

Configuration of Pressure Sensors

The ClimaCheck pressure sensors have an analog output signal. The signal value, in V or mA, needs to be converted into pressure reading, in kPa(a).

This document presents the different pressure sensors, and their required configuration on the PA Pro III, PA Pro and PA 8:7.

ClimaCheck pressure sensors

The standard ClimaCheck sensors have an analog output signal of 1-5V. The below table presents the different sensors, their part numbers (both new and old), and their measured value when output is 0V, 1V, and 5V.

Range	Part no.	kPa(a) at 0V	kPa(a) at 1V, lower range	kPa(a) at 5V, full range
-0.7...5 Bar(g)	200140	-112.5	30	600
0...10 Bar(g)	200141, 200200	-150	100	1100
0...35 Bar(g)	200142, 200100	-775	100	3600
0...50 Bar(g)	200143, 200300	-1150	100	5100
0...150 Bar(g)	200144, 200400	-3650	100	15100

ClimaCheck also offers pressure sensors with an analog output signal of 4-20mA. The below table presents the different sensors, their part numbers (both new and old), and their measured value when output is 0mA, 4mA, and 20mA.

Range	Part no.	kPa(a) at 0mA	kPa(a) at 4mA, lower range	kPa(a) at 20mA, full range
-0.7...5 Bar(g)	200701, 200700	-112.5	30	600
0...10 Bar(g)	200201, 200106	-150	100	1100
0...35 Bar(g)	200105	-775	100	3600
0...50 Bar(g)	200301	-1150	100	5100

Configuration of pressure sensors

The analog inputs on the ClimaCheck units need to be configured depending on the pressure sensor used.

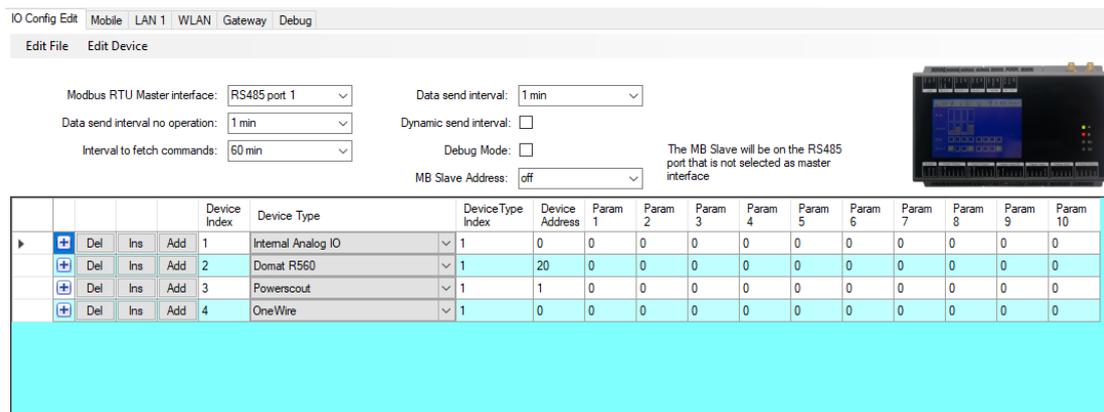
Configuration on PA Pro III

The analog inputs of the PA Pro III are preconfigured as below.

Channel	Pressure range
NX400,1	0...35 Bar(g), 1-5V
NX400,2	0...10 Bar(g), 1-5V
NX400,3	0...35 Bar(g), 1-5V
NX400,4	0...10 Bar(g), 1-5V

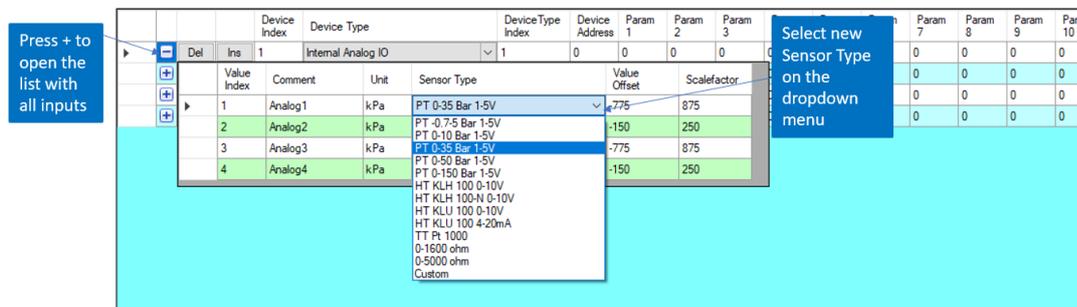
In order to change the pressure range, follow the steps below:

- Start the PA Pro III.
- Connect the PA Pro III to the PC with the provided USB cable.
- Start the ClimaCheck program.
- Click on the **PA Pro III** menu and select **PA Pro III Configuration**.
- On the **Action** menu choose **Connect to Device**, in the lower right corner the PAID of the connected device can be seen.
- On the **Action** menu go to **Unlock for write to device**.
- Enter the user password and press OK. (default: **ef56**)
- On the IO Config Edit tab go to **Edit Device** and then **Open Configuration in device**.



				Device Index	Device Type	Device Type Index	Device Address	Param 1	Param 2	Param 3	Param 4	Param 5	Param 6	Param 7	Param 8	Param 9	Param 10
+	Del	Ins	Add	1	Internal Analog IO	1	0	0	0	0	0	0	0	0	0	0	0
+	Del	Ins	Add	2	Domat R560	1	20	0	0	0	0	0	0	0	0	0	0
+	Del	Ins	Add	3	Powerscout	1	1	0	0	0	0	0	0	0	0	0	0
+	Del	Ins	Add	4	OneWire	1	0	0	0	0	0	0	0	0	0	0	0

- Click on the **+** to the left of the Internal Analog IO.
- For the required channel, select the new sensor type on the drop-down menu.
- On the IO Config Edit tab go to **Edit Device** and then **Save Configuration in device**, the unit will reboot.



Value Index	Comment	Unit	Sensor Type	Value Offset	Scalefactor
1	Analog1	kPa	PT-0-35 Bar 1-5V	775	875
2	Analog2	kPa	PT-0-7.5 Bar 1-5V	-150	250
3	Analog3	kPa	PT-0-10 Bar 1-5V	-775	875
4	Analog4	kPa	PT-0-50 Bar 1-5V	-150	250

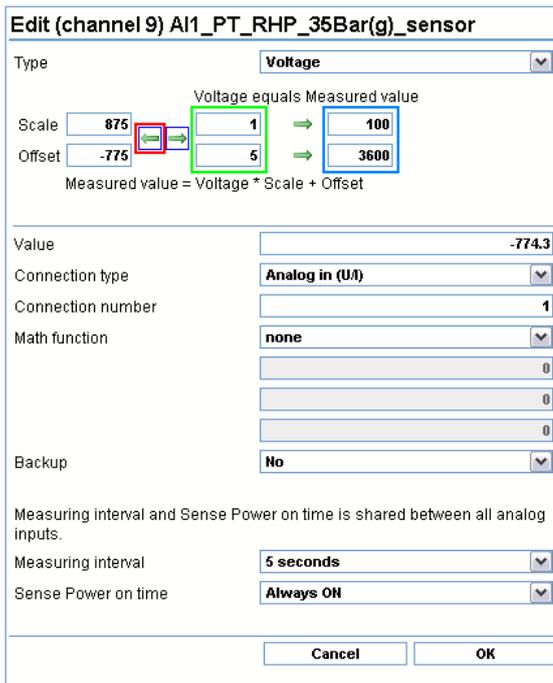
Configuration on PA Pro

The analog inputs of the PA Pro are preconfigured as below. It can be easier to connect the pressure sensor to the suitable analog input channel, instead of changing the configuration on each channel. In this case, the correct channel should be chosen from the datasource.

Channel	Pressure range
AI_1	0...35 Bar(g), 1-5V
AI_2	0...10 Bar(g), 1-5V
AI_3	0...35 Bar(g), 1-5V
AI_4	0...10 Bar(g), 1-5V
AI_5	0...50 Bar(g), 1-5V
AI_6	0...150 Bar(g), 1-5V
AI_7	0-10V
AI_8	0-10V

If, however, there is a need to configure the channels, follow the steps below:

- Connect the PA Pro to the PC with the provided network cable.
- Open a web browser and enter the location **http://169.254.1.1**
- Log in with username **config** and password **ef56**
- Choose **Settings > Advanced > Channels** in the menu to the left.
- Click the channel to be configured.



- Select the **Type** (Voltage or Current) depending on the sensor output.
- Set the two values marked in green above to **1 and 5** for Voltage and **4 and 20** for Current (upper and lower limit for the sensor output).
- Set the upper value in blue to the value under **kPa(a) at lower range** from the tables on the first page of these instructions (30 or 100).
- Set the lower value in blue to the value under **kPa(a) at full range** from the tables on the first page of these instructions (600, 1100, 3600, 5100, or 15100).
- Press the **left facing arrow** marked in red above.
- Press **OK**.
- When done with all required changes, press **Save** in the upper right corner.

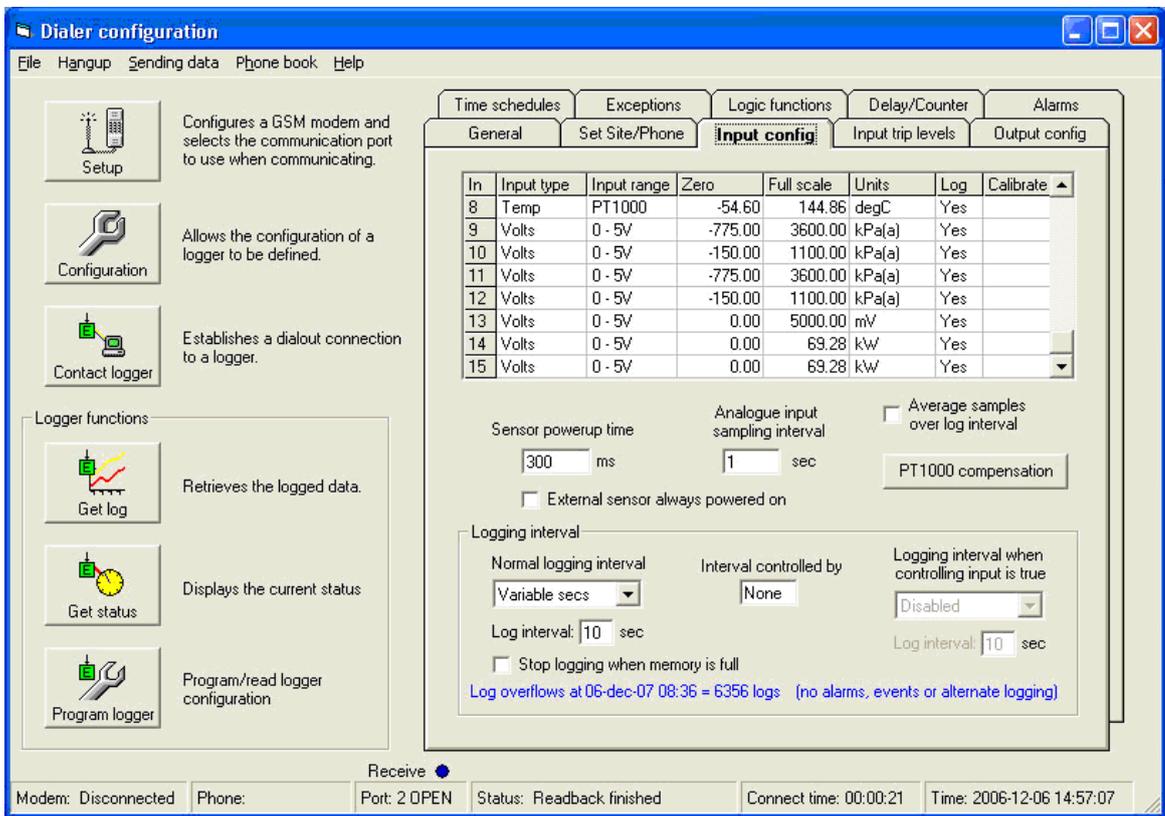
Configuration on PA 8:7

The analog inputs of the PA 8:7 are preconfigured as below.

Channel	Pressure range
AI_1	0...35 Bar(g), 1-5V
AI_2	0...10 Bar(g), 1-5V
AI_3	0...35 Bar(g), 1-5V
AI_4	0...10 Bar(g), 1-5V

In order to change the pressure range, follow the steps below:

- Select **PA Configuration** under the **Performance Analyser** menu.
- Select **Set up**, the correct com port and **Set Com Port**.
- Select **Contact Logger**. Answer **Yes** on the question "Do you wish to retrieve the logger configuration from the logger".
- In the menu choose **File** and **Save configuration** to make a backup of the current settings.
- Select **Configuration > Input config**



In	Input type	Input range	Zero	Full scale	Units	Log	Calibrate
8	Temp	PT1000	-54.60	144.86	degC	Yes	
9	Volts	0 - 5V	-775.00	3600.00	kPa(a)	Yes	
10	Volts	0 - 5V	-150.00	1100.00	kPa(a)	Yes	
11	Volts	0 - 5V	-775.00	3600.00	kPa(a)	Yes	
12	Volts	0 - 5V	-150.00	1100.00	kPa(a)	Yes	
13	Volts	0 - 5V	0.00	5000.00	mV	Yes	
14	Volts	0 - 5V	0.00	69.28	kW	Yes	
15	Volts	0 - 5V	0.00	69.28	kW	Yes	

Sensor powerup time: 300 ms
 Analogue input sampling interval: 1 sec
 External sensor always powered on
 Average samples over log interval
 PT1000 compensation

Logging interval: Variable secs
 Interval controlled by: None
 Logging interval when controlling input is true: Disabled
 Log interval: 10 sec
 Stop logging when memory is full
 Log overflows at 06-dec-07 08:36 = 6356 logs (no alarms, events or alternate logging)

Modem: Disconnected Phone: Port: 2 OPEN Status: Readback finished Connect time: 00:00:21 Time: 2006-12-06 14:57:07

- Change **Zero** and **Full scale** to appropriate values for the sensor to be used. The values can be found in the tables on the first page of these instructions. The standard channels are 9 for High Pressure and 10 for low pressure.
- Select **Program Logger > Send to logger**
- In the menu choose **File** and **Save configuration** to make a backup of the new settings.

Note that you could be prompted to reset alarm limits if they are outside the programmed interval for an input. In that case open the **Input trip levels** tab and set **Lower** and **Upper** for the channel to values inside your new range. If you are not using the alarm function the exact values do not matter. After you are finished click **Send to logger** again.