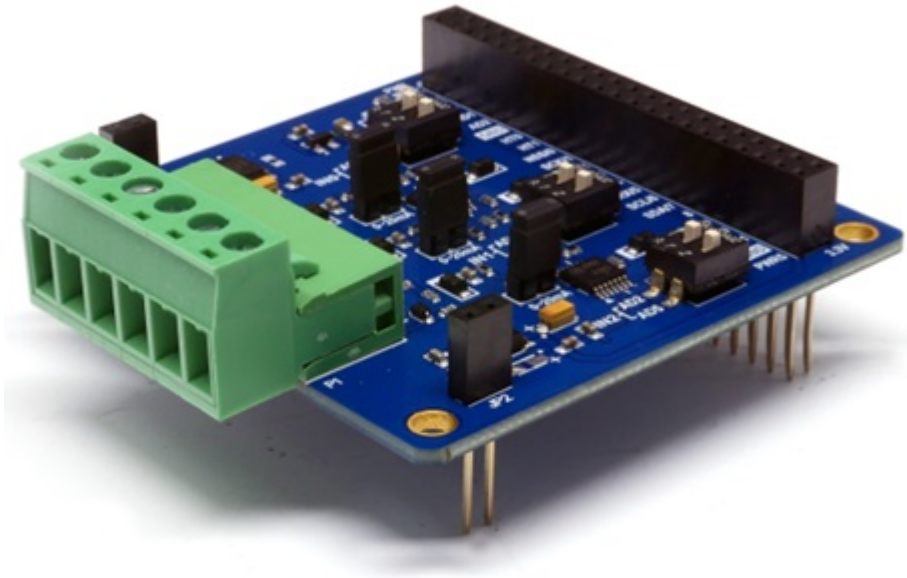# Introduction

PES-2203

PES-2203, the analog input board, is an expansion board for PHPoC boards. With this board, three analog signals can be input and delivered to the ADC channel of the PHPoC board.
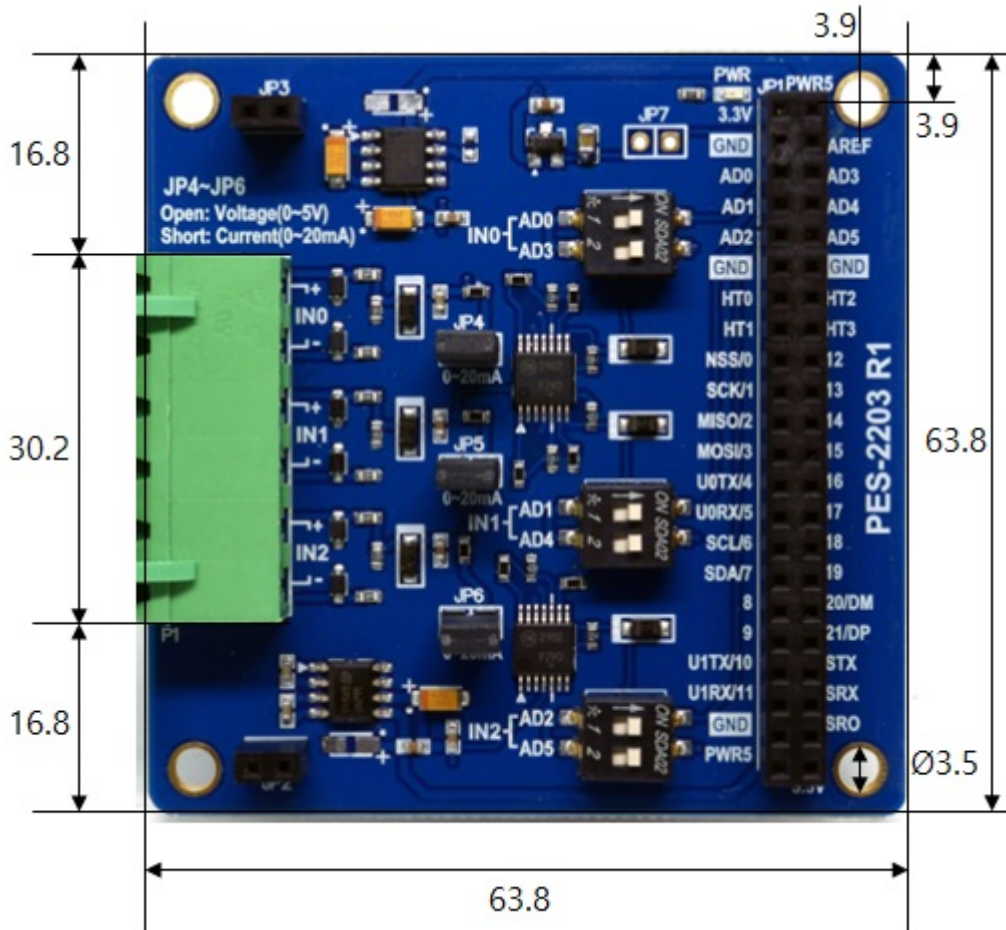
Highlights of PES-2203

- 3 analog input ports
- input type: voltage or current
- input voltage: DC 0 ~ 5[V]
- input current: 0 ~ 20[mA]
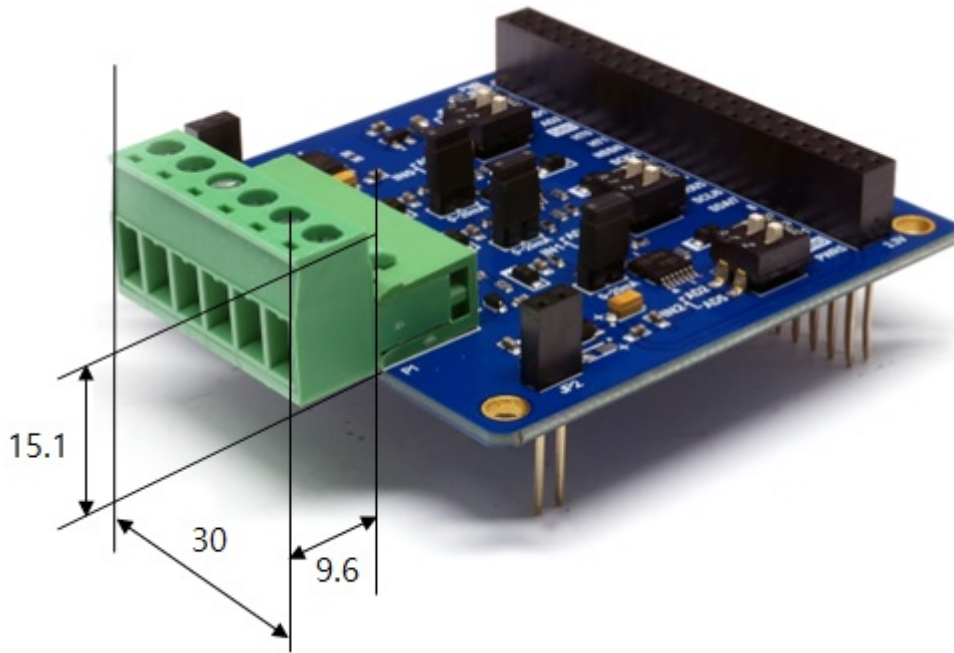- current consumption: approximately 25[mA]

※ Caution: PES-2203 requires a PHPoC board!
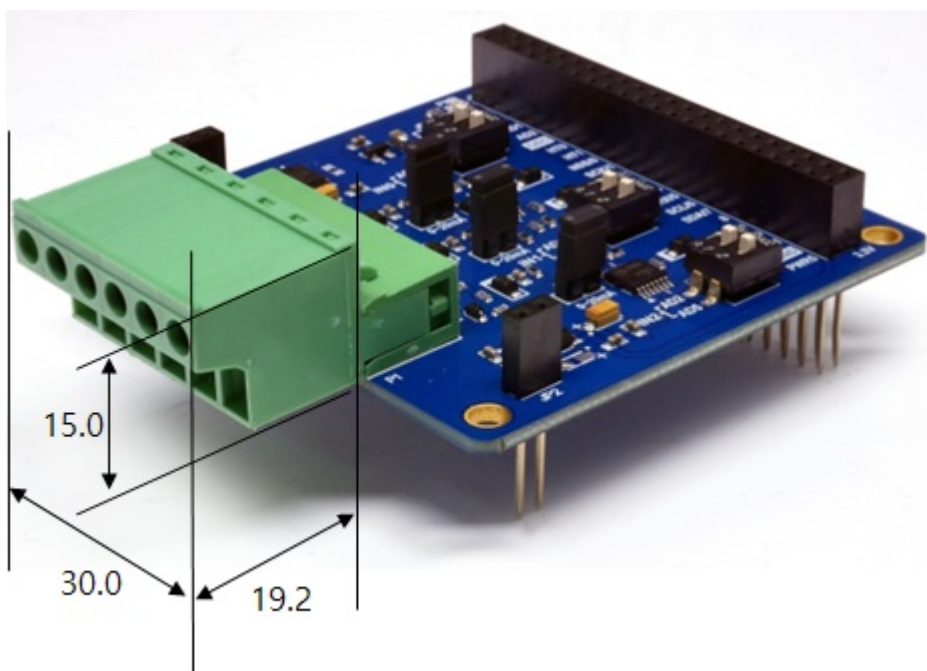
Dimension

Body

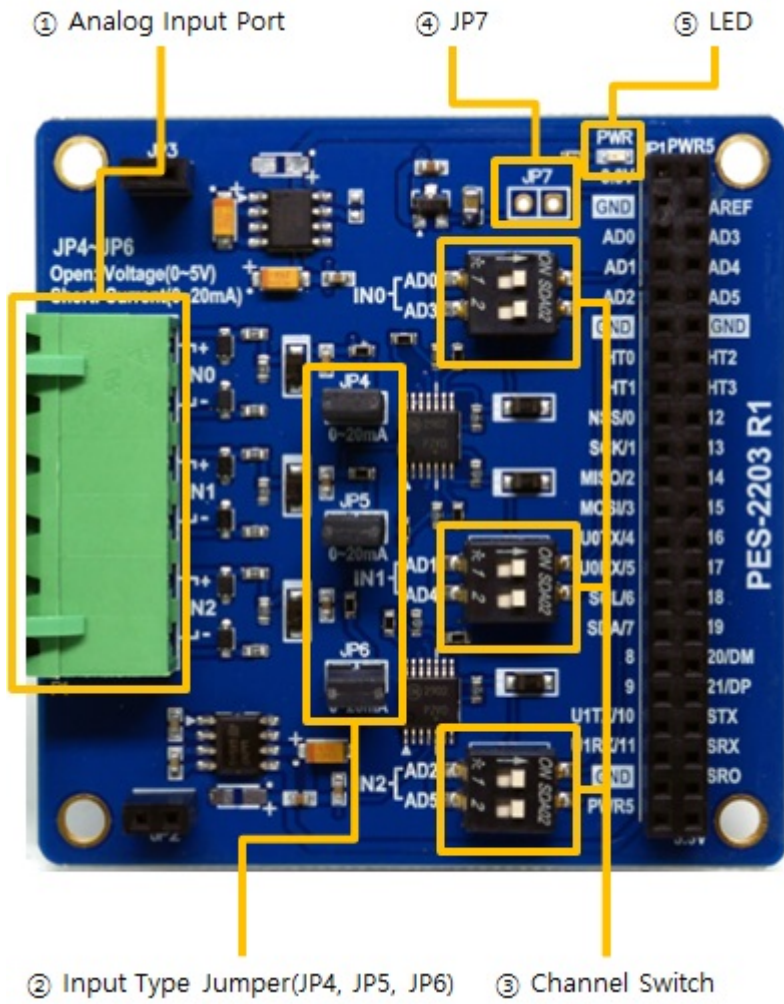# with Terminal Block (T type)

with Terminal Block (S type)

※ Dimensions(unit : mm) may vary according to a method of measurement.

Schematic

This is the schematic of PES-2203.

- PES-2203-R1-PO.pdf

Layout

1. Analog Input Port

The analog input port is a port for inputting analog signals. The input signal can be selected as voltage or current depending on whether the input type jumper is connected or not.

Type	Range(Unit)
Voltage (DC)	0 ~ 5(V)
Current	0 ~ 20(mA)

This port is 1-by-6 terminal block with 5mm pitch.

| lable	port number	input type jumber
IN0+, IN0-	Input Port #0	JP4
IN1+, IN1-	Input Port #1	JP5
IN2+, IN2-	Input Port #2	JP6

2. Input Type Jumper(JP4, JP5, JP6)

You can use these jumpers to select the type of input signal for each port.

| jumper connection	description
connected	current input
disconnected	voltage input

3. Channel Switch

The channel switch connects the analog signals from the PES-2203 to the PHPoC board.

Each input port can be connected with one or two ADC channels.
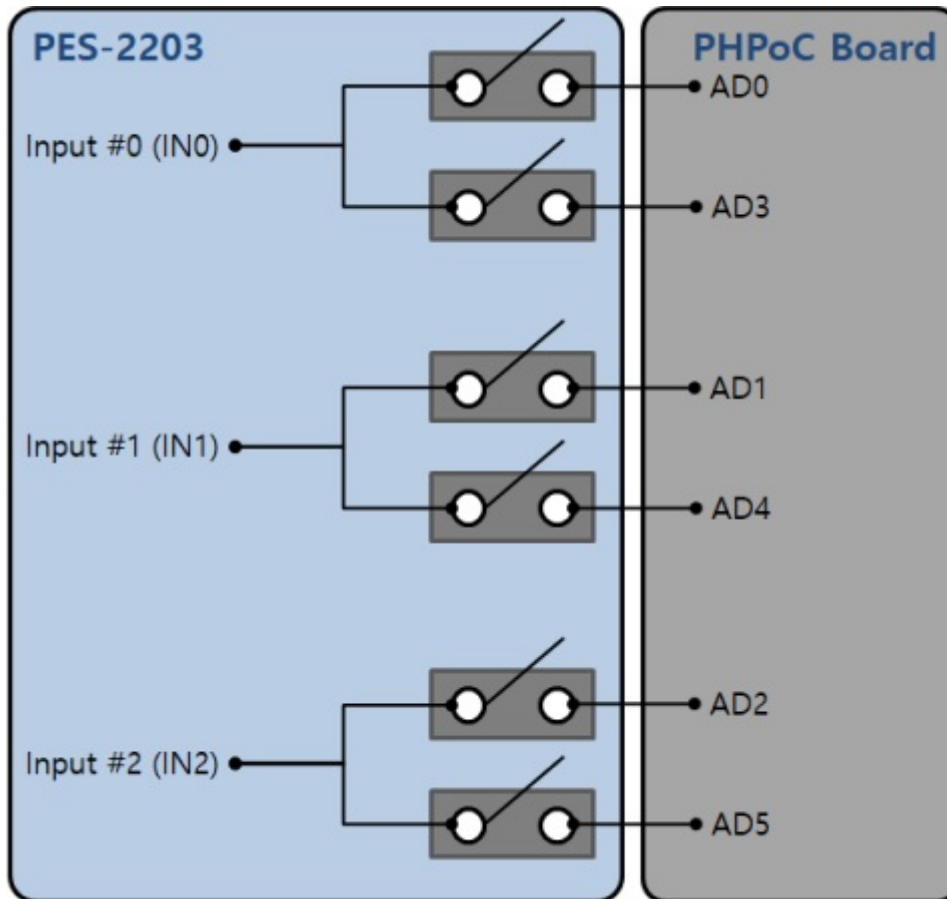
When the switch is positioned in the direction of the arrow, it is ON and when it is positioned in the opposite direction of the arrow, it is OFF.
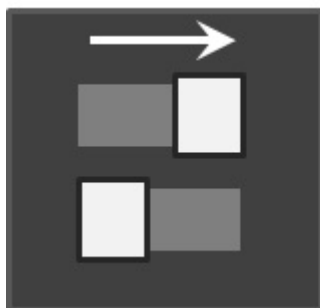
4. JP7

The PHPoC board is factory-shipped with an VDDA-AREF jumper, which basically inputs DC 3.3V into the analog input reference. If you do not have an VDDA-AREF jumper, you can use the 3.3V voltage as the analog input reference voltage via the PES-2203 by connecting JP7 of the PES-2203.

※ Caution: If the VDDA-AREF jumper on the PHPoC board and this jumper are connected at the same time, it may cause the product to malfunction. Therefore, before connecting JP7, make sure that the VDDA-AREF jumper on the PHPoC board is NOT connected.

5. LED

The PWR LED is on the PES-2203 board. This LED is always on when power is supplied to the board.

Use

To use the PES-2203, follow the steps below.

1. Connect to PHPoC board

PES-2203 can not be used alone. Be sure to connect to PHPoC board.

2. Installing the software (IDE)

PHPoC Debugger is a software which is used for configuring PHPoC products and developing PHPoC script. It is required to install this software on your PC because PES-2403 must be connected to PHPoC board.

- PHPoC Debugger Download Page
- PHPoC Debugger Manual Page

3. Use sd_340 Library and Sample Codes

The sd_340 library is the default library for the PHPoC boards. You can use the PES-2203 simply by using the ADC-related functions of this library.

- PSP Download Page

Please refer to the following pages for the usage of ADC related functions of sd_340 library.

- adc_setup() Reference Page
- adc_in() Reference Page