

Shelly Plus Add-on



Device identification

- Device name: **Shelly Plus Add-on**

Short description

Shelly Plus Add-on (the Device) is a galvanically isolated sensor interface to the Shelly Plus devices.

Main applications

- Residential
- MDU (Multi Dwelling Units - apartments, condominiums, hotels, etc.)
- Light commercial (small office buildings, small retail/restaurant/gas station, etc.)
- Agricultural (greenhouses, hotbed, nurseries, ranches, etc.)
- Government/municipal
- University/college

Future integrations

- Google
- Amazon
- Samsung SmartThings

Device electrical interfaces

Inputs

- 1 analog input: **ANALOG IN**
- 1 digital input: **DIGITAL IN**

Output

- 1 reference voltage output: **VREF OUT**
- 1 reference voltage through a pull-up resistor output: **VREF + R1 OUT**
- 2 ground terminals: **GND***

1-Wire interface

- 3 sensor power supply outputs (connected to the same PCB track): **VCC**
- 3 sensor data terminals (connected to the same PCB track): **DATA**
- 3 ground terminals: **GND***

* Connected to the same PCB ground layer.

Addon interface

- Shelly proprietary serial interface to connect to a Shelly Plus device

Supported sensors

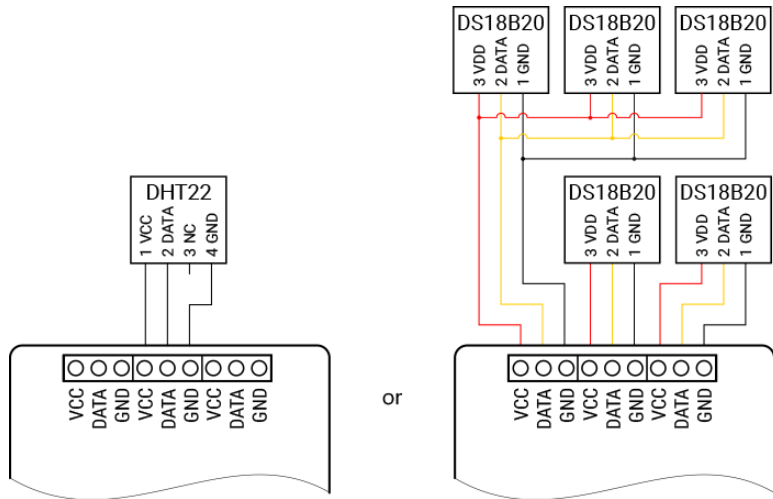
- Up to 5 DS18B20
- Single DHT22
- NTC resistors with 10 k Ω nominal resistance and $\beta=4000$ K
- Photoresistors
- PIR sensors
- Soil moisture sensors
- Ultrasonic proximity sensors
- Capacitive liquid level sensors
- Sound detectors
- Other analog sensors with 0 to 10 V output voltage

Specifications

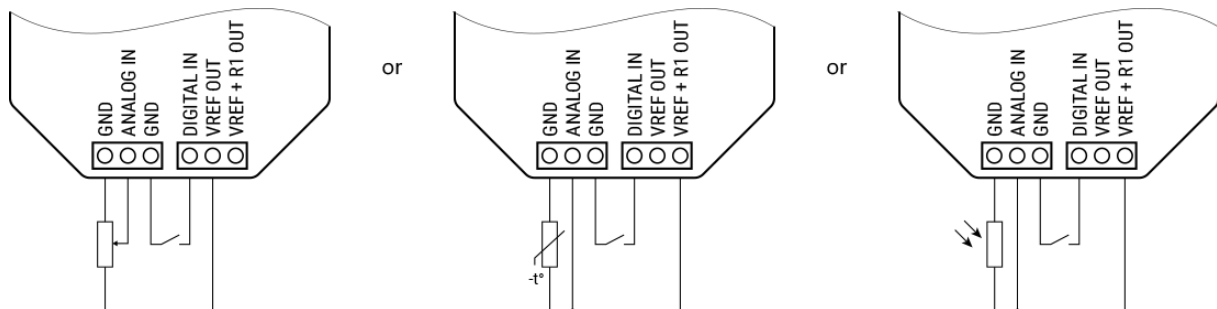
Type	Value
Physical	
Size (HxWxD):	37x42x15 ±0.5 mm / 1.46 x 1.65 x 0.59 ±0.02 in
Weigh:	105 g / 3.70 oz
Shell material:	Plastic
Color:	Black
Environmental	
Ambient temperature:	-20 °C to 40 °C / -5 °F to 105 °F
Humidity	30 % to 70 % RH
Max. altitude	2000 m / 6562 ft
Electrical	
Power supply voltage AC:	N/A
Power supply voltage VCC DC:	3.3 V (from Shelly plus device)
Power Supply voltage VREF OUT DC:	10 V (from Shelly plus device)
Power consumption:	< 0.5 W (without sensors)
Output circuits ratings	
VCC max. current:	10 mA
VREF OUT max. current:	1 mA
VREF+R1 OUT resistor	10 kΩ
Shelly Plus device firmware capabilities	
Shelly Plus Addon supporting devices:	Shelly Plus 1/1PM/2PM/i4/i4DC
Temperature reading:	Depends on the DS18B20 or DHT22 sensors
Humidity reading:	Depends on the DHT22 sensor
Digital input:	-15 V to 0.5 V (True) / 2.5 V to 15 V (False)*
Analog input range:	0 to 100%
Analog input report threshold:	1%**
Voltmeter range:	0 to 10 V
Voltmeter report threshold:	0.1 V**
Analog input / Voltmeter accuracy	Better that 5%

- * Logic can be inverted in the digital input settings
- ** Can be configured in the analog input / voltmeter settings

Basic wiring diagrams



Shelly Plus Add-on 1-Wire sensors wiring diagrams



Shelly Plus Add-on analog input wiring diagrams