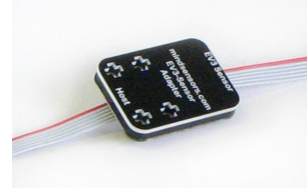


## What is EV3SensorAdapter

EV3SensorAdapter is an in-line adapter to connect EV3 sensors to NXT brick, Arduino using [EVShield](#) or NXShield, and Raspberry Pi using [PiStorms](#) or BrickPi.



## Connections

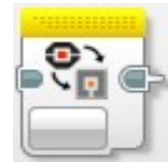
Connect the Host end to your NXT (or [EVShield](#) or [PiStorms](#)).  
Connect your sensors EV3 sensor to other end.

## Programming Techniques for SensorAdapter

### EV3:

To use capabilities of the sensor, please download EV3 blocks available at following URL:

[http://www.mindensors.com/index.php?controller=attachment&id\\_attachment=171](http://www.mindensors.com/index.php?controller=attachment&id_attachment=171)



Installation instructions for EV3 block are available at:

<http://www.mindensors.com/content/13-how-to-install-blocks-in-ev3>

Download EV3 sample program from following URL and modify it to suit your needs.

[http://www.mindensors.com/index.php?controller=attachment&id\\_attachment=245](http://www.mindensors.com/index.php?controller=attachment&id_attachment=245)

### NXT-G:

Not supported. It is recommended to use the new EV3 software for your NXT programming.

### NXC:

Download the sample programs and library file available at following location, and include the library file it in your program by #include directive. Or Modify the Sample program to suit your needs.

[http://www.mindensors.com/index.php?controller=attachment&id\\_attachment=299](http://www.mindensors.com/index.php?controller=attachment&id_attachment=299)

### RobotC:

To be implemented.

## Advanced Information

### Supported Sensors

Supported sensors as follows:

Sensor Name	Supported Modes	bytes	Expected data
EV3 Color	Color	2	0 to 7
	ReflectedLight	2	0(very dark) to 100(very light)
	AmbientLight	2	0(very dark) to 100(very light)
EV3 Gyro	Angle	2	-32768 to 32767 degrees
	Rate	2	-440 to 440 degrees/second
EV3 Infrared	Proximity	1	0(very close) to 100(far away)
	Beacon	8	proximity: (see above) heading: -25 to 25
	Remote	4	0 to 11
EV3 Ultrasonic	CM	2	3 to 255 cm
	Inches	2	1 to 99 in
	Presence	1	0(False) to 1(True)

For details about data returned by each sensor or modes, please refer to EV3 IDE help pages.

**\*\*\*EV3 touch sensor is not supported on this device. Use EV3 Sensor Multiplexor if you wish to use the EV3 touch sensor.\*\*\***

### I2C Bus address

Factory Default Addresses: 0x32

### I2C Registers:

The EV3 Sensor Adapter appears as a set of registers with following interpretation and operations.

Register	Read	Write
0x00-0x07	Software version - <i>Vx.nn</i>	-
0x08-0x0f	Vendor Id - <i>mndsnsrs</i>	-
0x10-0x17	Device ID - <i>EvSadpt</i>	-
Sensor data		
0x52	-	Set sensor mode
0x54	Sensor read data	-
0x55	Sensor read data (depending on sensor and mode)	-
0x56	Sensor read data (depending	-

	on sensor and mode)	
0x57	Sensor read data (depending on sensor and mode)	-
0x58	Sensor read data (only for infrared sensor)	-
0x59	Sensor read data (only for infrared sensor)	-
0x5A	Sensor read data (only for infrared sensor)	-
0x5B	Sensor read data (only for infrared sensor)	-

### Current Consumption

Average measured current profile is as follows:

Current Consumption	Duration
3mA	Continuous