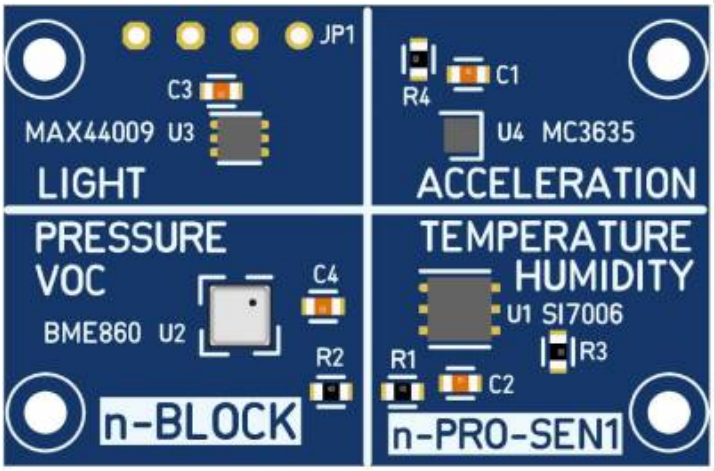
n-PRO-SEN1

Table of Contents

Overview **1**
MAX44009 Features **2**
LIS2DTW12 Features **2**
BME680 Features **2**
SI7006 Features **3**
Board Pinout **3**
Related articles in this Wiki **4**

n-PRO-SEN1

n-PRO-S1 is an environmental sensor board, in the standard n-Blocks pro form factor.



n-PRO-SEN1

n-PRO-s1

License	GPL 2.0
Status	Tested
Buy at:	
Categories	
Hardware repo	Bitbucket
Firmware repo	

Overview

n-PRO-S1 is designed around the MAX44009 **ambient light** sensor, the LIS2DTW12 **motion and temperature** sensor, the BME860 **atmospheric pressure and VOC** sensor and the SI7006 **Temperature/Humidity** Sensor.The board can be used to monitor the environment conditions, and store or transmit the data to a remote system for further processing. The n-PRO PERIPHERAL connectors pinout allow n-PRO-S1 to be connected to any n-PRO HOST board to add additional functionality. It is simple to just plug and get started with sensor applications immediately.

MAX44009 Features

- Wide 0.045 Lux to 188,000 Lux Range
- Small, 2mm x 2mm x 0.6mm UTDFN-Opto
- VCC = 1.7V to 3.6V</fs>

- ICC = 0.65µA Operating Current
- -40° C to +85°C Temperature Range
- Device Address Options :1001 010x and 1001 011x

LIS2DTW12 Features

- Ultra-low power consumption: 50 nA in power-down mode, below 1 µA in active low-power mode
- Very low noise: down to 1.3 mg RMS in low-power mode
- 0.8 °C (typ. accuracy) embedded temperature sensor
- Multiple operating modes with multiple bandwidth
- Android stationary detection, motion detectio
- Supply voltage, 1.62 V to 3.6 V

- ±2g/±4g/±8g/±16g full scale
- High-speed I²C/SPI digital output interface
- Single data conversion on demand
- 16-bit accelerometer data output
- 12-bit temperature data output
- 10000 g high shock survivability

BME680 Features

- Supply voltage
  - VDD main supply voltage range: 1.71 V to 3.6
  - VDDIO interface voltage range: 1.2 V to 3.6 V
- Current consumption
  - 3.1 µA at 1 Hz pressure and temperature
  - 3.7 µA at 1 Hz humidity, pressure and temperature
  - 0.09–12 mA for p/h/T/gas depending on operation mode
  - 0.15 µA in sleep mode

- Digital interface: I²C (up to 3.4 MHz) and SPI (3 and 4 wire, up to 10 MHz)
- Operating range -40–+85 °C, 0–100% r.H., 300–1100 hPa
- RMS Noise 0.12 Pa, equiv. to 1.7 cm
- Offset temperature coefficient ±1.3 Pa/K, equiv. to ±10.9 cm at 1 °C temperature change

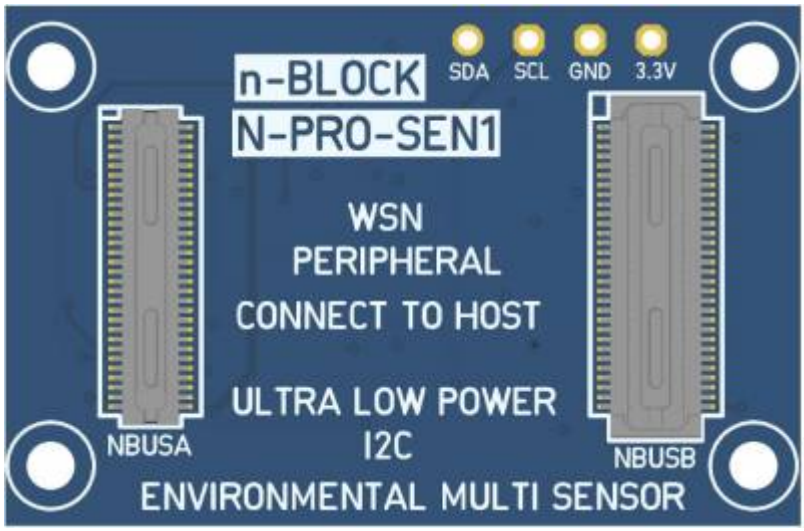
SI7006 Features

- Precision Relative Humidity Sensor
  - ± 5% RH (max), 0–90% RH
- High Accuracy Temperature Sensor
  - ±1 °C (max), –10 to 85 °C
- 0 to 100% RH operating range
- –40 to +125 °C operating range
- Low Power Consumption
  - 150 µA active current
  - 60 nA standby current

- Wide operating voltage (1.9 to 3.6 V)
- I2C host interface
- Integrated on-chip heater
- Excellent long term stability
- Optional factory-installed cover
- Low-profile
- Protection during reflow
- Excludes liquids and particulates

Board Pinout

n-PRO-3DP is a **PERIPHERAL** board with four Hirose DF30-series 60-pin low profile connectors at top side, following the n-Blocks PRO form factor.



Related articles in this Wiki

- start

RF, CPU, nblock, BLE, nsensorRF

IMPORTANT NOTICE - PLEASE READ CAREFULLY

Nimbus Centre reserve the right to make changes, corrections, enhancements, modifications, and improvements to Nimbus Centre products and/or to this document at any time without notice.

All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

Address: Cork Institute of Technology Campus, Bishopstown, Cork

Phone: (021) 433 5560