



Shelly Pro Sensor Add-on

User and Safety guide

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Shelly Pro Sensor Add-on is referred in this document as the *Device*.

Graphical symbols

⚠ This sign indicates safety information.

📌 This sign indicates an important note.

Safety information

For safe and proper use, read this guide and any accompanying documents. Keep them for future reference.

To avoid possible harm or property damage:

- Only a qualified electrician is allowed to install the Device.
- Connect the Device only in the way shown in these instructions.
- Do not use the Device if it shows any sign of damage or defect.
- Do not attempt to repair the Device yourself.
- Use the Device only indoors.
- Keep the Device away from dirt and moisture.

Product description

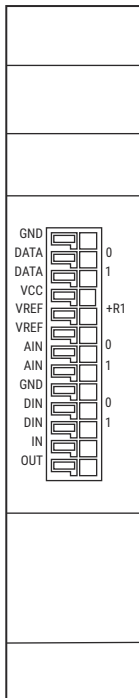


Fig. 1: Device overview

- **GND** - Ground terminals
- **DATA 0/DATA1** - 1-Wire data terminals
- **VCC** - Sensor power supply terminals
- **VREF** - Reference voltage output
- **VREF + R1** - Reference voltage through a pull-up resistor output for passive devices that need it to form a voltage divider.
- **AIN0 / AIN1** - Analog inputs (0-10 V)
- **DIN0 / DIN1** - Digital inputs (± 15 V)
- **IN** - Potential-free solid-state relay input
- **OUT** - Potential-free solid-state relay output

Shelly Pro Sensor Add-on is a DIN-mountable sensor interface for multiple sensor types for real-time monitoring and automation.

Supported sensors

- Up to 5x DS18B20 temperature sensors per channel
- DHT22 temperature and humidity sensors
- 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

Installation instructions



WARNING!

Before installing the Shelly Pro Sensor Add-on to a Shelly Pro device that is already connected to the power grid, check that the breakers are turned off. Use a suitable test device to make sure there is no voltage on the terminals of the Shelly Pro device.



ATTENTION!

Be very careful not to bend the Device header pins when inserting them to the Shelly Pro device header connector.

Shelly Pro Sensor Add-on features:

- 2x DATA (1-Wire data lines)
- 1x VCC output
- 2x GND
- 1x VREF output
- 1x VREF + R1 output
- 2x Analog inputs (0-10 V)
- 2x Digital inputs (± 15 V)
- 1x Potential-free solid-state relay input
- 1x Potential-free solid-state relay output

See the wiring diagram (Fig. II) for information on how to connect different types of sensors.

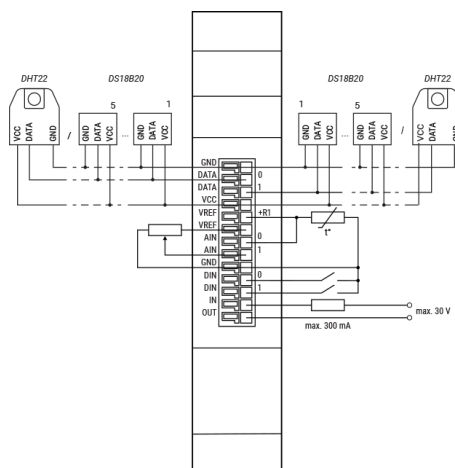


Fig. II: Wiring diagram

Using the Device

Web Interface

To start using the Shelly Pro Sensor Add-on, you should first select it in the host device web interface. Then, you can add different peripherals - voltmeter, analog input, digital input, sensors for temperature and humidity, etc.

Shelly cloud service

Optionally, you can add and manage peripherals through the Shelly cloud service of the host device. You can access the service through the Shelly Smart Control app or a web browser at <https://control.shelly.cloud>.

Specifications

Physical specifications

- Size (HxWxD): 94x19x69 mm / 3.70x0.75x2.71 in
- Weight: 45 g / 1.59 oz
- Mounting: DIN Rail
- Conductor cross section (solid, stranded, and bootlace ferrules): 0.2 to 0.5 mm² / 24 to 20 AWG
- Conductor stripped length: 5 to 8 mm / 0.20 to 0.31 in
- Connectors color: Black

Operating conditions

- Ambient working temperature: -20 °C to 40 °C / -5 °F to 105 °F
- Humidity: 30% to 70% RH
- Max. altitude: 2000 m / 6562 ft

Electrical specifications

- Power supply: 12 V (from compatible Shelly device)
- Power consumption: < 0.5 W (without sensors)
- 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%**
- Analog input / Voltmeter accuracy: Better than ±5%

*Logic can be inverted in the digital input settings

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

Output circuits ratings

- VCC max. current: 10 mA
- VREF max. current: 2 mA
- VREF + R1 resistor: 10 kΩ
- Max switching voltage: 30 V
- Max switching current: 300 mA

Others

- Temperature reading accuracy: Depends on the DS18B20 or DHT22 sensors
- Humidity reading accuracy: Depends on the DHT22 sensor

Disposal and recycling



Do not dispose of the product in household waste. Recycle the product to avoid environmental and health damage and promote resource conservation. Dispose of the product at a suitable waste collection point. Resellers from whom the equipment was purchased are obliged to accept waste electrical and electronic equipment (WEEE) free of charge for proper disposal.

Declaration of Conformity

Hereby, Shelly Europe Ltd. declares that Shelly Pro Sensor Add-on is in compliance with 2014/30/EU. The full text of the EU declaration of conformity is available at the following internet address: <https://shelly.link/pro-sensor-add-on-doc>