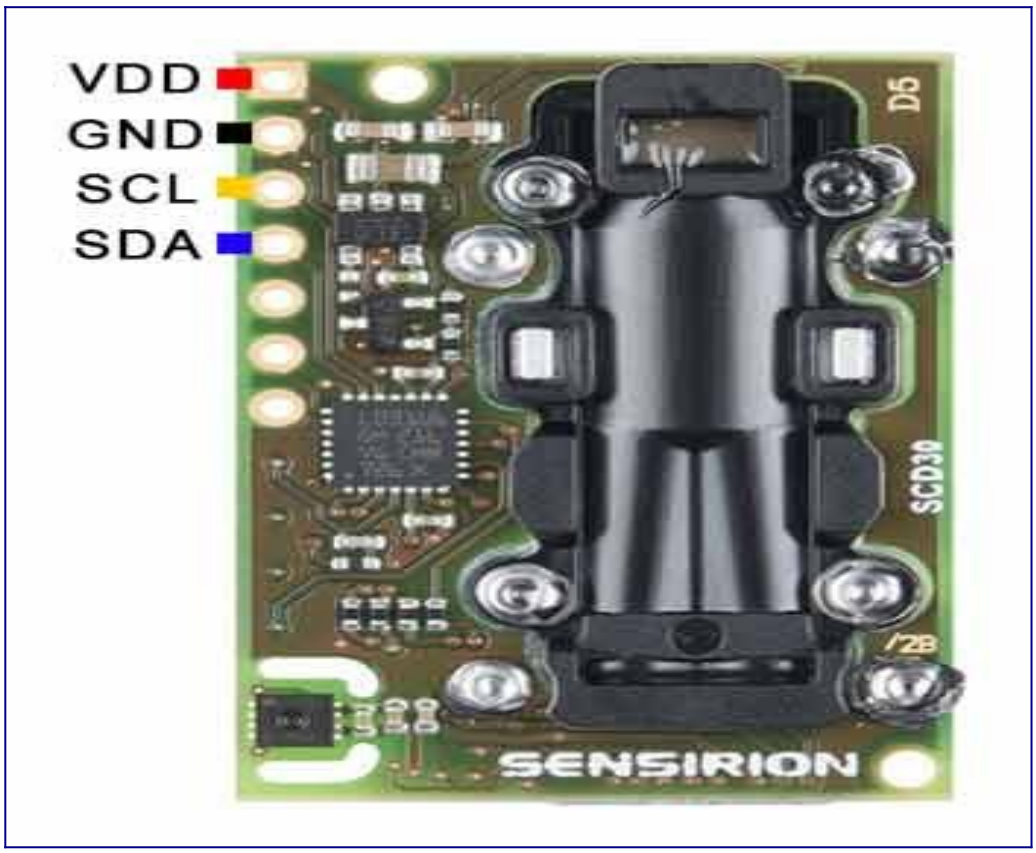
- ESPHome Configuration ▸
- Sensor Component ▸
- SCD30 CO_2, Temperature and Relative Humidity Sensor

SCD30 CO_2, Temperature and Relative Humidity Sensor

The `scd30` sensor platform allows you to use your Sensirion SCD30 CO_2 (datasheet) sensors with ESPHome. The I²C Bus is required to be set up in your configuration for this sensor to work.




```
# Example configuration entry
sensor:
  - platform: scd30
    co2:
      name: "Workshop CO2"
      accuracy_decimals: 1
    temperature:
      name: "Workshop Temperature"
      accuracy_decimals: 2
    humidity:
      name: "Workshop Humidity"
      accuracy_decimals: 1
    temperature_offset: 1.5 °C
    address: 0x61
    update_interval: 5s
```

Configuration variables:

- **co2** (*Optional*): The information for the CO_2 sensor.
  - All options from Sensor.
- **temperature** (*Optional*): The information for the Temperature sensor.
  - All options from Sensor.
- **humidity** (*Optional*): The information for the Humidity sensor.
  - All options from Sensor.
- **temperature_offset** (*Optional*, float): Temperature and humidity offsets may occur when operating the sensor in end-customer devices. This variable allows the compensation of those effects by setting a temperature offset.
- **automatic_self_calibration** (*Optional*, boolean): Whether to enable automatic self calibration (ASC). Defaults to `true`.
- **ambient_pressure_compensation** (*Optional*, int): Enable compensation of measured CO_2 values based on given ambient pressure in mBar.
- **altitude_compensation** (*Optional*, int): Enable compensating deviations due to current altitude (in metres). Notice: setting *altitude_compensation* is ignored if *ambient_pressure_compensation* is set.
- **address** (*Optional*, int): Manually specify the I²C address of the sensor. Defaults to `0x61`.
- **update_interval** (*Optional*, Time): The interval to check the sensor. Available range: [2 … 1800]. Defaults to `60s`.

Manual calibration:

```
# Example on how to implement a UI section in HA for manual calibration.
# Note: Please enter first a CO2 value before pressing the button.
button:
  - platform: template
    name: "SCD30 Force manual calibration"
    entity_category: "config"
    on_press:
      then:
        - scd30.force_recalibration_with_reference:
            value: !lambda 'return id(co2_cal).state;'

number:
  - platform: template
    name: "CO2 calibration value"
    optimistic: true
    min_value: 350
    max_value: 4500
    step: 1
    id: co2_cal
    icon: "mdi:molecule-co2"
    entity_category: "config"
```

See Also

- Sensor Filters
- Absolute Humidity
- DHT Temperature+Humidity Sensor
- DHT12 Temperature+Humidity Sensor
- HDC1080 Temperature+Humidity Sensor
- HTU21D | Si7021 | SHT21 Temperature & Humidity Sensor
- API Reference
- Edit this page on GitHub

Some i2c devices not working after 2025.7.0

Description

zumbefin
opened

The problem

Hi, I have SHT40,bme280 and bh1750 connected to esp32. After 2025.7.0 update they remain as unknown devices.

bh1750 gives in log
[W][bh1750.sensor:063]: Set measurement time failed

bme280 gives component mark as failed in some boots and in some it initializes correctly, but does not report any data.

SHT40 works normally.

If I restore the previous version 2025.6.3 everything starts working normally.

The same problem is still in the latest 2025.7.2 version

Which version of ESPHome has the issue?

2025.7.0

What type of installation are you using?

Home Assistant Add-on

What platform are you using?

ESP32

Component causing the issue

i2c bme280, bh1750

YAML Config

```
esphome:
  name: "takapiha-keskus"
  friendly_name: Takapiha-keskus

esp32:
  board: esp32dev
  framework:
    type: arduino

# Enable logging
logger:
  baud_rate: 0

# Enable Home Assistant API
api:
  #encryption:
    #key: "*sensored*"

#mqtt:
  #broker: 10.1.1.5
  #username: takapiha

ota:
  - platform: esphome
    password: *sensored*

safe_mode:
  boot_is_good_after: 90s
  num_attempts: 3

preferences:
  flash_write_interval: 10min

wifi:
  ssid: !secret wifi_ssid
  password: !secret wifi_password

  power_save_mode: none

  # Enable fallback hotspot (captive portal) in case wifi connection fails
  ap:
    ssid: "Takapiha Fallback Hotspot"
    password: "*sensored*"
  fast_connect: off


captive_portal:
```

```
#web_server:
  #port: 80
  #version: 3

# i2C pins and setup
i2c:
  sda: GPIO21 # D21
  scl: GPIO22 # D22
  scan: false
  id: bus_a


#co2 kommunikaatio
uart:
  rx_pin: GPIO16
  tx_pin: GPIO17
  baud_rate: 9600

#Valoisuus anturi BH1750
sensor:
  - platform: bh1750
    name: "takapiha valoisuus bh1750"
    address: 0x23
    update_interval: 60s

  - platform: sht4x
    temperature:
      name: "takapiha lämpötila sht40"
      accuracy_decimals: 2
    humidity:
      name: "takapiha kosteus sht40"
      accuracy_decimals: 2
    heater_max_duty: 0.05
    heater_power: High
    heater_time: Long

  - platform: wifi_signal # Reports the WiFi signal strength/RSSI in dB
    name: "WiFi Signal dB"
    id: wifi_signal_db
    update_interval: 60s
    entity_category: "diagnostic"

  - platform: copy # Reports the WiFi signal strength in %
    source_id: wifi_signal_db
    name: "WiFi Signal Percent"
    filters:
      - lambda: return min(max(2 * (x + 100.0), 0.0), 100.0);
    unit_of_measurement: "Signal %"
    entity_category: "diagnostic"
    device_class: ""
#CO2
  - platform: senseair
    co2:
      name: "SenseAir CO2 arvo ulkona"
      accuracy_decimals: 1
    update_interval: 60s




#sisäinen lämpötila
  - platform: internal_temperature
    name: "takapiha ESP lämpötila"
```

```
  # BME280 Temperature, Pressure, Humidity sensor
  - platform: bme280_i2c

    temperature:
      name: "takapiha lämpötila bme280"

      accuracy_decimals: 2
    pressure:
      name: "takapiha ilmanpaine bme280"

      accuracy_decimals: 1
      filters:
        - clamp:
            min_value: 930
            max_value: 1070
            ignore_out_of_range: true
    humidity:
      name: "takapiha kosteus bme280"

      accuracy_decimals: 2
    address: 0x76



#restart nappi
switch:
  - platform: restart
    name: "Restart ESP32"
    id: restart_switch

#CO2 lämmittimen rele
  - platform: gpio
    name: "CO2 lämmitys rele"
    pin:
      number: GPIO4
      inverted: true
      mode:
        output: True
        open_drain: True
    restore_mode: ALWAYS_OFF
```

Anything in the logs that might be useful for us?

Additional information

No response

Activity

peterd550 commented

peterd550
Try changing the type:

esp32:
board: esp32dev

framework:
type: esp-idf

zumbefin commented

zumbefin
Author
Bme280 is now working, but bh1750 is giving:

[16:10:22][W][bh1750.sensor:091]: Start measurement failed
[16:10:22][W][component:279]: bh1750.sensor set Warning flag: unspecified
[16:11:22][W][bh1750.sensor:063]: Set measurement time failed
[16:11:22][D][sensor:104]: 'takapiha valoisuus bh1750': Sending state nan lx with 1 decimals of accuracy

peterd550 commented

peterd550
I have resolved my issue.

A simple reboot of my home assistant and cleaned my build and install.
It did a heap of pip install's and compiling but it works now :)

ssieb
closed this as not planned
ssieb
reopened this

zumbefin commented

zumbefin
Author
Not helping for me i did a build clean and full restart to ha bh1750 still not working.

ssieb commented

ssieb
Member
Need to see serial logs from boot.

botvos5 commented

botvos5
· edited by botvos5
AHT20 i2c doesnt work either. I2C scan fails with AHT20 sensor after the update. No HW changes made. Its an ESP32 Drvkit V1.

[08:46:51][I][i2c.arduino:100]: Results from bus scan:
[08:46:51][E][i2c.arduino:108]: Unknown error at address 0x08
[08:46:51][E][i2c.arduino:108]: Unknown error at address 0x09
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x0A
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x0B
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x0C
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x0D
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x0E
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x0F
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x10
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x11
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x12
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x13
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x14
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x15
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x16
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x17
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x18
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x19
[08:46:52][E][i2c.arduino:108]: Unknown error at address 0x1A