

Interfacing **BiPOM** MINI-MAX Microcontroller Boards

with  phidgets.

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Overview

BiPOM's microcontroller boards are a set of small size, low-cost, low-power, yet powerful single board computers (SBC's) with applications ranging from industrial, medical, home automation to automotive. MINI-MAX series boards host the most popular microcontrollers today in AVR, PIC, MSP430, 8051, 68XX, ARM7, ARM9 and STAMP series.

Sensors from Phidgets are low-cost yet highly useful peripherals for interfacing microcontrollers to the real world.

Combination of Phidgets and MINI-MAX Microcontroller boards opens up many possibilities for embedded data acquisition, monitoring and control.



Setup

BiPOM has developed a small analog interface board that allows Phidgets sensors and 4-20mA transducers to be connected to MINI-MAX series boards. The parts numbers for the analog interface board is as follows:

ATB-5CL : For connecting up to 5 channels of 0-20mA or 4-20mA transducers

ATB-5PHI: For connecting up to 5 channels of Phidgets sensors

Since Phidgets require 5 Volt operation, the following BiPOM boards that have 5 Volt supply on the analog terminal block are supported:

MINI-MAX/AVR-C

MINI-MAX/AVR-BU

MINI-MAX/51-C2 (Reverse pinout, use part numbers **ATB-5CL-51C2** and **ATB-5PHI-51C2**)

Figures 1 and 2 show the connections of a typical setup. In this case, the following Phidgets (all at the same time) have been connected to the MINI-MAX/AVR-C board:

1104 - Vibration Sensor

1106 - Force Sensor

1108 - Magnetic Sensor

1110 - Touch Sensor

1121 - Voltage Divider

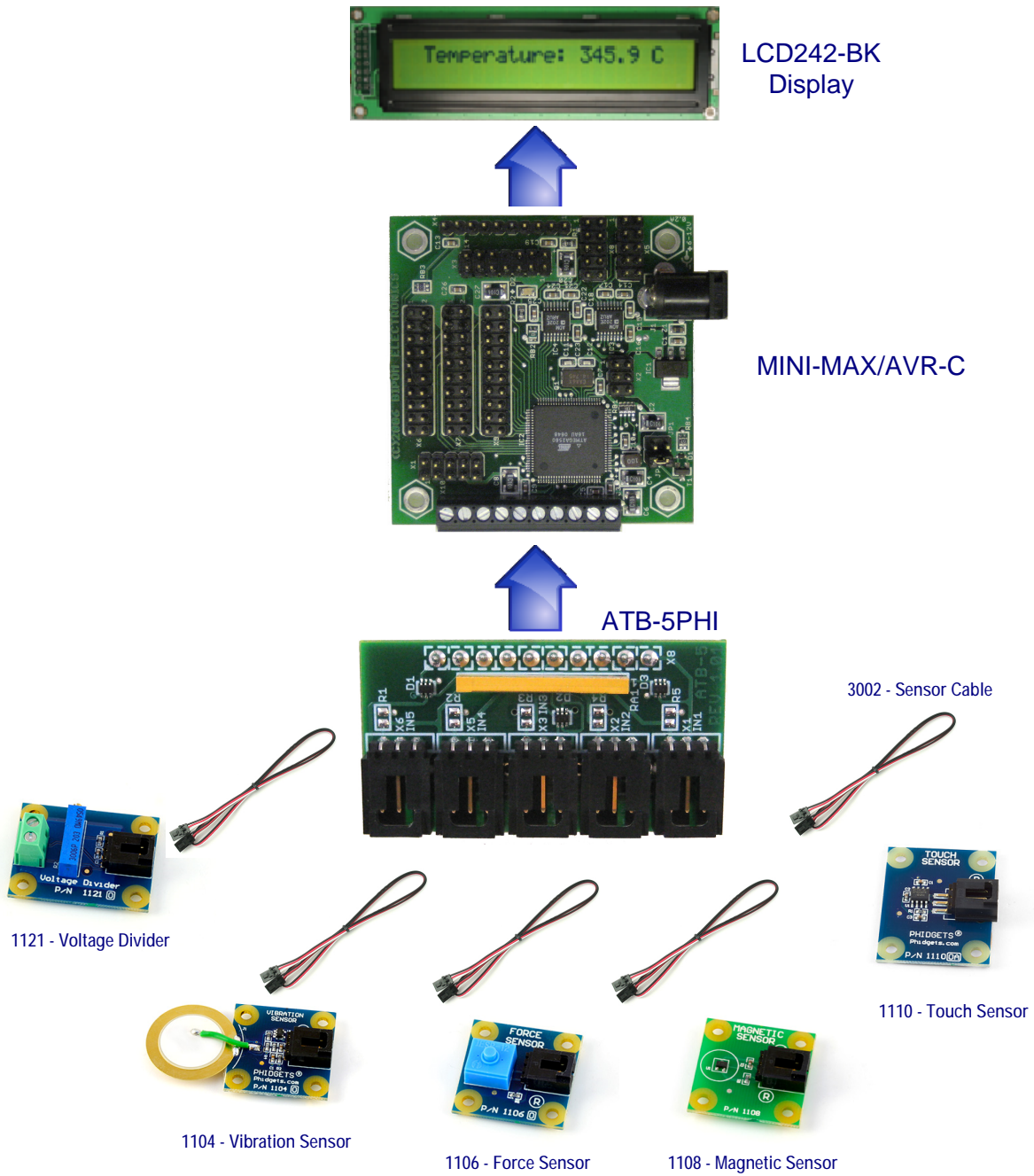


Figure 1

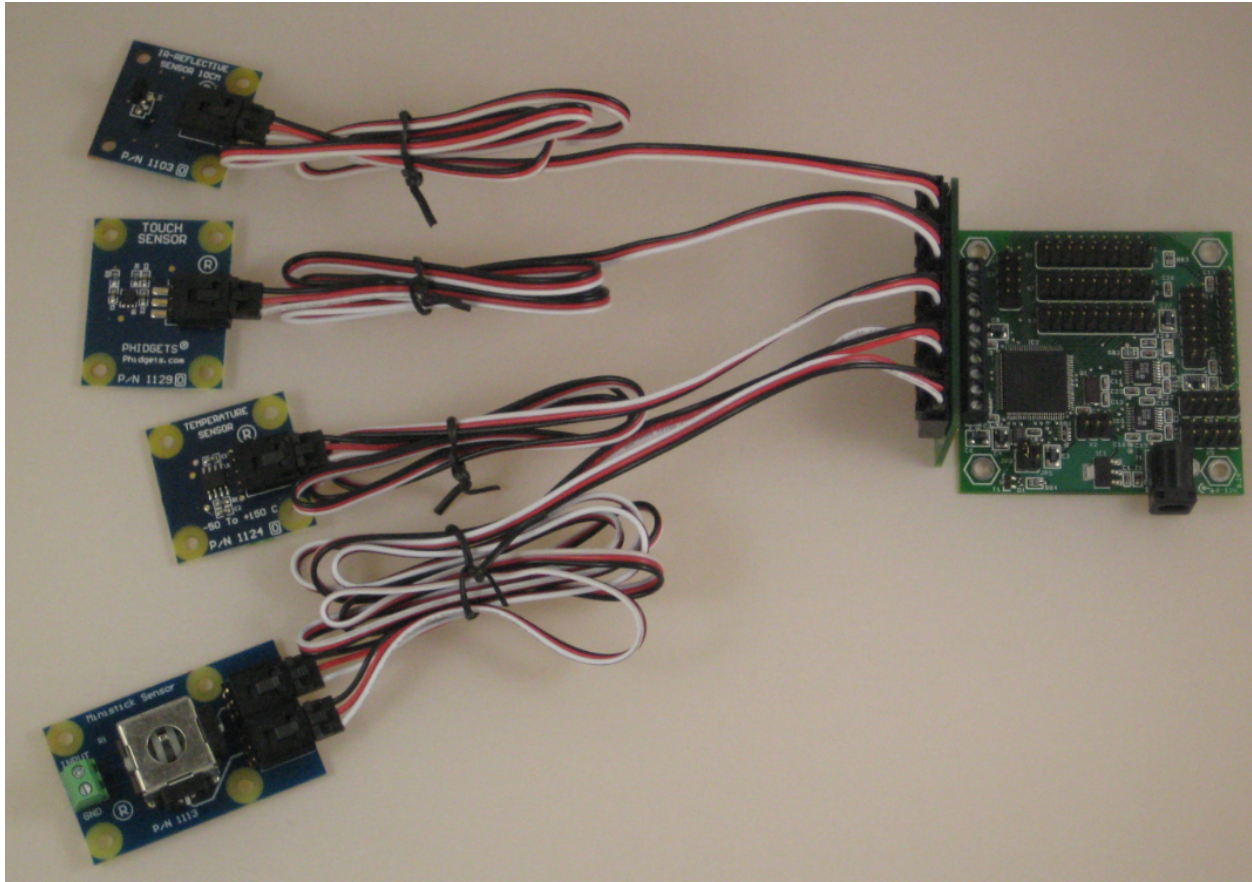


Figure 2



3.3V Operation

Some Phidgets can operate with 3.3 Volts and can be connected to the following BiPOM boards that have 3.3 Volt supply on the analog terminal block:

MINI-MAX/ARM-C
MINI-MAX/ARM-E
MINI-MAX/ARM-S
MINI-MAX/MSP-C
WebCatPlus Web Server

Figure 3 shows the connections of a typical setup with 3.3V Phidgets. In this case, the following Phidgets (all at the same time) have been connected to the MINI-MAX/ARM-E board:

1110 - Touch Sensor
1112 - Slider 60
1116 - Multi-turn Rotation Sensor
1121 - Voltage Divider
1127 - Precision Light Sensor

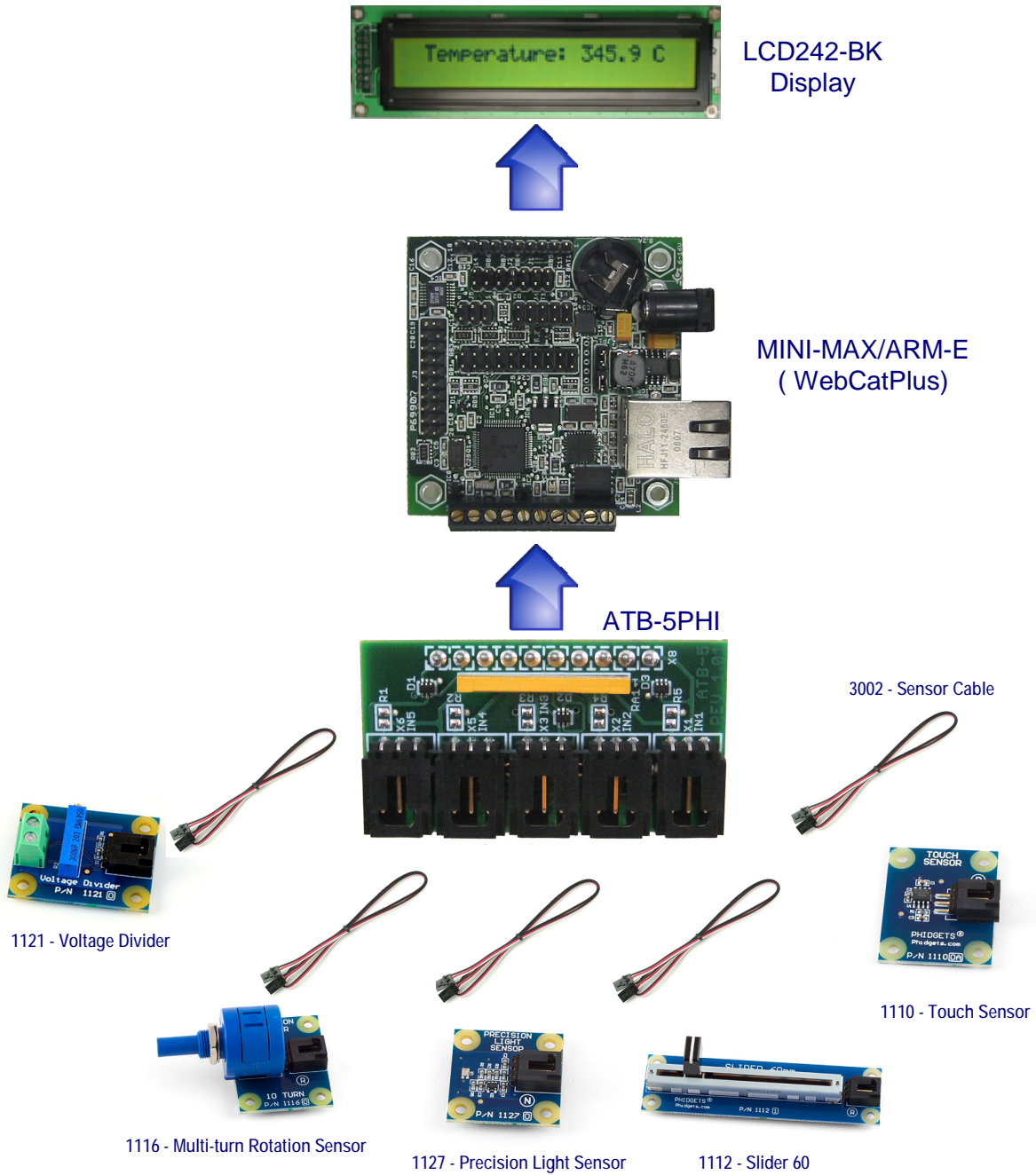


Figure 3