

# stgCPD

**Pressure and  
airflow controller.**



V1.0 · SEPTEMBER 2026

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# Overview

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## CONTROLLER

The **stgCPD** is a low-power electronic controller that automatically keeps the **differential pressure** or the **airflow** of a ventilation system at the value set by the user. It measures the pressure difference between two points with a precision sensor that is factory-installed and calibrated, calculates the corresponding airflow and drives the fan (or the variable frequency drive) with a 0–10 Vdc signal, adjusting the speed continuously through a PID control loop.

Besides control, the stgCPD provides all information through an embedded web interface, accessible from a phone or a computer without installing any app, and, on the room enclosure, through a touch display (HMI).

This manual covers the stgCPD with three 0–10 Vdc analog outputs, two digital inputs and one relay with NO and NC contacts, powered by 24 Vdc. It is supplied in two enclosures: **room**, wall-mounted, with a touch display (HMI), and **industrial**.

## APPLICATIONS

The stgCPD is intended for applications where precise control of air pressure or airflow is essential:

- **Fire safety:** pressurization of emergency stairwells, creating a barrier against smoke. When a door opens the pressure tends to drop and the controller raises the fan speed; when the door closes, it reduces the speed to limit overpressure.
- **Controlled environments:** pressurization of clean rooms and other rooms that require positive pressure.
- **Filtration systems:** compensation of the pressure drop caused by progressive filter loading.
- **Industrial exhaust and ventilation:** airflow balancing in ducts and stacks.
- **HVAC systems:** constant-airflow fans and variable-speed control.

### Main features

- **PID control** with adjustable gains, for a fast and stable response around the setpoint.
- **0–10 Vdc analog outputs** to modulate variable frequency drives, motorized dampers and other proportional actuators.
- **Fixed speed:** replaces the control output with a fixed value in %, enabled from the interface or by a digital input.
- **Transducer output:** an output can reproduce the measured pressure (0–10 Vdc), for use as a pressure transmitter in another system.
- **Sensor failure protection:** if the sensor signal leaves its valid range, the controller raises an alarm and drives the output to a predefined safe value (100 % from factory).
- **Alarms:** filter clogged (digital inputs), setpoint not reached and sensor failure. The general alarm can drive the relay.
- **Data logging:** the main readings are recorded every minute and can be downloaded as CSV.
- **Three languages:** Portuguese, English and Spanish, on the web interface and on the HMI.

## DUAL FUNCTION: PRESSURE AND AIRFLOW

The controller works in two modes, selectable from the web interface, the HMI or Modbus:

- **Differential pressure:** the setpoint is set in **Pa** and the controller adjusts the fan to keep the measured pressure at that value.
- **Airflow:** the setpoint is set in **m<sup>3</sup>/h**. Airflow is calculated as  $airflow = K \cdot \sqrt{\Delta P}$ , where **K** is the fan K-factor (given by the fan manufacturer) and **ΔP** is the differential pressure measured at the fan inlet nozzle (inlet cone).

In both modes the PID works on the measured pressure: in airflow mode, the m<sup>3</sup>/h setpoint is converted internally into the equivalent pressure.

## COMMUNICATION

The stgCPD offers versatile communication options:

- **Wireless communication** with the stgDRV, to drive fans without control wiring.
- **Modbus RTU** (RS-485), for integration with Building Management Systems (BMS).
- **Web interface** through its own Wi-Fi access point, for real-time monitoring and configuration.

# Technical Specifications

## FEATURES

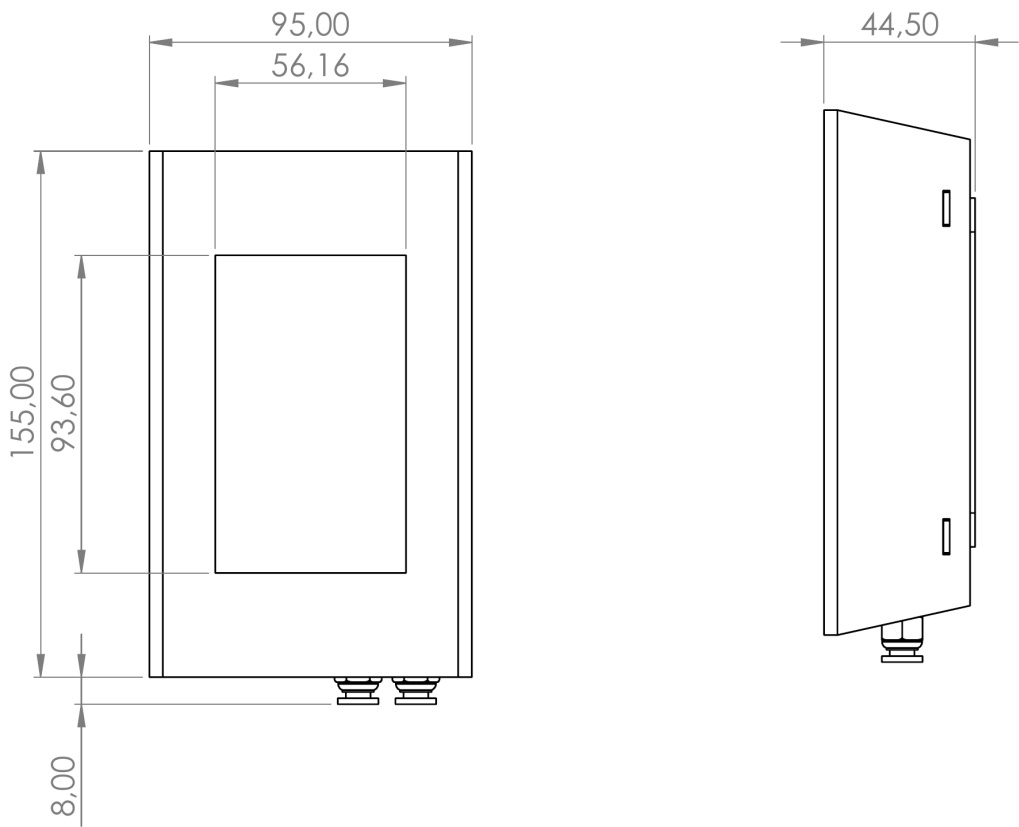
| FEATURE                    | VALUE                                                         |
|----------------------------|---------------------------------------------------------------|
| Enclosures                 | Room (with HMI) and industrial                                |
| Controlled variables       | Differential pressure (Pa) or airflow (m³/h)                  |
| Sensor range               | 0–500 / 0–1000 / 0–2000 / 0–5000 Pa, as ordered               |
| Supply voltage             | 24 Vdc (dual-voltage plug-in power supply included)           |
| Power connector            | Screw terminal (+24V/GND)                                     |
| Analog outputs 0–10 Vdc    | 4 on the board (AO0 to AO3); the stgCPD uses AO1, AO2 and AO3 |
| Digital inputs             | 2 (DI0, DI1), dry contact, NO/NC configurable                 |
| Relay                      | 1 (NO / COM / NC)                                             |
| Web interface              | Yes, via 2.4 GHz Wi-Fi access point                           |
| HMI                        | 4.3" TFT touch display (room enclosure)                       |
| Modbus                     | RTU, RS-485 (slave)                                           |
| STG wireless communication | With the stgDRV (fan drive)                                   |
| Interface languages        | Portuguese, English and Spanish                               |
| Application                | Fans, variable frequency drives, dampers and 0–10 V actuators |

The sensor range is defined when ordering and sets the setpoint limits. The upper limit of the airflow setpoint is calculated from the sensor range and the fan K-factor.

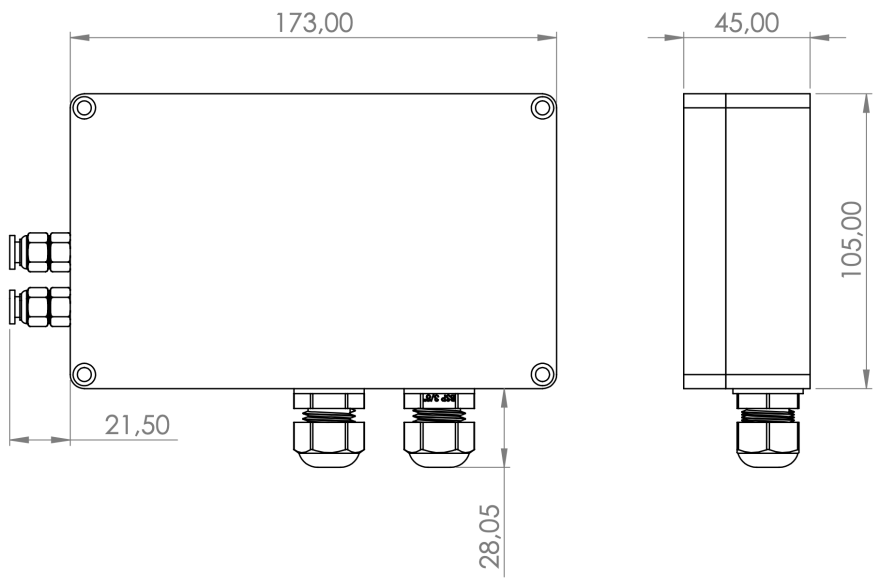
# DIMENSIONS

The dimensions below apply to both enclosures of the unit. Dimensions in millimeters.

## Room (black)



## Industrial (black)

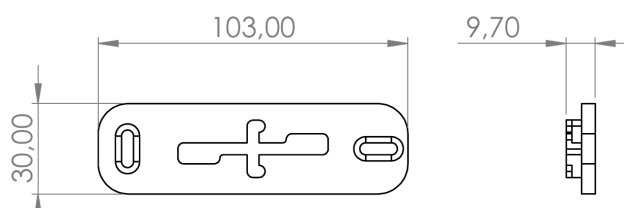


# Mounting and Connections

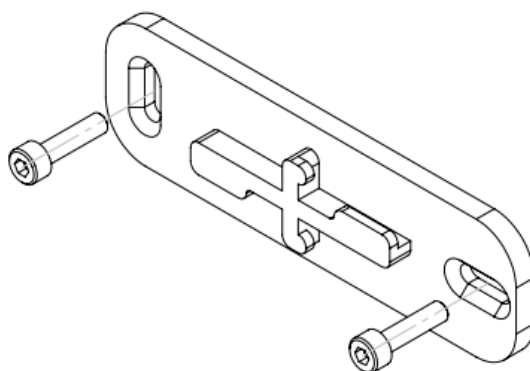
## MOUNTING

### Room enclosure

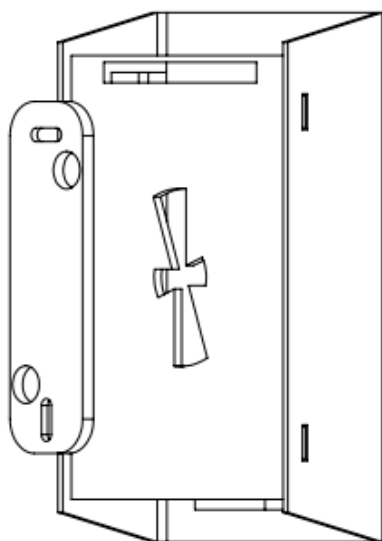
The room enclosure is fixed to the wall with a bracket (dimensions in millimeters):



1. **Fix the bracket to the wall:** use the screw pattern that best suits your application.



2. **Attach the controller:** slide the unit onto the bracket already fixed to the wall.

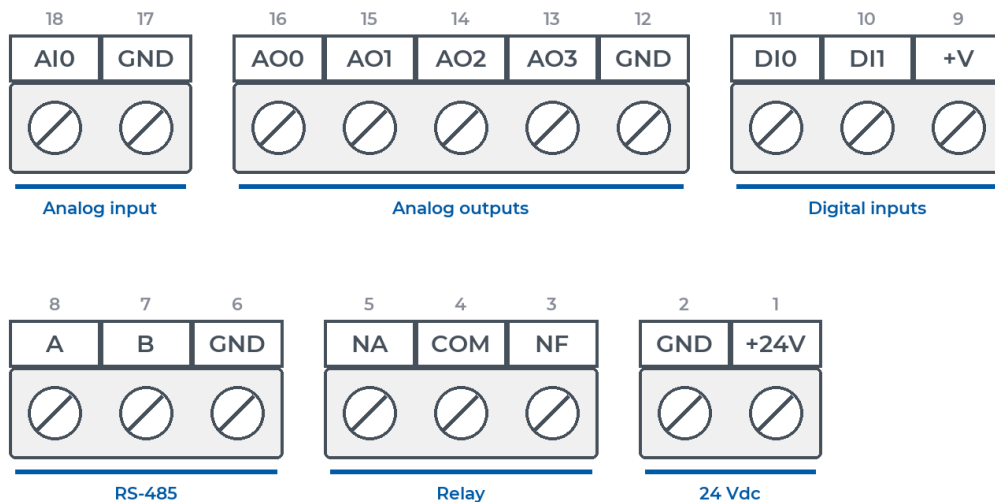


## Industrial enclosure

Fix the enclosure through the four corner holes, with the pressure ports and cable glands facing down or sideways, so that condensation water cannot run into the unit.

## ELECTRICAL CONNECTIONS

**Important:** make all connections with the unit de-energized and always check the board silkscreen before connecting any wire. Check the polarity of the 24 Vdc supply before powering up.



| NO. | TERMINAL | FUNCTION                                                               |
|-----|----------|------------------------------------------------------------------------|
| 1   | +24V     | 24 Vdc power supply (+)                                                |
| 2   | GND      | Power supply 0 Vdc (–)                                                 |
| 3   | NF       | Relay: normally closed contact (NF)                                    |
| 4   | COM      | Relay: common contact                                                  |
| 5   | NA       | Relay: normally open contact (NA)                                      |
| 6   | GND      | RS-485 reference (optional)                                            |
| 7   | B        | Modbus RTU RS-485 (B)                                                  |
| 8   | A        | Modbus RTU RS-485 (A)                                                  |
| 9   | +V       | Digital inputs contact common                                          |
| 10  | DI1      | Digital input, dry contact: fixed speed (default)                      |
| 11  | DI0      | Digital input, dry contact: filter alarm (default)                     |
| 12  | GND      | Analog outputs common                                                  |
| 13  | AO3      | 0–10 Vdc output: signal proportional to measured pressure (transducer) |
| 14  | AO2      | 0–10 Vdc output: second fan (mirrors AO1)                              |

| NO. | TERMINAL | FUNCTION                             |
|-----|----------|--------------------------------------|
| 15  | AO1      | 0–10 Vdc output: fan / drive command |
| 16  | AO0      | Not used in this application         |
| 17  | GND      | Analog input common                  |
| 18  | AI0      | Not used in this application         |

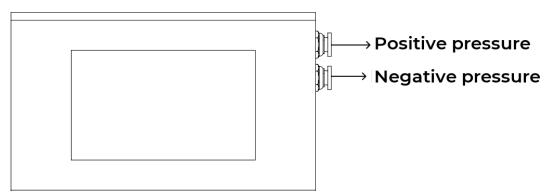
#### Notes:

- The unit comes with a dual-voltage 24 Vdc plug-in power supply for a standard wall outlet. Connect the supply output to terminals **+24V** and **GND** (1 and 2), checking the polarity.
- Inputs **DI0** and **DI1** are dry-contact inputs, wired between the input terminal and **+V**. Each input can be configured as **NO** (normally open: the function is triggered when the contact closes) or **NC** (normally closed: the function is triggered when the contact opens).
- The function of each input is configurable: filter alarm, fixed speed, run enable or secondary setpoint. From factory, DI0 = filter alarm and DI1 = fixed speed.
- On the board, **NA** is the normally open contact and **NF** the normally closed contact.
- On the room enclosure, the display (HMI) comes already fitted to the cover and connected to the board's HMI connector.

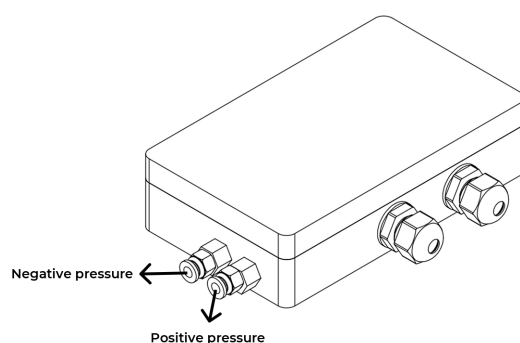
## PNEUMATIC CONNECTION

- The pressure ports accept **6 mm** tubing.
- Connect the **positive port (P+)** to the **higher** pressure point and the **negative port (P–)** to the **lower** pressure point. In stairwell pressurization, for example, P+ goes to the stairwell and P– to the reference area.
- Keep the tubing as short as possible, without kinks or restrictions, and avoid sections where condensation water can accumulate (the tube should run continuously downwards to the port, without sagging loops).
- Do not apply pressures above the range specified in the order.

On the room enclosure:



On the industrial enclosure:



## Sensor zeroing

The sensor is factory calibrated. If the reading is not zero with both ports exposed to the same pressure (tubes disconnected or equalized), use the **Auto-zero** button on the web interface or **Recalibrate** on the HMI: the current reading becomes the new zero. Zero the sensor **only** with the ports equalized. If the button is pressed while the system is running (for example, reading 200 Pa), that value becomes the zero and the real reading will be offset by -200 Pa.

## Pneumatic troubleshooting

| SYMPTOM                                        | PROBABLE CAUSE                                  |
|------------------------------------------------|-------------------------------------------------|
| Negative or zero reading with the fan running  | Tubes swapped (P+ and P-)                       |
| Reading close to zero, not reacting to the fan | Tube loose, punctured or disconnected           |
| Slow, frozen or unstable reading               | Tube kinked, blocked or with condensation water |
| Non-zero reading with the ports equalized      | Zero drift: zero the sensor                     |

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# Operation

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## WEB INTERFACE

The stgCPD creates its own 2.4 GHz Wi-Fi network and can be accessed from any modern browser, such as Chrome, Firefox or Safari, on a phone or a computer.

### Accessing the web interface

1. **Find the Wi-Fi network:** about 10 seconds after power-up, the controller creates the network **stgCPD-<serial number>**, where the serial number is the one on the unit label. Make sure your device is within range of the controller.
2. **Connect to the network:** select the controller network and enter the password **"123456789"**.
3. **Open the web interface:** in the browser, type the address **192.168.4.1** in the address bar.



**NOTE:** if the page does not load, check that your device is still connected to the controller network. If it is connected and the page still does not load, turn off mobile data and try again. On Android phones, mobile data may take over when the Wi-Fi network has no internet access.

### Access levels

- **Viewer (default):** open view, no login. Shows real-time readings, output states and alarms. Nothing can be changed.
- **Administrator:** requires login. Allows changing setpoints, control modes, PID gains, outputs, inputs, relay and network settings.

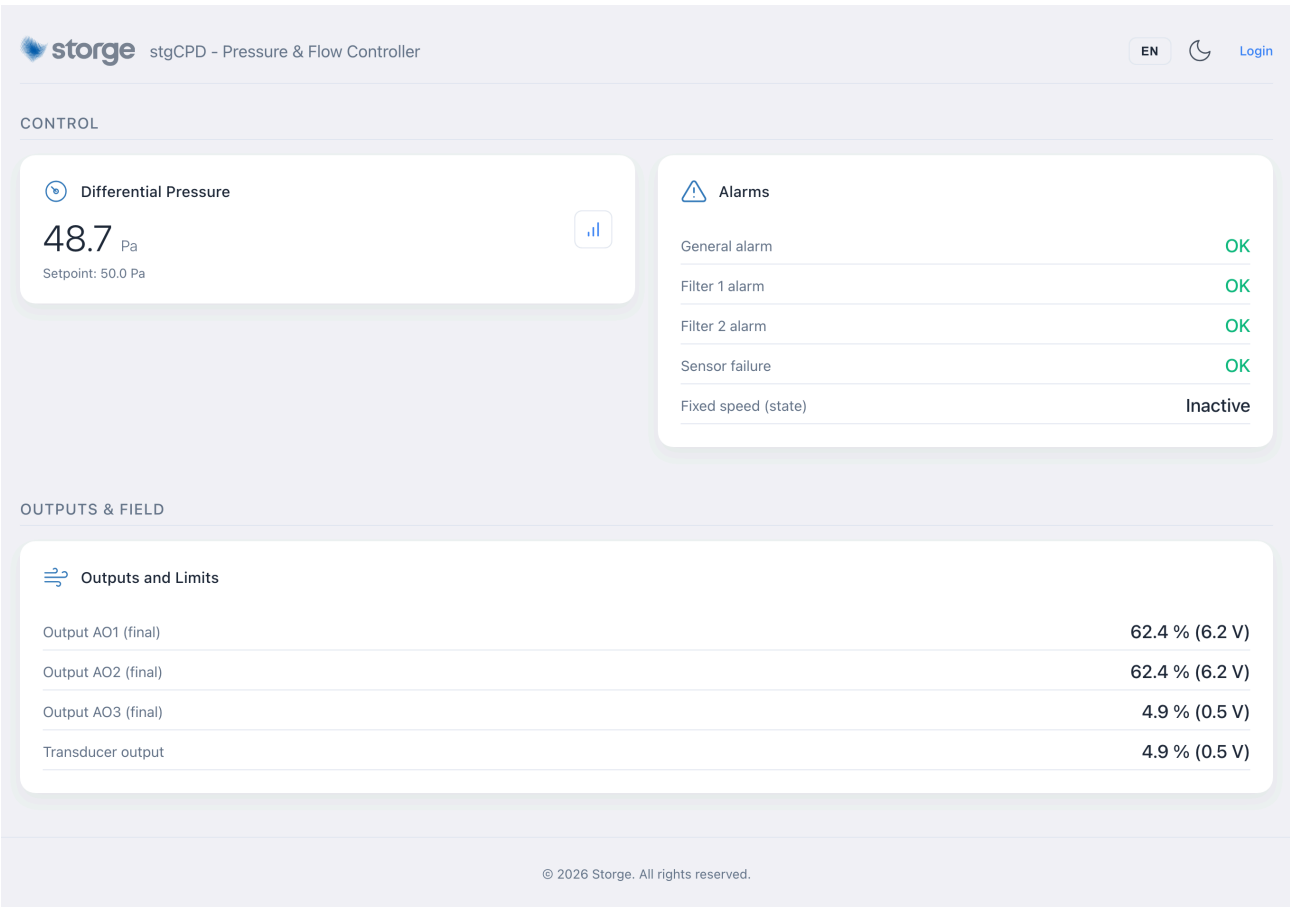
### Factory commissioning

The same firmware serves several products of the STG line. At the factory the unit is **commissioned**: Storge configures the hardware and the unit's network role, and the interface then shows only the functions that exist on it. The unit leaves the factory ready to use; commissioning is not available to the administrator.

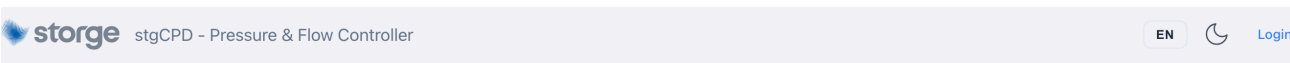
If the interface shows the banner **"Unit not commissioned"**, the functions are locked. In that case, contact Storge technical support.

# Main dashboard

This is the screen shown when the interface opens, at Viewer level:



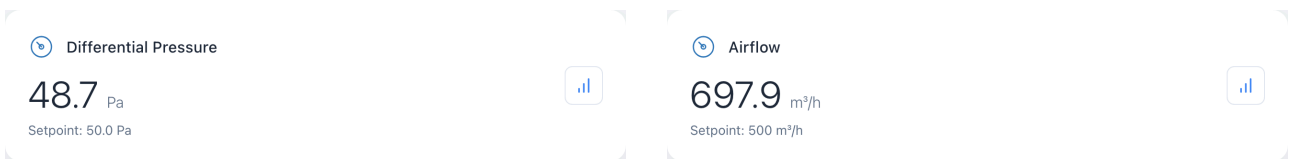
## Header



- **Logo and title:** identify the unit as "stgCPD – Pressure and Airflow Controller".
- **Language (PT / EN / ES):** switches the interface language. The chosen language is stored in the unit and also applies to the HMI.
- **Moon icon:** switches between light and dark themes.
- **Login:** access to the Administrator level.

## Control

- **Differential Pressure / Airflow:** the main card shows the current reading and the setpoint, and follows the control mode: Pa in pressure mode, m³/h in airflow mode.



- **Alarms:** state of each alarm, **OK** (green) or **ALERT** (red). It shows the general alarm, filter 1 and 2 alarms, sensor failure and the fixed-speed state (informative, not an alarm).

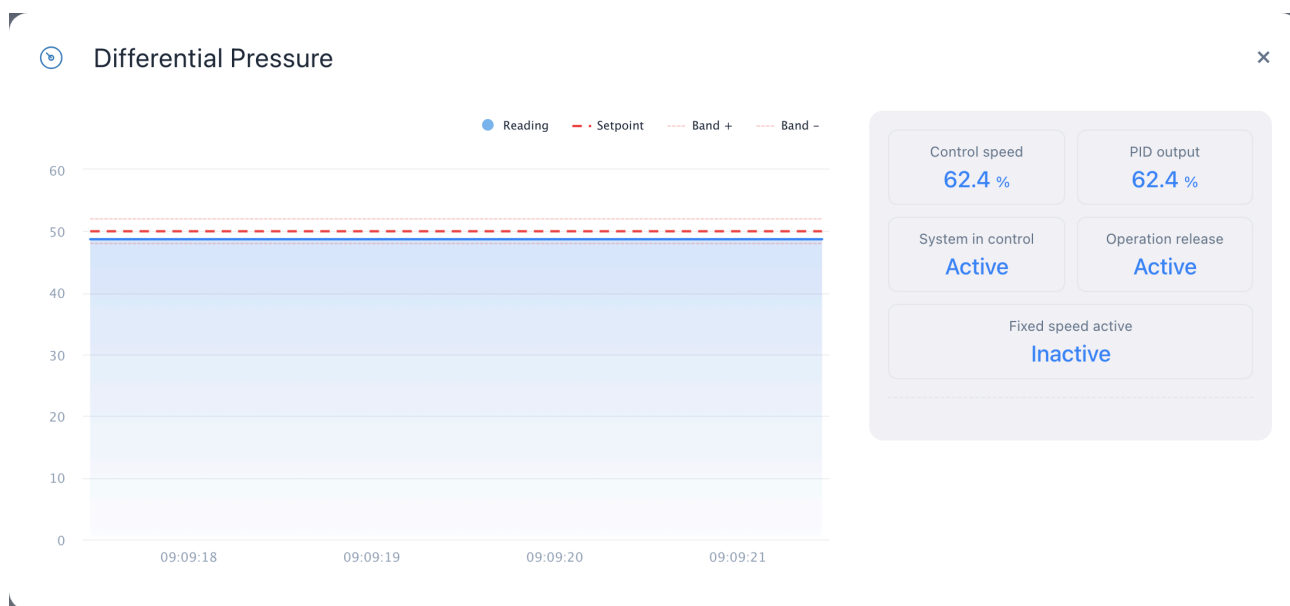
|                                             |          |
|---------------------------------------------|----------|
| <div> <div>⚠</div> <div>Alarms</div> </div> |          |
| General alarm                               | ALERT    |
| Filter 1 alarm                              | ALERT    |
| Filter 2 alarm                              | OK       |
| Sensor failure                              | OK       |
| Fixed speed (state)                         | Inactive |

## Outputs & Field

- **Outputs and Limits:** current value of each analog output (AO1, AO2 and AO3), in % and in volts, and of the transducer output.

## Charts

To see the history, click the chart icon on the main card. The chart shows the reading, the setpoint and the tolerance band, and next to it the control state: control speed, PID output, system in control, operation release and fixed speed active.



## Administrator login

1. Click **Login**, in the top right corner.
2. Enter the user **"admin"** and the password **"storge01"** and click **Sign in**.

## System Access

After login, the dashboard also shows the **Field I/O & Hardware** card (relay and digital inputs) and the **System** section, with **Data Logs** and **Connectivity and Interface**:


stgCPD - Pressure & Flow Controller

EN

ADMIN
Logout

CONTROL


Differential Pressure

48.7 Pa
Setpoint: 50.0 Pa




Alarms

|                     |          |
|---------------------|----------|
| General alarm       | OK       |
| Filter 1 alarm      | OK       |
| Filter 2 alarm      | OK       |
| Sensor failure      | OK       |
| Fixed speed (state) | Inactive |

OUTPUTS & FIELD


Outputs and Limits


|                    |                |
|--------------------|----------------|
| Output AO1 (final) | 62.4 % (6.2 V) |
| Output AO2 (final) | 62.4 % (6.2 V) |
| Output AO3 (final) | 4.9 % (0.5 V)  |
| Transducer output  | 4.9 % (0.5 V)  |


Field I/O & Hardware


|                   |          |
|-------------------|----------|
| Auxiliary relay   | Off      |
| Digital input DI0 | Inactive |
| Digital input DI1 | Inactive |

SYSTEM


Data Logs


Log files

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Connectivity and Interface


WiFi network (SSID)

stgCPD-0001

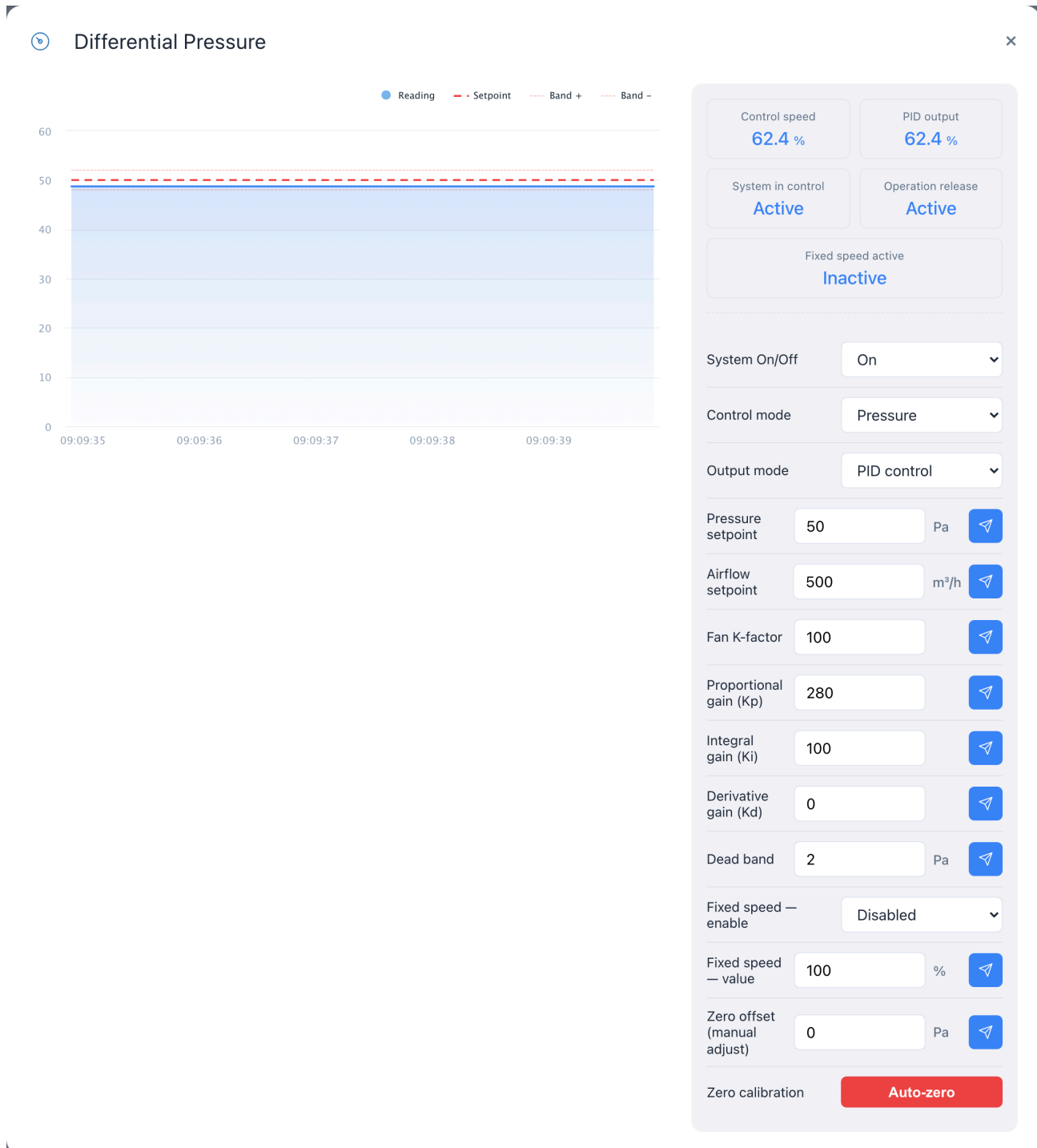
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To leave the Administrator level, click **Logout** in the header.

## Adjusting settings

Settings are in the windows opened by the chart icon of each card. In each field, change the value and click the blue button next to it to send it to the unit.

### Control (Differential Pressure / Airflow card)



- **System On/Off:** turns control on or off. When off, speed outputs go to 0 %; outputs configured as transducer keep working.
- **Control mode:** Pressure or Airflow. The change takes effect immediately, on the web interface and on the HMI.
- **Output mode:** *PID control* (normal operation) or *Manual transducer*, in which the PID is disabled and the unit works only as a pressure transmitter.

- **Pressure setpoint (Pa)** and **airflow setpoint (m³/h)**.
- **Fan K-factor**: catalog constant of the fan, used to calculate the airflow. Set it once, during installation.
- **Gains Kp, Ki and Kd and dead band**: PID fine tuning. Factory values suit most installations; change them only if you know what you are doing.
- **Fixed speed**: enables it and sets the value, in %, that replaces the control output.
- **Zero offset**: manual correction of the pressure reading, in Pa.
- **Zero calibration (Auto-zero)**: the current reading becomes the new zero. Use only with the pressure ports equalized (see *Sensor zeroing*).

## Outputs and Limits

Outputs and Limits

|                               |               |    |
|-------------------------------|---------------|----|
| AO1 — source                  | Control speed |    |
| AO1 — minimum                 | 0             | %  |
| AO1 — maximum                 | 100           | %  |
| AO1 — limit mode              | Clamp         |    |
| AO2 — source                  | Control speed |    |
| AO2 — minimum                 | 0             | %  |
| AO2 — maximum                 | 100           | %  |
| AO2 — limit mode              | Clamp         |    |
| AO3 — source                  | Transducer    |    |
| AO3 — minimum                 | 0             | %  |
| AO3 — maximum                 | 100           | %  |
| AO3 — limit mode              | Clamp         |    |
| Transducer — pressure at 0 V  | 0             | Pa |
| Transducer — pressure at 10 V | 1000          | Pa |

For each analog output:

- **Source**: *Control speed* (follows the PID or the fixed speed) or *Transducer* (reproduces the measured pressure).
- **Minimum and maximum (%)**: limit the fan operating range.
- **Limit mode**: *Clamp*, where the signal saturates at the limits, or *Rescale*, where the 0–100 % control output is rescaled into the configured range.
- **Transducer, pressure at 0 V and at 10 V**: pressure range represented by the transducer output.

## Field I/O & Hardware

Field I/O & Hardware

|                          |                   |
|--------------------------|-------------------|
| Auxiliary relay function | System On/Off     |
| Relay switch-on delay    | 2 s               |
| DI0 function             | Filter alarm      |
| DI0 polarity             | NO (normally ope) |
| DI1 function             | Fixed speed       |
| DI1 polarity             | NO (normally ope) |

- **Auxiliary relay function:** *System On/Off* (follows the control on/off) or *General alarm*.
- **Relay switch-on delay:** time, in seconds, before the relay switches.
- **DI0 and DI1 function and polarity:** filter alarm, fixed speed, run enable or secondary setpoint; NO or NC polarity.

## Connectivity and Interface

Connectivity and Interface

|                    |              |
|--------------------|--------------|
| WiFi network name  | stgCPD-0001  |
| Interface language | English (EN) |
| Modbus address     | 1            |
| Modbus baud rate   | 19200        |
| HMI password       | 0000         |

- **WiFi network name:** the unit restarts when saved.
- **Interface language:** Portuguese, English or Spanish. Applies to the web interface and to the HMI.
- **Modbus address** (1 to 247) and **baud rate** (9600 to 115200 bps).
- **HMI password:** protects value editing on the display. Always use four digits, for example: 4000, 0004, 1999.

## Data Logs

Data Logs

|                          |                                                                                                                                                                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| log_00015.csv<br>40.0 KB |    |
| log_00014.csv<br>60.0 KB |    |

Every minute the unit records pressure, airflow, outputs, setpoints, alarms and states. In the **Data Logs** window each file can be viewed, downloaded as CSV (semicolon-separated, for Excel) or deleted. The memory holds about one week of records; when full, the oldest are overwritten automatically.

## Factory values

| PARAMETER                     | FACTORY VALUE             |
|-------------------------------|---------------------------|
| Main system                   | On                        |
| Control mode                  | Pressure                  |
| Output mode                   | PID control               |
| Pressure setpoint             | 50 Pa                     |
| Airflow setpoint              | 500 m <sup>3</sup> /h     |
| Fan K-factor                  | 100                       |
| Proportional gain (Kp)        | 280                       |
| Integral gain (Ki)            | 100                       |
| Derivative gain (Kd)          | 0                         |
| Deadband                      | 2 Pa                      |
| Fixed speed                   | Disabled                  |
| Fixed speed: value            | 100 %                     |
| Safe output on sensor failure | 100 %                     |
| Relay function                | System On/Off             |
| Relay delay                   | 2 s                       |
| Modbus address                | 1                         |
| Modbus baud rate              | 19200 bps                 |
| HMI password                  | 0000                      |
| HMI numeric entry             | Increment/decrement (+/-) |
| Language                      | Portuguese                |

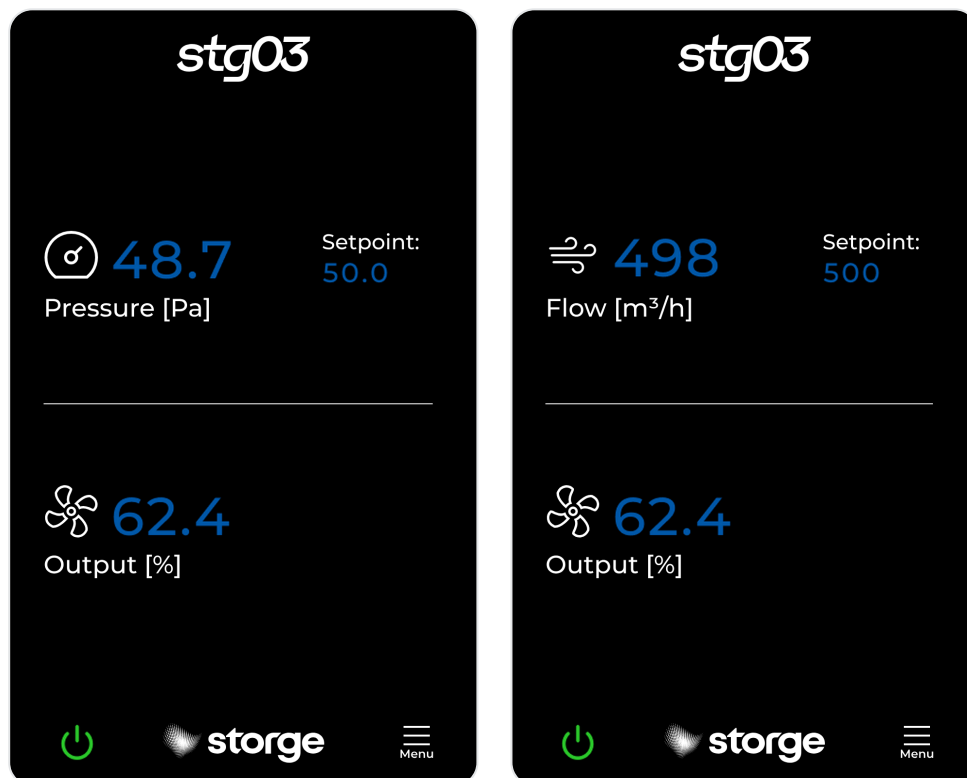
| DIGITAL INPUT | FACTORY VALUE |
|---------------|---------------|
| DI0 function  | Filter alarm  |
| DI1 function  | Fixed speed   |
| DI0 polarity  | NO            |
| DI1 polarity  | NO            |

## HMI

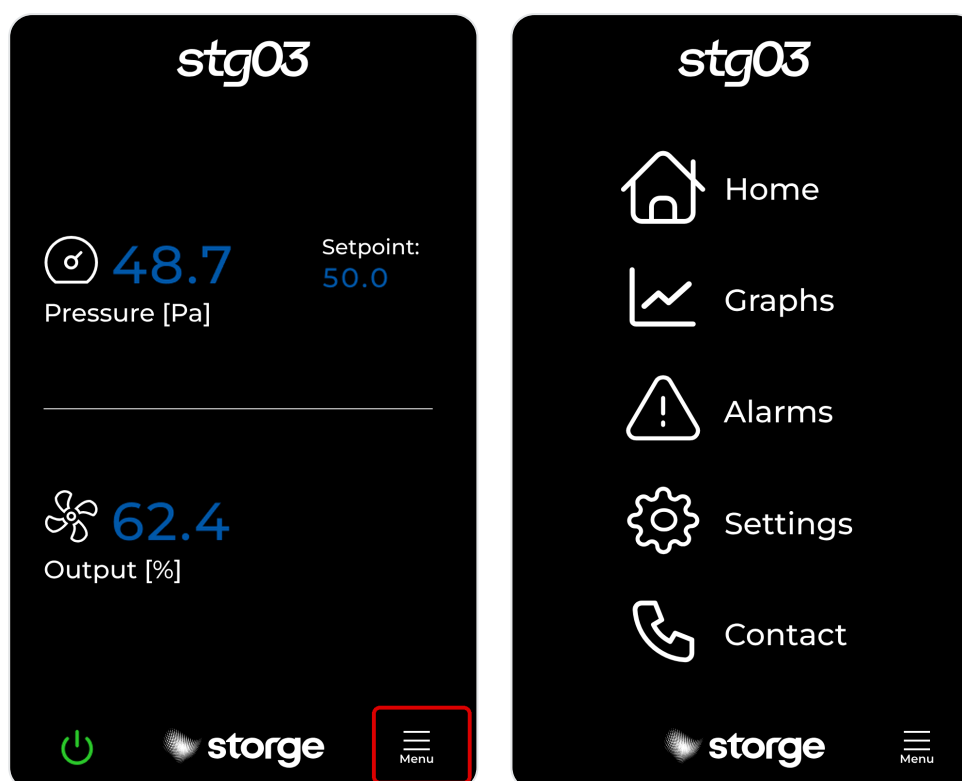
The Human-Machine Interface (HMI) of the stgCPD is a 4.3" touch display that offers the same information as the web interface, for monitoring and adjustment directly at the unit. Anything changed on the HMI appears on the web interface immediately, and vice versa.

- **Real-time data:** pressure or airflow reading, setpoint and control output.
- **Graphs:** history of the controlled variable, with the setpoint line.
- **Alarms:** list of active alarms and states.
- **Settings:** setpoints, K-factor, PID gains, control mode, sensor recalibration and Modbus, protected by password.

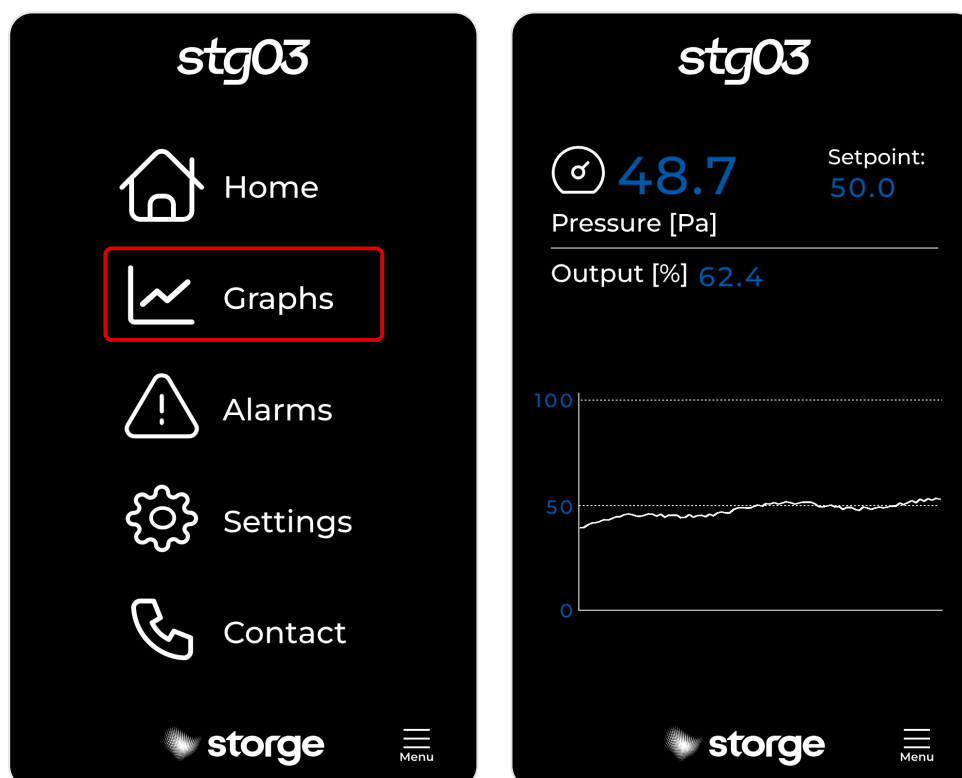
1. **Monitoring:** the home screen shows in real time the reading, the setpoint and the control output (%). The green on/off icon indicates that the system is on. The screen follows the control mode: differential pressure in Pa in pressure mode (left); airflow in m<sup>3</sup>/h in airflow mode (right).



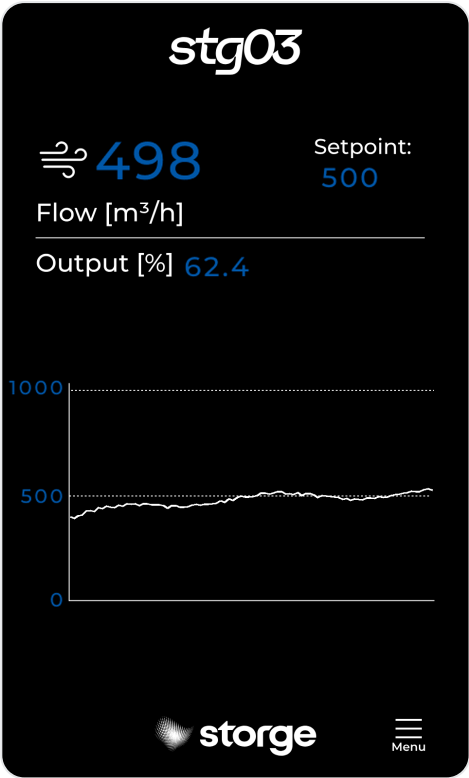
2. **Menu:** tap **Menu**, in the bottom right corner, to reach the other screens: Home, Graphs, Alarms, Settings and Contact.



3. **Graphs:** in the menu, tap **Graphs**. The HMI opens the graph of the controlled variable, with the reading, the setpoint, the output and the curve of the last minutes.



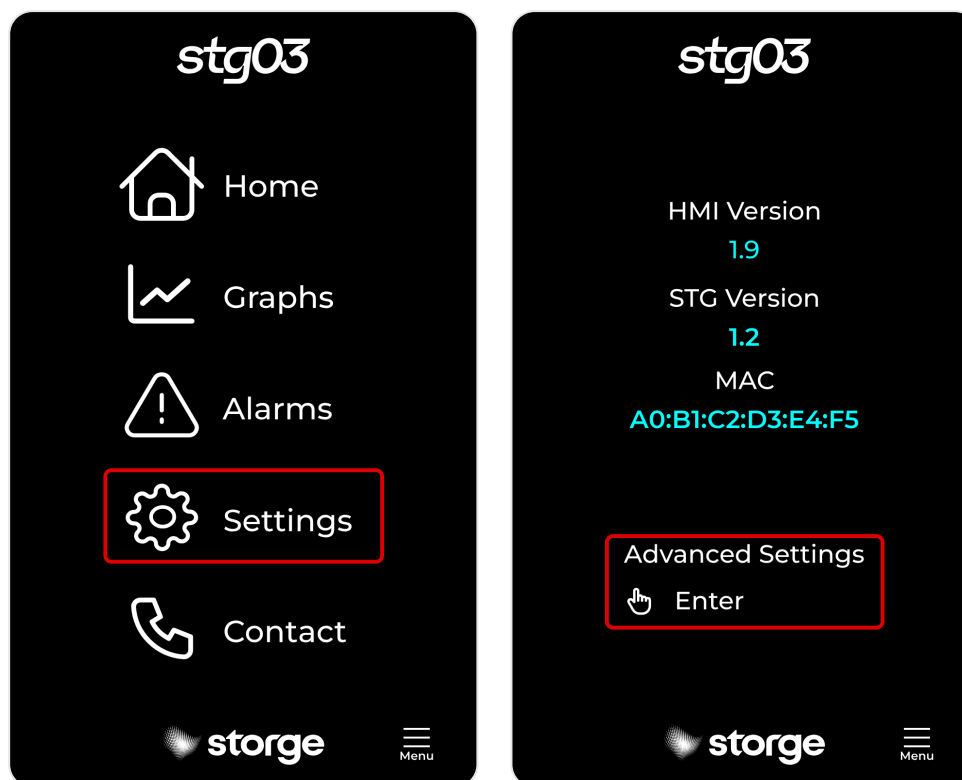
In airflow mode, the airflow graph is shown:



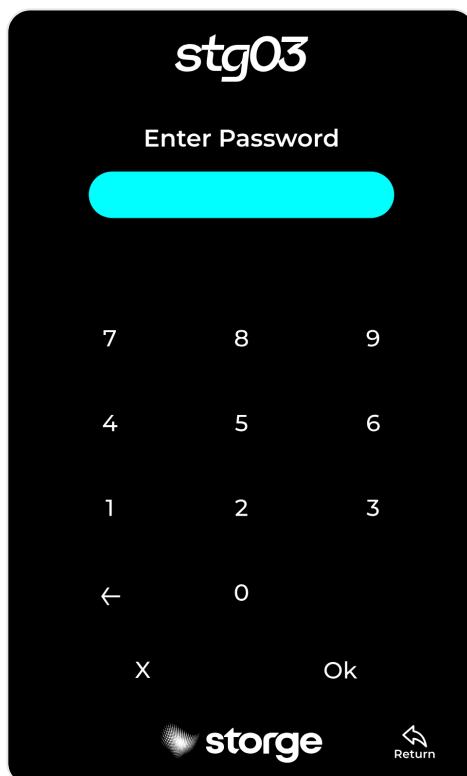
4. **Alarms:** in the menu, tap **Alarms** to see the list of active alarms and states: **Clogged Filter 1**, **Clogged Filter 2**, **Setpoint Alarm** (setpoint not reached), **Secondary Setpoint Active** and **Fixed Speed Active**. When an alarm is active, a red exclamation mark appears on the **Menu** icon and the **Alarms** icon turns red.



5. **Settings:** in the menu, tap **Settings**. The screen shows the HMI version, the STG version and the MAC address of the unit. To change parameters, tap **Enter** under *Advanced Settings*.

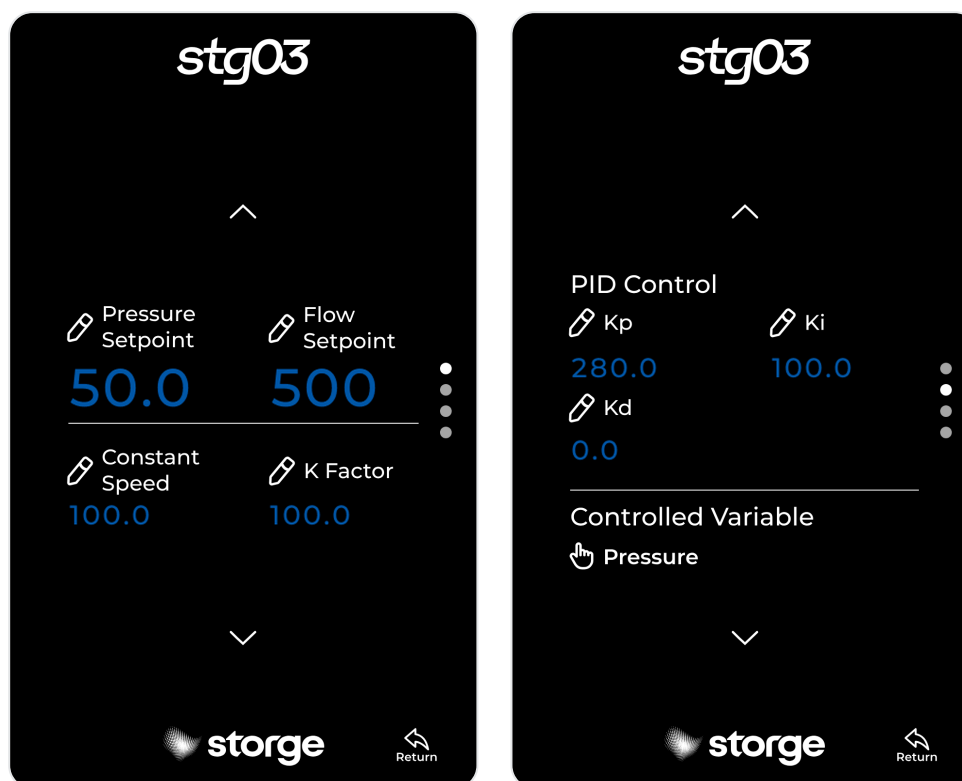


6. **Password:** enter the HMI password and confirm with **Ok**. The factory password is **0000** and can be changed from the web interface (*Connectivity and Interface*).

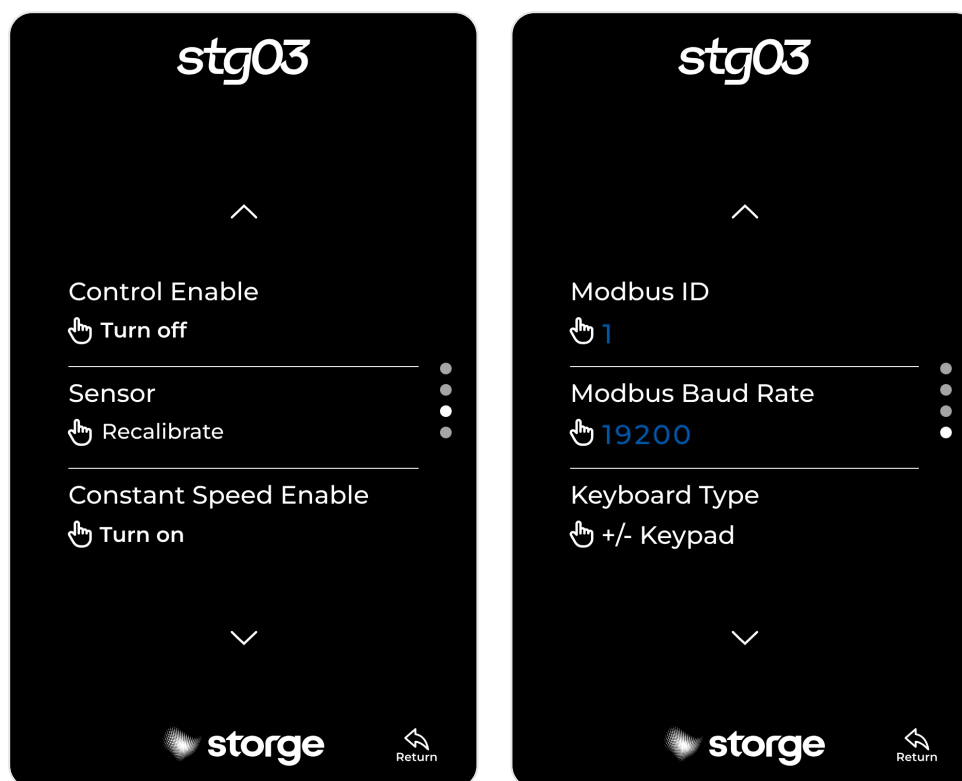


7. **Advanced Settings:** use the **up** and **down** arrows to move between the four settings screens, and the **Return** button, in the bottom right corner, to leave.

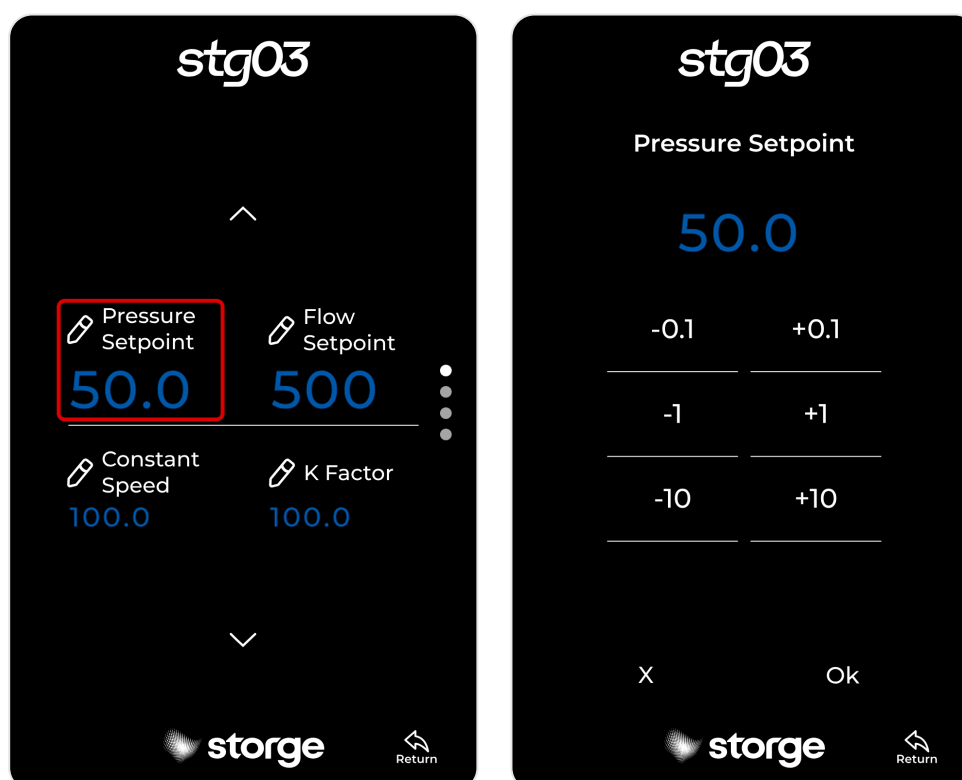
- **Screen 1: Pressure Setpoint, Flow Setpoint, Constant Speed** (fixed speed value) and **fan K Factor**.
- **Screen 2: PID Control** (Kp, Ki and Kd gains) and **Controlled Variable** (Pressure or Flow).



- **Screen 3: Control Enable** (turns the control on or off), **Sensor / Recalibrate** (the current reading becomes the new zero; use only with the ports equalized) and **Constant Speed Enable**. The **Control Enable** button shows the available action: **Turn off** while the control is on, **Turn on** while it is off. The same applies to **Constant Speed Enable**.
- **Screen 4: Modbus ID, Modbus Baud Rate and Keyboard Type** (Numeric Keypad or +/- Keypad).



8. **Editing a value:** tap the value you want to change. The edit keypad opens, with the parameter name. On the +/- keypad (factory default), use the buttons to add or subtract; on the numeric keypad, type the value within the limits shown. Tap **Ok** to confirm or **X** to cancel.



9. **Contact:** in the menu, tap **Contact** to see the QR code with Storge contact channels.



# Communication

## MODBUS

The stgCPD works as a Modbus RTU slave on the RS-485 network. Factory settings:

- **Slave address (Slave ID):** 1
- **Baud rate:** 19200 bps
- **Data bits:** 8
- **Parity:** none
- **Stop bits:** 1

The address (1 to 247) and the baud rate can be changed from the web interface, the HMI or Modbus itself. Out-of-range values are rejected by the unit.

### Scale factor

Some registers represent decimal values through a scale factor. To get the real value, divide the value read by the factor shown in the **Scale** column; to write, multiply the desired value by the factor.

**Example:** the pressure setpoint has scale 10. A reading of **500** means **50.0 Pa**; to set 35.5 Pa, write **355**.

### 32-bit airflow

Airflow is available in two formats: in input register 2, as 16 bits (limited to 65535 m<sup>3</sup>/h), and in registers 6 (low word) and 7 (high word), as 32 bits:  $airflow = high\ word \times 65536 + low\ word$ .

## MODBUS TABLE

### Holding registers (read/write)

| ADDRESS | CONTENT                                 | SCALE |
|---------|-----------------------------------------|-------|
| 1       | Pressure setpoint (Pa)                  | 10    |
| 2       | Airflow setpoint (m <sup>3</sup> /h)    | 1     |
| 3       | Fan K-factor                            | 10    |
| 4       | Control mode: 0 = pressure, 1 = airflow | 1     |
| 5       | Main system: 0 = off, 1 = on            | 1     |
| 6       | Proportional gain (Kp)                  | 10    |
| 7       | Integral gain (Ki)                      | 10    |
| 8       | Derivative gain (Kd)                    | 10    |
| 9       | Fixed speed: 0 = disabled, 1 = enabled  | 1     |

| ADDRESS | CONTENT                                                                                 | SCALE |
|---------|-----------------------------------------------------------------------------------------|-------|
| 10      | Fixed speed: value (%)                                                                  | 10    |
| 11      | Output mode: 0 = PID control, 1 = manual transducer                                     | 1     |
| 12      | Deadband (Pa)                                                                           | 10    |
| 13      | Secondary pressure setpoint (Pa)                                                        | 10    |
| 14      | Secondary airflow setpoint (m³/h)                                                       | 1     |
| 15      | Relay function: 0 = System On/Off, 1 = general alarm                                    | 1     |
| 16      | Pressure zero offset (Pa)                                                               | 10    |
| 17      | Output 1: minimum limit (%)                                                             | 10    |
| 18      | Output 1: maximum limit (%)                                                             | 10    |
| 19      | Output 1 limit mode (0 = clamp, 1 = rescale)                                            | 1     |
| 20      | Setpoint-not-reached alarm: time (s)                                                    | 1     |
| 21      | Setpoint-not-reached alarm: margin (% of setpoint)                                      | 10    |
| 22      | Sensor: maximum pressure (mbar)                                                         | 10    |
| 23      | Sensor: minimum pressure (mbar)                                                         | 10    |
| 24      | Correction factor of the output sent to the stgDRV                                      | 100   |
| 25      | DI0 function: 0 = filter alarm, 1 = fixed speed, 2 = secondary setpoint, 3 = run enable | 1     |
| 26      | DI1 function: 0 = filter alarm, 1 = fixed speed, 2 = secondary setpoint, 3 = run enable | 1     |
| 27      | DI0 polarity: 0 = NO, 1 = NC                                                            | 1     |
| 28      | DI1 polarity: 0 = NO, 1 = NC                                                            | 1     |
| 29      | Enable secondary setpoint                                                               | 1     |
| 30      | Enable setpoint-not-reached alarm                                                       | 1     |
| 31      | Transducer: pressure at 0 V (Pa)                                                        | 10    |
| 32      | Transducer: pressure at 10 V (Pa)                                                       | 10    |
| 33      | Safe output on sensor failure (%)                                                       | 10    |
| 34      | Output sent to the stgDRV: 0 = AO1, 1 = AO2, 2 = AO3                                    | 1     |

## Input registers (read only)

| ADDRESS | CONTENT                                                | SCALE |
|---------|--------------------------------------------------------|-------|
| 1       | Filtered pressure (Pa)                                 | 10    |
| 2       | Airflow (m <sup>3</sup> /h): 16 bits, limited to 65535 | 1     |
| 3       | PID output (%)                                         | 10    |
| 4       | Setpoint-not-reached alarm                             | 1     |
| 5       | General alarm                                          | 1     |
| 6       | Airflow (m <sup>3</sup> /h): 32 bits, low word         | 1     |
| 7       | Airflow (m <sup>3</sup> /h): 32 bits, high word        | 1     |
| 8       | Active setpoint (Pa)                                   | 10    |
| 9       | Output 1: final value (%)                              | 10    |
| 10      | Control speed (%)                                      | 10    |
| 11      | Unfiltered pressure (Pa)                               | 10    |
| 12      | Sensor voltage (V)                                     | 1000  |
| 13      | Filter alarm 1                                         | 1     |
| 14      | Filter alarm 2                                         | 1     |
| 15      | DI0 input: physical state                              | 1     |
| 16      | DI1 input: physical state                              | 1     |
| 17      | Secondary setpoint active                              | 1     |
| 18      | Output 2: final value (%)                              | 10    |
| 19      | Output 3: final value (%)                              | 10    |
| 20      | Sensor failure alarm                                   | 1     |
| 21      | Fixed speed active                                     | 1     |
| 22      | Run enable                                             | 1     |
| 23      | System in control                                      | 1     |
| 24      | Active setpoint (m <sup>3</sup> /h)                    | 1     |
| 25      | DI0 input: logical state (after polarity)              | 1     |
| 26      | DI1 input: logical state (after polarity)              | 1     |
| 27      | Transducer output (%)                                  | 10    |

In state and alarm registers, **0** = inactive and **1** = active.

# Troubleshooting

| SYMPTOM                                      | WHAT TO CHECK                                                                                                  |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| The unit Wi-Fi network does not appear       | Power supply and polarity; wait 30 s after power-up and move closer to the unit                                |
| The page does not open                       | Check that you are connected to the controller network and open 192.168.4.1; turn off mobile data on the phone |
| Pressure reading at zero, not reacting       | Tubes loose, kinked or swapped on the P+ and P– ports                                                          |
| Non-zero reading with the ports equalized    | Zero the sensor ( <b>Auto-zero</b> on the web or <b>Recalibrate</b> on the HMI)                                |
| Sensor failure alarm                         | The sensor signal left its valid range; the output goes to the safe value. Contact technical support           |
| The fan does not respond                     | System On? Fixed speed enabled at 0 %? Output wiring and minimum/maximum limits                                |
| Filter alarm with no apparent reason         | The input polarity (NO/NC) does not match the installed switch                                                 |
| The display does not allow changing values   | Enter the HMI password in <b>Settings</b> → <b>Advanced Settings</b>                                           |
| Different values on the display and the page | Wait 2 to 3 seconds; if it persists, restart the unit                                                          |
| Forgot the network or login password         | Contact Storge technical support                                                                               |

## QUICK REFERENCE

| ITEM                  | FACTORY VALUE                         |
|-----------------------|---------------------------------------|
| Wi-Fi network         | stgCPD-<serial number>                |
| Wi-Fi password        | 123456789                             |
| Web interface address | 192.168.4.1                           |
| Administrator login   | admin / storge01                      |
| HMI password          | 0000                                  |
| Modbus                | address 1, 19200 bps, 8N1             |
| Setpoints             | 50 Pa (pressure) / 500 m³/h (airflow) |