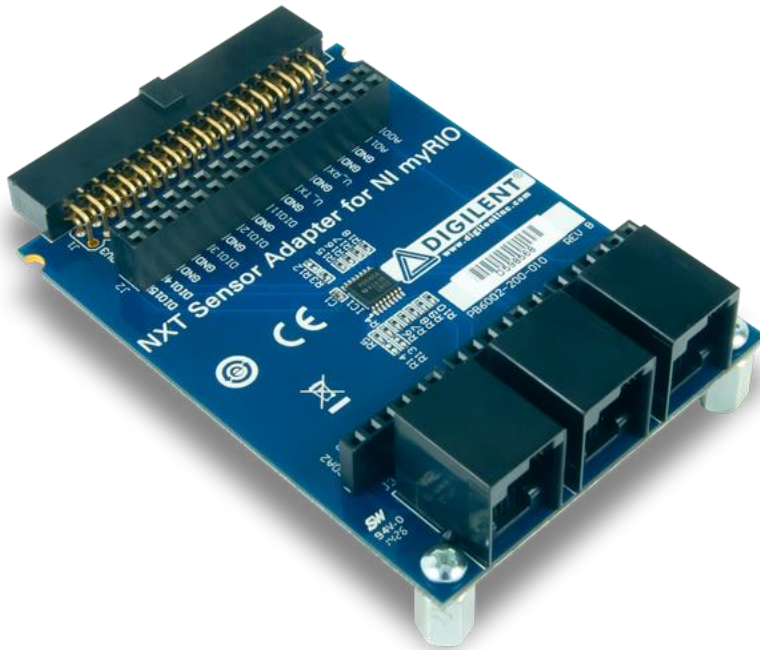


NXT Sensor Adapter for myRIO



Overview

With the NXT Sensor Adapter for myRIO, you can now connect your myRIO to the expansive NXT sensor options offered for the myRIO and LEGO® MINDSTORMS® NXT ecosystems. The NXT Sensor Adapter is designed to work with any NXT sensor under 9V, and uses an I2C multiplexer to create access to all three NXT ports using the single myRIO I2C interface included on the default FPGA personality. The NXT sensor connector signals are also available on 6-pin headers for direct access for probing or debugging.

Features Include:

- Uses the myRIO Expansion Port (MXP) connector. http://zone.ni.com/reference/en-XX/help/373925A-01/myriohelp/myrio_connector_pinouts/.
- Supports both passive and digital NXT sensors (under 9V)
- 3 LEGO® MINDSTORMS® NXT sensor connectors and standard 6 pin female breakout allowing direct access to single pins.
- No external power required.
- Standard 34-pin female breakout allowing direct access to all myRIO MXP connector signal pins.

myRIO MXP Port Pin#	myRIO Pin Function	Pin#	NXT Port 2	J4 Pin Name
1	5V	1	ANA	AI2

myRIO MXP Port Pin#	myRIO Pin Function	Pin#	NXT Port 2	J4 Pin Name
2	AO0	2, 3	GND	GND
3	AI0	4	Ipower	5V
4	AO1	5	DIO0/SCL	SCL2
5	AI1	6	DIO1/SDA	SDA2
6, 8, 12, 16, 20, 24, 28, 30	GND			
7	AI2			
9	AI3			
10	UART-RX	Pin#	NXT Port 1	J6 Pin Name
11	DIO0	1	ANA	AI1
13	DIO1	2, 3	GND	GND
14	UART-TX	4	Ipower	5V
15	DIO2	5	DIO0/SCL	SCL1
17	DIO3	6	DIO1/SDA	SDA1
18	DIO11/ENC-A			
19	DIO4			
21	DIO5/SPI-CLK	JPin#	NXT Port 2	J8 Pin Name
22	DIO12/ENC-B	1	ANA	AI0
23	DIO6/SPI-MISO	2, 3	GND	GND
25	DIO7/SPI-MOSI	4	Ipower	5V
26	DIO13	5	DIO0/SCL	SCL0
27	DIO8/PWM0	6	DIO1/SDA	SDA0
29	DIO9/PWM1			
31	DIO10/PWM2			
32	DIO14/I2C-SCL			
33	3V3			
34	DIO15/I2C-SDA			

Using the Adapter with myRIO

Please visit the [myRIO Community Website](#) for example code and project ideas.