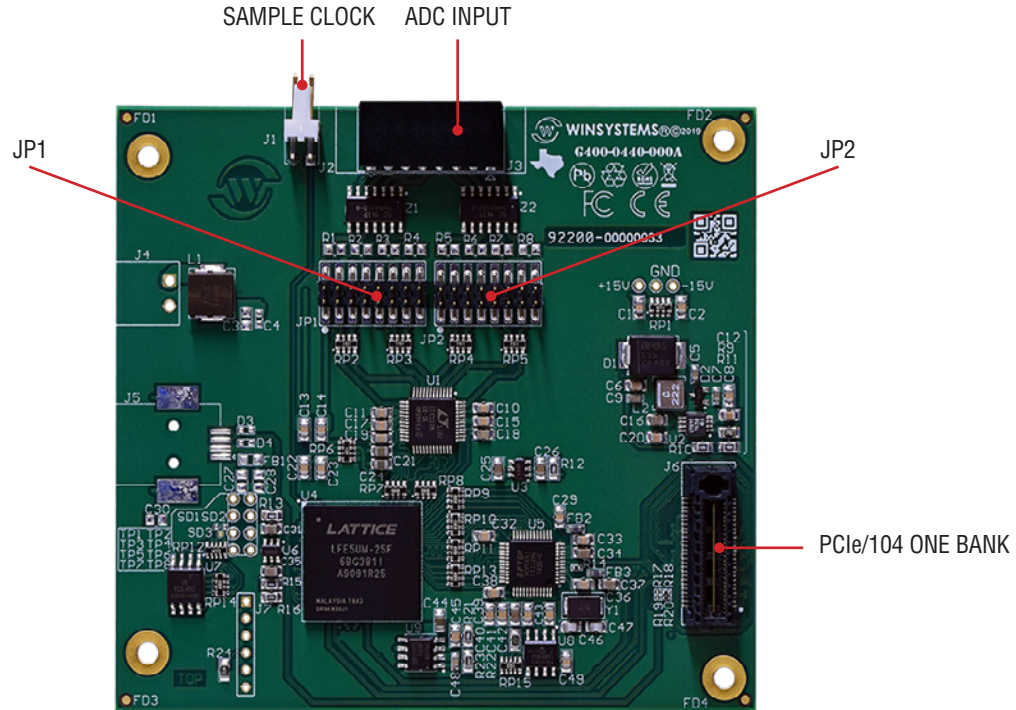- Shock and Vibration Tested

Product Description

The PX1-I440-ADC is an industrial data acquisition module for embedded systems with PCIe/104 OneBank™ expansion. This module features eight differential ADC (Analog-to-Digital converter) inputs based on the Analog Devices LTC2335-16 ADC. Analog to digital inputs terminate to a single 16-pin Box Header. The PX1-I440-ADC provides flexible voltage ranges from 0V-5V, 0V-5.12V, ±5V, ±5.12V, 0V to 10V, 0V to 10.24V, ±10V, ±10.24V.

The PX1-I440-ADC-420 configuration includes precision resistors on-board for measuring 4-20mA current loop inputs from a variety of sensors. Customized populations are available for OEM clients that need a mix of 4-20mA and Voltage inputs.

Block Diagram


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PCIe/104          USB 2.0 x1          FPGA          SPI          8x CHANNEL          SPI          ADC INPUT
ONEBANK                                                          16-BIT ADC                       CONNECTOR
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Connectors

SAMPLE CLOCK   ADC INPUT

JP1   JP2

PCIe/104 ONE BANK

Technical Specifications

ADC MODULE	**PX1-I440-ADC** 16-bit, Linear Technology LTC2335-16 analog-to-digital converter	**PX1-I440-ADC-420** 16-bit, Linear Technology LTC2335-16 analog-to-digital converter

CHANNELS	• Eight Differential Inputs:
	  – Configurable as Bipolar or Unipolar
	  – Programmable to cycle through a sequence of channels and ranges	

ADC POWER RANGES	• 0-5V, 0V-5.12V, ±5V, ±5.12V, OV to 10V, 0V to 10.24V, ±10V, ±10.24V	• 4mA to 20mA
SOFTWARE	• Compatible with Linux, Windows 10	
ENVIRONMENTAL	• Operational from -40°C to +85°C • RoHS compliant	
MECHANICAL	• Dimensions – 3.55 x 3.775 inches (90 x 96 mm) • Weight – 0.1 oz (100g)	

Order Information

PART NUMBER	**PX1-I440-ADC** Industrial Analog-to-Digital Data Acquisition Module	**PX1-I440-ADC-420** Industrial Analog-to-Digital Data Acquisition Module with 4mA to 20mA support

Expansion and Customization Options

WinSystems provides additional cables, expansion cards, power supplies, and solid-state drives to complete your embedded computing solution including data acquisition, communications, location, and other features via PCIe/104 and M.2 interfaces. Our Application Engineers are available to guide you through product selection and customized options.