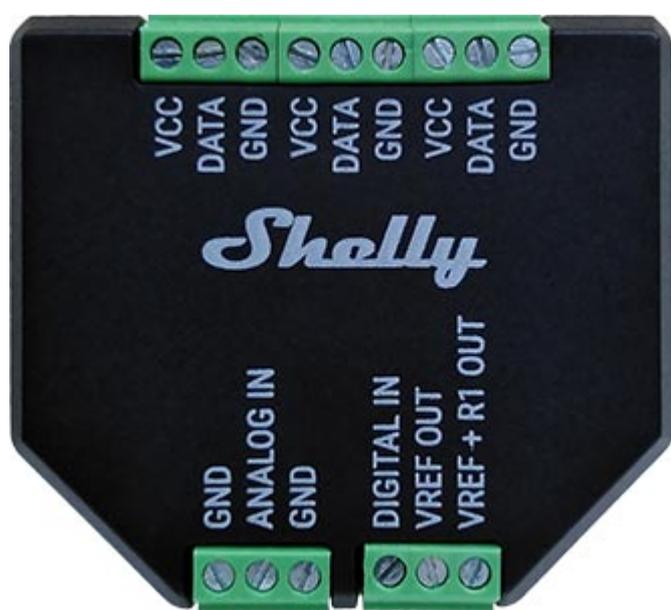


## Shelly Plus Add-on



### 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 and Gen3 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.

### Add-on 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 $\Omega$  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
<b>Physical</b>	
Size (HxWxD):	37x42x15 $\pm$ 0.5 mm / 1.46 x 1.65 x 0.59 $\pm$ 0.02 in
Weigh:	105 g / 3.70 oz
Shell material:	Plastic
Screw terminals max torque:	0.1 Nm / 0.89 lbin
Conductor cross section:	max. 1 mm <sup>2</sup> / 17 AWG
Conductor stripped length:	4.5 mm / 0.18 in
Color:	Black
<b>Environmental</b>	
Ambient temperature:	-20 °C to 40 °C / -5 °F to 105 °F

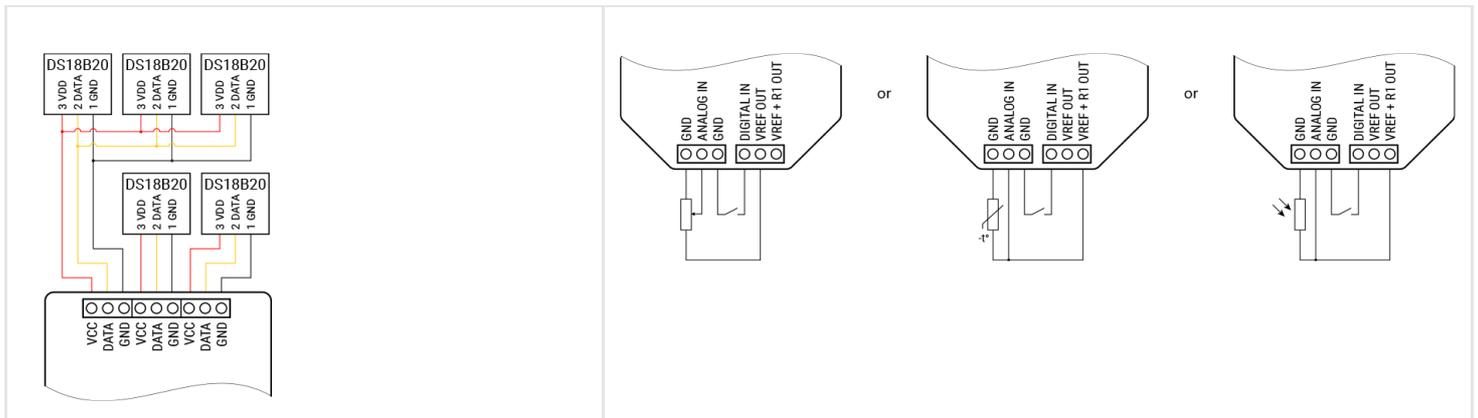
Humidity	30 % to 70 % RH
Max. altitude	2000 m / 6562 ft
<b>Electrical</b>	
Power supply voltage AC:	N/A
Power supply voltage DC:	3.3 V (from Shelly plus device)
Power consumption:	< 0.5 W (without sensors)
<b>Output circuits ratings</b>	
VCC max. current:	10 mA
VREF OUT max. current:	1 mA
VREF+R1 OUT resistor	10 kΩ
<b>Shelly Plus device firmware capabilities</b>	
Shelly Plus Addon supporting devices:	<p>Shelly Plus devices:</p> <ul style="list-style-type: none"> <li>• Shelly Plus 1/1PM</li> <li>• Shelly Plus 2PM</li> <li>• Shelly Plus i4/i4DC</li> <li>• Shelly Plus 0-10V Dimmer PM</li> <li>• Shelly Plus RGBW PM</li> </ul>
	<p>Shelly Gen3 devices:</p> <ul style="list-style-type: none"> <li>• Shelly 1/1PM Gen3</li> <li>• Shelly i4/i4DC Gen3</li> <li>• Shelly Dimmer 0/1-10V PM Gen3</li> </ul>
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 than $\pm 5\%$

\* Logic can be inverted in the digital input settings

\*\* Can be configured in the analog input / voltmeter settings

## Basic wiring diagrams



## Legend

Terminals		External sensor pins	
<b>VCC</b>	Sensor power supply terminals	<b>VCC/VDD</b>	Sensor power supply pins

<b>DATA</b>	1-wire data terminals	<b>DATA/DQ</b>	Sensor data pins
<b>GND</b>	Ground terminals	<b>GND</b>	Ground pins
<b>ANALOG IN</b>	Analog input		
<b>DIGITAL IN</b>	Digital input		
<b>VREF OUT</b>	Reference voltage output		
<b>VREF+R1 OUT</b>	Reference voltage through a pull-up resistor* output		
*For passive devices that need it to form a voltage divider.			

## Troubleshooting

...

## Components and APIs

- [This device](#)
- [All Shelly devices and services](#)

## Printed user guide

- [Shelly Plus Add-on multilingual printed user and safety guide.pdf](#)

## Compliance

- [Shelly Plus Add-On multilingual EU declaration of conformity.pdf](#)
- [Shelly Plus Add-on AU NZ Certificate for Suitability.pdf](#)

## Installation guides

- [Use Shelly Plus 2PM and Add-on with a wind sensor to retract your motorized awning in high winds](#)
- [Using Shelly Plus Add-on with a LDR \(photoresistor\) to control lights](#)
- [Using Shelly Plus Add-on to measure soil moisture with a capacitive sensor](#)
- [Using Shelly Plus Add-on with a capacitive liquid detection sensor](#)



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