

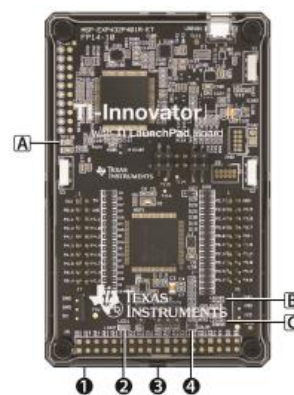
## What's in the Box

### TI-Innovator™ Hub with On-Board Components

- ❶ A Light Brightness Sensor at the bottom of the Hub can be read as "BRIGHTNESS" in Hub command strings.
- ❷ Red LED is addressable as "LIGHT" in Hub command strings.
- ❸ Speaker (at back of Hub, not shown) is addressable as "SOUND" in Hub command strings.
- ❹ Red-Green-Blue LED is addressable as "COLOR" in Hub command strings.

Also visible on the face of the Hub are:

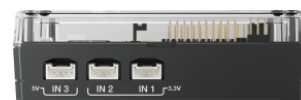
- ❶ Green auxiliary power LED
- ❷ Green power LED,
- ❸ Red error LED.



### Built-in Ports

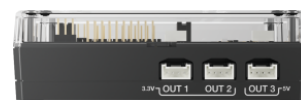
Left side - Three ports for collecting data or status from input modules:

- **IN 1** and **IN 2** provide 3.3V power.
- **IN 3** provides 5V power.



Right side - Three ports for controlling output modules:

- **OUT 1** and **OUT 2** provide 3.3V power.
- **OUT 3** provides 5V power.



Bottom - Light Brightness Sensor (described earlier) and two ports:

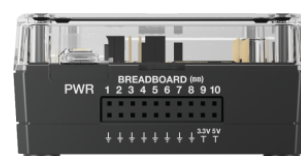
- **I<sup>2</sup>C** port connects to peripherals that use the I<sup>2</sup>C communication protocol.
- **DATA** Mini-B port, used with the appropriate cable, connects to a compatible graphing calculator or computer for data and power.



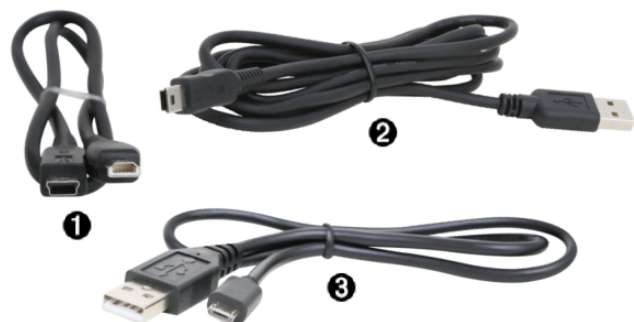
Top - Two connectors:

- USB-Micro connector (**PWR**) for auxiliary power required by some components. Also used for updating the Hub internal software.
- Breadboard Connector with 20 labeled pins for communication with connected components. A breadboard and jumper cables are included with the TI-Innovator™ Breadboard Pack, sold separately.

See also: TI-Innovator™ Hub Ports and Breadboard Usable Pins.



### USB Cables



- ❶ USB Unit-to-Unit (Mini-A to Mini-B) - Connects the Hub to a TI CE Graphing Calculator or a TI-Nspire™ CX Handheld.
- ❷ USB Standard A to Mini-B - Connects the Hub to a computer running TI-Nspire™ CX Software.
- ❸ USB Standard A to Micro - Connects the **PWR** port of the Hub to a TI approved power source required by some peripherals.

**Auxiliary Power**

TI Wall Charger - Supplies power through the TI-Innovator™ Hub for components, such as motors, that require additional power.

The optional External Battery Pack can also provide auxiliary power.

**Note:** An auxiliary power LED on the Hub indicates when the Hub is receiving auxiliary power.



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