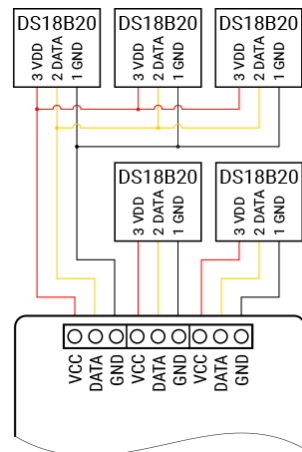# PRODUCT INTRODUCTION

DS18B20 digital temperature sensor is a compact, high sensitivity, high temperature sensing speed, anti-interference, high precision external temperature sensor, suitable for harsh environment of the field temperature measurement. It works perfectly with Shelly Plus Add-on and Shelly Plus Uni.

# PRODUCT SIZE

The diameter of the temperature sensing area of the metal probe is 6mm, and the length of exposed metal is 50mm. It comes in 1m and 3m lenghts.

# PRODUCT SPECIFICATION

| SPECIFICATION | |
|---|---|
| The product name | DS18B20 temperature sensor |
| Product model | DS18B20 |
| The shell material | Stainless steel |
| The length of the cable | 1m/3m/5m/Custom length |
| Working voltage | 2.5~5.5V |
| Measuring range | Temperature: 55 ℃ ~ + 125 ℃ |
| Accuracy of measurement | ±0.4℃ (at -10℃ ~ +85℃) |
| Power consumption | ≤0.1W |
| Protection grade | IP68 |
| Lightning protection | Level 1 |
| The output terminal | VDD （Red）    DQ（Yellow）    GND（Blue） |

## DESCRIPTION

The DS18B20 digital thermometer provides 9-bit to 12-bit Celsius temperature measurements and has an alarm function with nonvolatile user- programmable upper and lower trigger points. The DS18B20 communicates over a 1-Wire bus that by definition requires only one data line (and ground) for communication with a central microprocessor. It has an operating temperature range of -55°C to +125°C and is accurate to ±0.4°C over the range of -10°C to +70°C. In addition, the DS18B20 can derive power directly from the data line ("parasite power"), eliminating the need for an external power supply.

Each DS18B20 has a unique 64-bit serial code, which allows multiple DS18B20s to function on the same 1-Wire bus. Thus, it is simple to use one microprocessor to control many DS18B20s distributed over a large area. Applications that can benefit from this feature include HVAC environmental controls, temperature monitoring systems inside buildings, equipment, or machinery, and process monitoring and control systems.

Stored in an On-Board ROM
- Multidrop Capability Simplifies Distributed Temperature-Sensing Applications
- Requires No External Components
- Can Be Powered from Data Line; Power Supply Range is 2.5V to 5.5V
- Measures Temperatures from -55°C to +125°C (-67°F to +257°F)
- ±0.4°C Accuracy from -10°C to +70°C
- Thermometer Resolution is User Selectable from 9 to 12 Bits
- Converts Temperature to 12-Bit Digital Word in 400ms (Max)
- User-Definable Nonvolatile (NV) Alarm Settings
- Alarm Search Command Identifies and Addresses Devices Whose Temperature is Outside Programmed Limits
- Available in 8-Pin SOJ8 and 3-Pin TO-92 Packages
- Applications Include Thermostatic Controls, Industrial Systems, Consumer Products, Thermometers, or Any Thermally Sensitive System
- **ESD Rating: HBM8000V, MM800V**

## FEATURES

- 1-Wire Interface Requires Only One Port Pin for Communication
- Each Device has a Unique 64-Bit Serial Code