



**DFROBOT**<sup>®</sup>  
DRIVE THE FUTURE

# Gravity: KnowFlow Basic Kit - A DIY Water Monitoring Basic Kit

SKU:KIT0131-1



## *INTRODUCTION*

KnowFlow is designed for environmentalists who want to monitor water quality and get real time data. It can monitor 2 parameters with basic kit: [pH and Electronic conductivities](#). The kit is based on [Arduino](#), easy to change and add more [sensors](#) and [modules](#). Currently it stores the data on a [micro-SD card](#), also the data can be viewed on your smart phone via [Bluetooth communication](#).

KnowFlow AWM (Automatic Water Monitor) is the first kit for Open-Source Science in KnowFlow team. KnowFlow team comes from **NGO GreenSeed Organization**. We are going to build a low-cost water monitor for the people who join the course. Then we found that a lot of people need the water monitor, so we release all the things to help people make themselves water monitors.

Using the water monitor, you can find the water quality by real time, also you can store the data into the TF card, analysis the data. It can be using on environment study, pollution sourcing and teaching ets.

KnowFlow team focuses on the solution of environment and agriculture problem. We can provide best tool by using hardware, software, courses and cloud technology. We can support scientists, students, citizens and environmentalists to using the Digital Technology at application in environment and agriculture. We want to promote the development of the Open



**DFROBOT**<sup>®</sup>  
DRIVE THE FUTURE

Science and Open innovation by this efforts.

KnowFlow Kits is using the [DFRobot Gravity Sensor series](#). Gravity Sensor series are easy to use and high compatibility. If you are not care about the code, you can just upload the sketch into the [Bluno board](#) without any coding job. After that you can find that the data is storing into the TF card.

KnowFlow can be powered by power bank or Li-po battery. For the advanced function, you may add [ORP sensor](#), and [Dissolve Oxygen sensor](#) in your kit.

## *FEATURES*

- pH, EC auto record
- Micro-SD Local storage
- Extensible design
- plug and play
- Bluetooth built-in

## *SPECIFICATION*

- Bluno Microcontroller:
  - \*On-board BLE chip: TI CC2540
- Wireless Programming via BLE
- Support AT command to config the BLE
- Transparent communication through Serial
- Upgrade BLE firmware easily
- DC Supply: USB Powered or External 7V~12V DC
- Microcontroller: Atmega328p
- Bootloader: Arduino Uno (disconnect any BLE device before uploading a new sketch)
- Compatible with the Arduino Uno pin mapping
- Size: 60mm \* 53mm (2.36"\*2.08")
- Weight: 30g
- pH sensor:
  - Module Power: 5.00V
  - Module Size: 43 x 32mm (1.69x1.26")
  - Measuring Range:0 - 14PH
  - Accuracy: ± 0.1pH (25 °C)
  - Response Time: ≤ 1min
  - pH Sensor with BNC Connector
  - pH2.0 Interface (3 foot patch )



**DFROBOT**<sup>®</sup>  
DRIVE THE FUTURE

- Gain Adjustment Potentiometer
- Power Indicator LED
  
- EC sensor
- Operating Voltage: +5.00 V
- PCB Size: 45 × 32mm(1.77x1.26")
- Measuring Range: 1ms/cm -- 20ms/cm
- Operating Temperature: 5 - 40 °C
- Accuracy: ±10% F.S (using Arduino 10 bits ADC)
- PH2.0 Interface (3-pin SMD)
- Conductivity Electrode (Electrode Constant K = 1,BNC connector)
- Cable Length of the Electrode: about 60cm(23.62")
- Power Indicator
- Analog Signal Isolator
- Operating Voltage: 5.0V
- Response Time: 4 seconds (Typ)
- Analog Error (both ends): ± 20mV (Typ)
- Interface Type: PH2.0-3P
- No load Current: 75mA
- Dimension: 42 \* 32mm / 1.65 \* 1.26 inch
- Non-isolated Terminal (Arduino Side)
- Supply Voltage: 5.0 ± 0.1V
- Analog Output: 0 ~ 5.0V
- Isolated Terminal (Sensor Side)
- Output Voltage: 5.0 ± 0.2V
- Analog Input: 0 ~ 5.0V